TURNING POINT OR DOOMSDAY?

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THE EFFECTS OF THE ECONOMIC CRISIS ON ENVIRONMENTAL POLICY-MAKING

by

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Abstract

The financial crisis in 2008 has severe effects and impact on governments and policy-making worldwide. Many studies have analysed the impacts of the financial crisis on policy areas (e.g. Starke, 2013), but only little has been done in the field of environmental policy. This study analyses the question on what impact the crisis had on environmental policy-making in Germany and Ireland with the use of secondary quantitative and qualitative data analysis in a comparative research design.

It turned out that environmental policy-making did not suffer more than other policy areas from the crisis. Environmental policy-performance during and after the crisis is positively influenced by centralised decision-making and the absence of veto points. In Ireland, problem pressure of fiscal austerity, the EU-IMF-Programme, as well as EU regulations and frameworks were important factors for environmental policy-making. Compared to that, Germany has started its energy transition and is currently struggling to build a coherent energy policy concept for renewables and make the transition affordable without neglecting industry interests. Due to exemptions for industry branches Germany seems to have lost its leading role in climate policy for now, but can still rely on a comprehensive environmental policy framework.

Keywords:

Environmental Policy Making, Germany, Ireland, Economic Crisis

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List of Abbreviations

BMU	Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit (Federal Ministry of the Environment, Nature Protection and Nuclear Safety)
BMWi	Bundesministerium für Wirtschaft und Energie (Federal Ministry for Economy and Energy)
DECLG	Department of the Environment, Community and Local Government
DTTAS	Department of Tourism, Transport and Sport
ECB	European Central Bank
ETS	European Emission Rights Trade System
EU	European Union
GDR	German Democratic Republic
GHG	Greenhouse gas emissions
ILO	International Labour Organisation
IMF	International Monetary Fund
OECD	Organisation for Economic Cooperation and Development
SME	Small and medium enterprises
UK	United Kingdom

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Chapter 1 Introduction

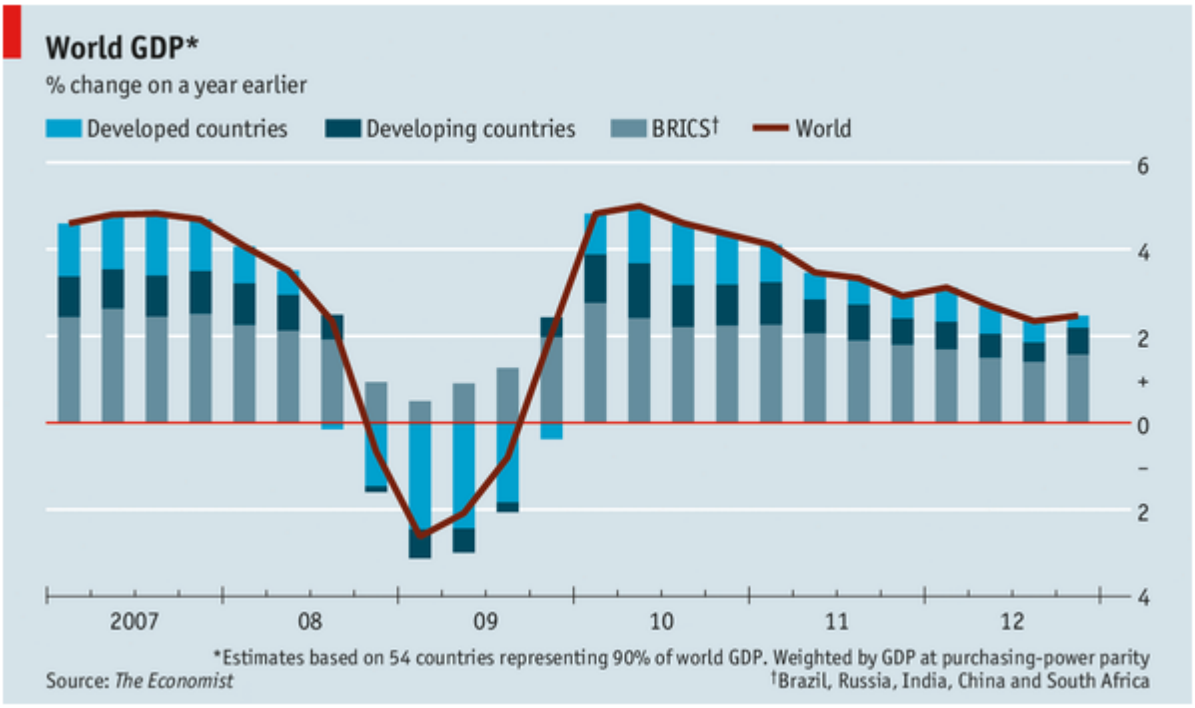
1.1 Background of Study

Environmental issues, climate change and environmental degradation have been recognised by the media, the public and have made it onto political agendas (The Economist, 2011). According to Eurostat environmental protection expenditure in Europe has risen in the last few years (Eurostat, 2012).

In general, environmental issues and environmental degradation are assumed to be linked to economic growth through the increase of consumption that comes with it (Tienhaara, 2010). According to Pearce "consumption involves the use of goods and services to meet current wants" (1998, p.113). Therefore, if consumption is rising and no adjustments are made to the ratio of resources which are being used for it, environmental and resource degradation will continue to increase (Pearce, 1998; Tienhaara, 2010). The environment represents a so called public good, where it is assumed that due to market failure in incorporating costs of environmental degradation the government has to step in as a regulator (Tienhaara, 2010). However, environmental protection and the willingness to pay for it, is assumed to be highly correlated with economic growth and the fiscal capacity to deal with those issues (Pearce and Palmer, 2001).

The financial crisis that began in 2008 has had a major impact on economies worldwide. As Figure 1 shows most advanced economies suffered from deep recessions and global trade in manufactured goods fell sharply (Tienhaara, 2010; The Economist, 2013a). The International Monetary Fund reported a 0.8 per cent decline in global economic output in 2009 (IMF in Tienhaara, 2010, p.197). The International Labour Organization estimates that 212 million people were unemployed in 2009, an increase of almost 34 million over the number of unemployed people in 2007 (ILO in Tienhaara, 2010, p. 197).

Figure 1 Economic Growth/ Decline in the World from 2007 until 2012



Source: The Economist (2013a)

In Europe and especially in the Eurozone[1] the crisis has further developed into a serious debt and political crisis, where countries or respectively national governments had to bailout their banks and sometimes seek bailout funds themselves (Chorafas, 2011). This limits the capacity of budgets, as stated by Wood and Quaisser, "the future financing of projects is hardly guaranteed as clashes over the financial perspective for 2007-2013 showed. The funding and redistribution of all budgets will be fiercely contested" (2008, p. 206).

Additionally, countries within the Euro Area agreed on a variety of mechanisms and instruments in order to stabilize the common currency as well as reduce high public budget

[1] The Eurozone or euro area is defined as "the area encompassing those Member States in which the euro has been adopted as the single currency in accordance with the Treaty (Treaty of Rome), and in which a single monetary policy is conducted under the responsibility of the ECB" (European Central Bank 2006, p. 209).

deficits. One instrument is the closer monitoring of national budgets by the European Union. The European Semester requires the submission of reports about policies and public budgets. The general aim of the monitoring of budgets and spending is to reduce public debt and to reduce the amount of structural deficit in the future (Bundesministerium der Finanzen, 2013, p.2). This, in coordination with other instruments, sets the political framework for the national governments. This explains the current constraints for national governments and their struggle to find the best policy mix between sound policies for the economy, the environment, but also find the path to a sound and sustainable fiscal policy. As Hemerijck (2009) states "once the recession subsides, elevated public debt-to-GDP ratios will make fiscal consolidation imperative. This will require tight fiscal control and painful cuts in Europe's cherished welfare programs" (p.15). The question at hand however is, if the painful cuts will only apply to welfare programs or if other areas, such as environmental protection, will also be exposed to them.

Tienhaara points out that "humanity is currently faced with two global crises, one financial and one environmental" (2010, p.197, Hemerijck, 2009). Governments are currently at a policy crossroads in terms of learning from the economic crisis and putting new policies in place that tackle important issues, such as unemployment and climate change, but also trying to adjust to new limitations to their public budgets.

The European Union and its member states have been leading advocates of promoting environmental friendly policies as well as pushing for environmental protection in general to become a top priority issue in global politics (van der Heijden, 2008). According to Wood and Quaisser roughly 500 regulations, directives, and decisions have been proposed by the EU since environmental issues became one of its responsibilities in 1972 (2008, p. 101).

The financial crisis, that has in the Eurozone evolved partly into a sovereign and political crisis (Chorafas, 2011), could have a significant impact on the willingness of the European Union, its member states, and the public to continue to finance and support this

"enormous and expensive task" (Wood and Quaisser, 2008, p.101), as austerity measures and the path back to sustainable budgets require at times significant budget cuts or raising revenues through, for example, taxes.

However, according to Tienhaara (2010) the financial crisis could also be a chance to make the switch to a sustainable economy and true sustainable development: a move to a so-called Green Economy. This means, that depending on how governments are shifting their priorities it could go either way. Countries and their respective governments are at crossroads in terms of making decisions on the focus of their budgets and therefore have to set priorities (Hemerijck, 2009). The crisis could lead to a focus on the shift to more sustainable development, but at the same time, it could also lead to traditional and old forms of governmental behaviour as well as setting unsustainable and environmentally unfriendly priorities for their future actions (The Economist, 2011, Tienhaara, 2010). As Hemerijck (2009) points out, that "the global financial crisis, together with its economic and social aftershocks, is very likely to fundamentally shape the narrative of politics [...]" (p.19) and it will further have an impact on economic and social policy reforms. It is more than likely that environmental policies will be impacted as well. The question is therefore whether, and if so how, governments choose to take the opportunity to fundamentally change their policies and walk down the "green road?" Equally important is why they made that choice?

1.2 Purpose of Study

This descriptive and explanatory study examines the development of environmental policy-making of states in the European Union, which have been long time advocates of environmental issues and combating climate change as top priorities for governmental action for a long time (Van der Heijden, 2008). For this, this study analyses the specific domestic economic policy measures that governments have taken in order to recover from the economic crisis with a focus on green components. Additionally, this study looks at the internal and external factors that influenced these policy decisions. It specifically

looks at the role different domestic political settings and the role of international organisations, such as the EU and the IMF, to explain how they affected crisis management.

The goal of my research is therefore to analyse the crisis management of countries in the European Union, based on the cases of Germany and Ireland in relation to environmental policy. I will analyse, both short- and long-term reactions in order to try and identify patterns. The management of the crisis might be different between the short and the long term, as the focus of policies and government spending might shift in time. Whereas the focus of the short term reactions are believed to be direct and speedy crisis management, policy reactions in the long-term might focus on broader issues and on the management of the "aftershocks" of the crisis (Starke, 2013; Hemerijck et al., 2009).

1.3 Research Questions

An underlying assumption of this research is that the economic crisis and the rapid and significant downturn of the economy and therefore the decline of economic growth had an effect on the policy and decision-making processes of national governments. Governments have to respond to the crisis with certain measures intended to buffer the immediate effects of such a crisis, e.g. unemployment.

As a consequence, economic constraints have an effect on public budgets and therefore an effective crisis management of governments may lead to a rearrangement or cutting of public expenditure in public budgets, including environmental public spending. As Hemerijck (2009) put it, in many economies "welfare policies are being re-assessed and recalibrated" and he therefore calls the crisis a stress test in many ways for the welfare states of the European Union. On top of that, countries in the EU were not only faced with the consequences of financial crises, but also with the management of several "aftershocks" (Hemerijck, 2009), such as a debt, economic, and political crisis. Therefore I assume that the crisis not only puts the welfare states to a test, but also leads to the recalibration and reconsideration of other important public budget areas, such as the environ-

ment. As soon as governments try to find ways to cut their budgets this inevitably leads to a redistribution of spending, and possibly also to a reconsideration of spending for the overall budgets, but also presumably to a reconsideration of certain items within a budget category. As a result, categories such as the environment might experience redistribution and readjustment.

As mentioned before, the world was and to some degree is still faced with two major crises, one economic and one environmental. Some authors, such as Liepitz (2011) and Aşıcı and Bünül (2012), even call it a triple crisis (economic, social, and ecological). As severe as the economic crises was, it was also seen as an opportunity for policy makers since it led decision makers to new crossroads and therefore might open a "window of opportunity" (Kingdon, 1995) for a way to battle the economic, social , and the ecological crisis all at the same time. However, once an economic crisis hits it is questionable if politicians and political parties, who are trying to get re-elected, will dare to go down that new and unknown road rather than go for the "tried and tested" option. Politicians in this situation will be tempted to focus completely, or mostly, on stimulating the economy, rather than paying attention to policies that may decrease environmental degradation and deal with the issues of climate change.

When it comes to policy-making at the domestic level, according to many studies, one important factor of influence in policy-making is how the political power is distributed in a state (e. g. Dellmuth and Stoffel, 2012; Schneider and Volkert, 1999; Vis 2009). Whether the country is centralised or organised as a federation will influence policy-making, especially when it comes to decision-making in times of economic difficulties.

The International Monetary Fund and the EU have both been involved in immediate and long-term crisis management. Additionally, since the treaty of Maastricht the EU has set out criteria for sustainable budget management of the member states. Scharpf emphasises on the importance of the European level for providing institutional rules and guidelines (2000), but also framing policy-making itself (2006). Adding to that, Schmidt (2002)

states that decisions made by the EU are affecting people's everyday life across all policy areas. It is therefore more than likely that the EU will also make sure that their priorities and goals are mirrored in national recovery strategies and reforms to achieve more sustainable budgets.

As a result, three research questions for this thesis are relevant:

1. *How are environmental policies influenced by economic crises?*
2. *What role do redistributive conflicts/policies play in the response of governments, especially with regard to environmental policies?*
3. *What role do internal (e.g. unitary vs. federal states) and external factors (e.g. EU) play in the response strategies of governments?*

1.4 Significance of Study

Pearce and Palmer (2001) suggest even though there is a lot of research on public spending, especially on social welfare, there is not much research being done on environmental public expenditure even though this issue has become more and more important. Additionally, as outlined above, the financial crisis and climate change and environmental protection are both pressing issues that need to be dealt with. The member states of the EU have been impacted significantly by the financial crisis. At the same time the EU and its member states have been leading advocates and supporters of strong environmental regulations and protection measures in the past, which tends to be a costly undertaking (Wood and Quaisser, 2008). As figure 1 showed the financial crisis had a global impact, problems with public debt and the need to cut down public spending are a worldwide phenomenon and especially pressing issues in other developed countries, such as Canada (The Economist, 2013b). However, the crisis and its aftermath also helped to revive the importance of the role of the government in regulating the market and providing stabilizing mechanisms. Therefore, this study could reveal current trends in how governments deal with both crises, identify patterns in terms of budget reforms. It can also determine whether or not environmental protection and environmental policy-making still play an

important role, even in times of an economic downturn or difficulties. By doing so, this study will contribute to the literature on public expenditure and distributive politics with a special emphasis on developments in environmental expenditure. Furthermore, it will contribute to literature on mixed methods approaches and comparative studies.

1.5 Limitations and Assumptions

This study tries to describe and explore the impact that the crisis had on the environmental policy-making. It is without any question that this study is not able to cover the whole range of impacts from this crisis. The focus will therefore be on identifying and exploring the impact of the crisis on environmental policy-making. Environmental-policy making here is understood and operationalized as policy output (e.g. policies and laws) and therefore is limited in its results and assumptions to this definition of the term.

Additionally, data availability and accessibility are always of importance to research in general and especially for comparative studies. This study still continued with analysis of a category, even in the event that no data was available for the other country. This limits further the possibility of generalisation for this study, but it might enable the identification of possible areas for further research.

This study further recognises the importance of other factors and actors actors in regards to environmental policy-making, such as the public or the private industry. However due to the limitations and scope of this research the focus is on the above explained and described factors.

Only two out of the twenty-eight EU countries are looked at and are compared. Generalisation is therefore difficult or may be simply unjustifiable. However, this study can point out areas, where further research from which generalisation would be possible.

Additionally, the focus will be foremost on governmental activities as it tries mainly to identify patterns and processes within the crisis management of countries, especially in relation to environmental policy. Other areas such as the impact on the public perception related to environmental policy or the impact of governmental activities on the support of the so-called Green Economy could not be covered in this study. This thesis mentions findings to the extent that they are of relevance to this study and it will not incorporate any research from the perspective of private industry.

As for the accuracy and reliability of the data used in this study: this study is a based solely on secondary data. This means that the reliability and validity of this study is mostly depending on the methods and the procedures used to compile the original data set. As it deals with countries the data used is mostly aggregated. Eurostat is the main statistical agency of the EU and provides data and statistics on a variety of sectors. Every EU member has to report its data on a frequent basis and is obligated to do so in the most reliable manner possible. Eurostat furthermore provides statistical reports on all their data sets and specifically outlines challenges, as well as reliability and validity of their data (Eurostat, 2012).

Chapter 2 Related Literature

In this chapter related literature will be reviewed to identify existing gaps in the literature, e.g. the application of concepts developed in other policy areas and the shortage of research in regards to environmental expenditure.

2.1 The Economic and Financial Crisis and its Consequences

Starke (2013) analyzes the impact of the economic crisis on social policy and concludes that built-in stabilizers (e.g. unemployment benefits) set in automatically. This meant that EU governments did not need to consciously increase spending to deal with the socio-economic impact of the crisis in a dramatic way. However, depending on the degree to which such stabilizers were automatic, extra spending was more necessary in some countries than in others. In't Veld, Larch, and Vandeweyer (2012) and Darby and Melitz (2008) also confirm the increased importance of automatic stabilizers since the crisis. Starke (2013) furthermore discusses that not only economical constraints are essential for governments and their crisis management, also political factors, such as interest groups and industrial relations play a role.

Compared to that, Eichengreen (2009) suggests that each country will deal differently with the economic crisis and further will identify their own individual path to recovery. He further emphasises the problems of economies, where in the future only slow growth is expected. This is especially a problem for export-oriented countries like Germany. Here, domestic institutional arrangement will play a major role when it comes to policy responses.

Hemerijck et al. (2009) analyse in their work different implications of the crisis. They state that governments will have to deal with the several "aftershocks" of the crisis. Governments will have to consolidate their budgets while dealing with the implications and consequences of the crisis. In the case of the environment, they suggest that the economic crisis is accompanied by an environmental and climate crisis and action needs to be taken.

They emphasise the potentially positive role of green stimulus packages, with investments in environmental protection measures. Other authors have also discussed the potential positive or negative impact of the crisis on the environment (e.g. Giddens, 2009; Schneider, Kallis, and Martinez-Alier, 2010) without any final conclusion as those works have been written shortly after the crisis broke out. Schneider, Kallis and Martinez-Alier (2010) for example, recognise the crisis as an opportunity for more sustainable policies, but conclude that the crisis represents more a threat to sustainable policies as it can serve as it might serve as a justification for the same policies as before just under green disguise.

2.2 Public Expenditure and Redistributive Politics

Most of the literature about redistributive politics is mainly, or at least to some degree, based on Tullock's work. Contrary to the economic literature on redistribution at that time, he introduced the public choice approach and concepts such as rent-seeking to the research on wealth redistribution (Tullock, 2005). Ever since then the literature on distributive politics, their causes and consequences, has expanded immensely mostly, but not exclusively, focusing on the US[2]. There are also analyses on the preferences of individuals and what determines them (e.g. Alesina and Guiliani, 2009), but for the purpose of this study the focus lies on how governments are involved in distributive politics.

There is also a large literature on redistribution and government manipulation. Biswas and Marjit (2008) discuss how a government is able to stay in power in an underdeveloped economy by manipulating redistributive policies and using it to the government's advantage. Furthermore, Dixit and Londregan (1996) as well as Cox and Mc Cubbins (1986) discuss how politicians use distributive politics strategically for elections and the support of their core groups. Confirming this Hirano, Snyder, and Ting (2009) discuss the fact that primary elections are incentives for politicians to allocate more to their core groups rather than to swing voters in American primary elections. Adding to that, Mulé

[2] See e.g. Miriam and Brian, 2013 for a review on more than 150 studies on redistributive politics in more than 30 countries.

(2001) explores the impact of political parties on income redistribution policy in liberal democracies and concludes that strategic interactions among party leaders rather than the response to social constituencies influences policy on income inequality. She critiques the focus of the literature on international influences rather than on government policies and the varying policy options of party leaders. In terms of methodology she applies game theory within an overall political economy theory framework. She criticises further the focus of research on income distribution and the sole focus on quantitative data and regressions analysis and adds therefore the component of qualitative analysis to her research. She points out further that comparative political economic research has paid only little attention to distributive issues and mostly focuses on cross-national differences in economic policies.

The importance of powerful coalitions, lobbies or organised groups is a well-researched and discussed topic (see e.g. Aidt, 1998; Woo, 2006). Also, Buchanan and Tullock (1975) emphasised the importance of actors and their preferences when it comes to choosing an environmental policy tool. Another important and well-researched factor is whether or not a country is centralist or federally organised (e.g. Scruggs, 2003; Huber and Stephens, 2001) and how this influences political programmes. Huber and Stephens (2001) emphasise in their work on the importance of constitutional settings, as this either distributes or concentrates power. They further argue that centralized power enables changes in the social construction and the retrenchment of the welfare state more easily. Further discussing political settings, Dellmuth and Stoffel (2012) elaborate on the redistributive politics in regards to the EU regional funds. They point out that, even sub-state entities enjoy discretionary power in the local allocation of those funds, distribution choices of sub-state governments are largely in accordance with EU goals

Shapiro, Swenson, and Donno (2008) argue that much academic writing has assumed that majority rule would automatically lead to redistribution as long as the income of the median voter was lower than the mean and therefore the voters request more redistributive policies. They criticise the dominance of research on the distribution of wealth and in-

come in the political economy literature and as well as the focus on developed countries. Therefore they focus on what gets distributed including topics like risk, health care, etc. and analyse who is the recipient of redistributive politics with a special focus on the developing world. They conclude that powerful coalitions rather than the median voter determine redistributive politics.

Alesina and Perotti (1994) survey the political economy literature in regards to budget deficits and identify that proportional election systems lead to coalition governments and fiscal deadlocks, but in the case of majoritarian systems this does not happen. They further state that coalition governments might put a break on much needed policy reform in an economic crisis. In another work they analyse fiscal expansions and adjustments in Organisation for Economic Co-operation and Development countries and conclude that many attempts at adjustment have failed to reduce public debt in the long term and only aggressively attacking even "untouchable" social expenditure will be successful, as in the case of Ireland between 1986 and 1990 (Alesina and Perotti, 1995).

Concluding this, a wide range and variety of research exists on distributional politics and budgets. However, as pointed out above this research mainly focuses on certain developed countries and is mostly limited to income and wealth with not much research being done in regards to investigating possible connections to, for example the environment.

2.3 Comparative Studies on Environmental Policy Performance

Muno (2002) provides an overview of good examples of comparative environmental policy performance analyses and summarises shortcoming of the literature as well as research gaps. These are mostly due to the lack of data for countries outside of the OECD, and least developed countries in particular. This data availability is the primary reason why so much research in this area is focused on OECD.

Scruggs (2007) discusses in her work "Institutions and Environmental Performance in Seventeen Western Democracies" the determination of institutions in regards to environmental performance in democracies. She does that through a comparative study with multi-regression analysis with environmental performance defined as "the results of human responses to human-induced environmental pollution problems" (Scruggs, 2007, 79). This study therefore looks at the actual outcome of policies rather than at the output, as most other studies in environmental policy literature do (Scruggs, 2007). Even though it is hard to believe, since corporatist groups are identified as being the main drivers of environmental degradation and pollution, neo-corporatist countries have much better environmental outcomes than pluralist countries (Scruggs, 2007). Additional significant explanatory factors of environmental performance are per capita income, the political geography of countries, and the centralization of countries with only little evidence on public opinion and environmental awareness being a major influence (Scruggs, 2003). Further, neither the factor of whether or not a democracy is consensual or majority based, nor the other traditional political variables are able to explain the variation in environmental performance (Scruggs, 2007). One potential shortcoming of this study, which she noted herself, is the fact that all of the corporatist countries she analysed, are located in Europe and therefore the aspect of policy convergence especially amongst EU members cannot be completely dispelled as an additional explanatory factor (Scruggs, 2007).

Scruggs (2007) points out some shortcomings of environmental policy literature and points out that further research needs to be done in research about cross-national differences in response to conflicts between economical and environmental issues and how those get resolved. She furthermore comments on the lack of literature about environmental performance and corporatism compared to sources on economic and welfare policy. The same can be said about preferences of spending in environmental protection in general and in times of economic downturn. Leonard and Botetzagias (2011), for example, in their piece " Sustainable Politics and the Crisis of the Peripheries: Ireland and Greece" discuss the effects of the economic crisis in Ireland, but focus only on Environ-

mental Policy in relation to the effects of the crisis on the Green Party, which was in a coalition government when the crisis hit in Ireland.

Another point mentioned by Scruggs (2003) is that environmental policy research in comparative political economy literature is limited compared to other areas because it so far has refused to, or it has not tried to, apply commonly known concepts from other areas. This is largely the result of the assumption that there are always significant differences between environmental and other policy areas. Additionally, Pearce and Palmer (2001) note the lack of research in the field of environmental expenditure in general even though the policy field has become increasingly important.

Concluding this, this study draws on the work of Starke (2013) and Hemerijck et al. (2009) as it takes the approach to analyse the impact of the current crisis on a certain policy area, in this case environmental policy. It furthermore considers and draws on the findings related to institutional and political settings and conditions for environmental performance. The study further tries to incorporate some of the shortcomings in environmental policy research identified by Scruggs (2003) e.g. the application of concepts from other areas such as welfare policy.

2.4 Contribution of this Study

As the above sections demonstrate, a good deal of literature on economic crises and its influence on the political system exists. Additionally, a lot of research has been on done on the distributive politics and institutional effects on the political decision making process. However, this study draws from the review of several reports, such as the OECD Environmental Performance Review, but also includes quantitative data from the Europe 2020 targets and public expenditure. The aim is to provide a bigger picture of how the financial and economic crisis has had an impact on environmental policy-making. Additionally, this study also tries to address the gap in the literature that results from the reluctance to apply concepts well known in other areas of research to environmental policy

analysis. This study uses already existing findings, theories and assumptions in literature from other areas such as social and welfare policy and applies it on to environmental policy making.

There have been studies about the environmental performances of countries, mostly those in the OECD. Some of these have come up with their index of environmental performance for these countries (e.g. Scruggs, 2007). This study does not only focus on environmental pollution and performance according to several indicators, it looks in greater detail at areas of environmental-policy making that have suffered, remained stable or have even benefited from the crisis and its consequences. It looks at how countries with different institutional conditions have dealt with the crisis with a special focus on environmental policy. This research will also contribute to the overall literature on the political economy, distributional politics, as well as to comparative studies on environmental policy performance.

Chapter 3 Explaining Political Decision-Making through a Political Economy Perspective

This chapter reviews existing theoretical literature and thereby tries to identify and state assumptions, which will generally guide the empirical analysis and will the possibly lead to statements, that can then be tested in future research on a broader scale.

The overall objective of this study is to analyse the political decision-making process especially in times of economic and therefore financial constraints. There are a variety of different political economy approaches, one of them, which is concerned with the interaction of the economy and the political system, is called Public Choice theory. This theory intends to not only analyze the political system itself, it furthermore enables one to look at what the political system does and how it interacts with economic actors and how the state of the economy influences the political decision-making (The Encyclopaedia of Public Choice, s.v. a).

Public Choice theory is based on the general assumptions of Rational Choice Theory. According to Schneider and Volkert (1999) states cannot simply be looked at as a homogenous body. Every part of the state makes their own decisions, based on their own constraints, abilities and personal interest. Confirming this, Scharpf (2000) states that governmental programmes are not put together by a uniform body, but by actors with different interests, but also different understandings and perceptions of the problem at hand. Every actor therefore has their own interests, normative preferences and also their own resources. This characteristic makes this approach especially valuable for analyses of environmental policy-making. Here, many actors are involved in the decision-making process.

Viewing governments, administrations, interest groups, and voters as actors generally goes against the assumption of methodological individualism. Methodological Individualism, which Rational Choice Theory falls under, states that behaviour can be explained, based on individual behaviour and only individuals are able to act as such. However,

Scharpf (2000) argues that individuals will act according to constraints and resources of their organisation and based on that will make their decisions. Therefore, it is justifiable to treat certain entities as complex actors, made up of individuals with relatively similar constraints and resources for their actions.

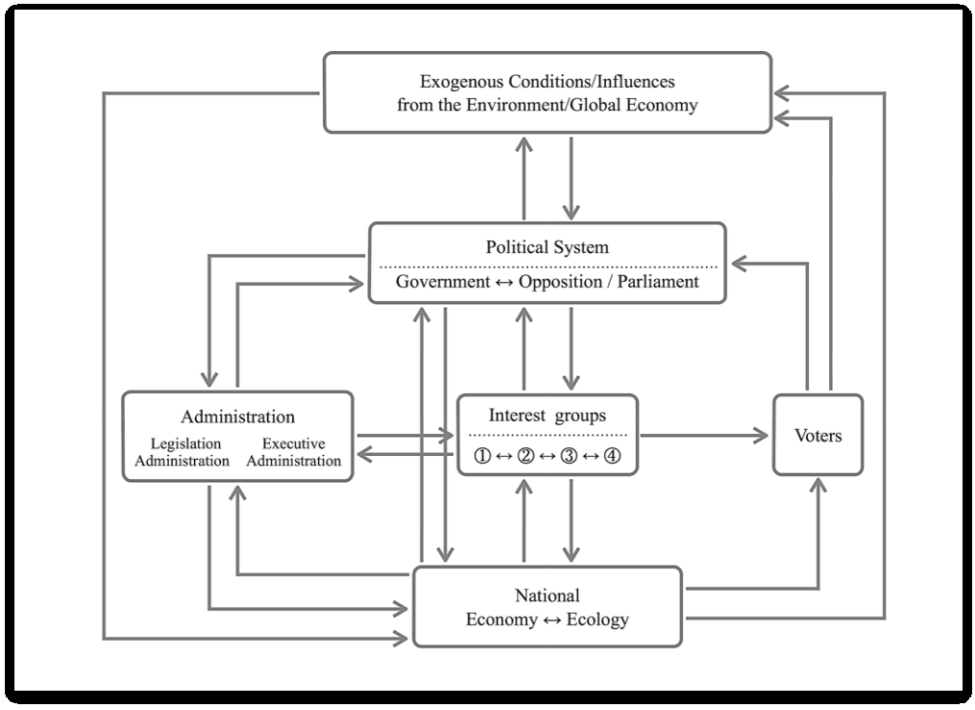
The Public Choice approach generally identifies four main actors[3]: the political system (mainly the government and the opposition), the administration, the voters (representing the general public), and interest groups (representing private interests such as industry and other organised groups). All of them interact with and influence each other to some degree and will primarily act to pursue their own goals and interests (e.g. Scharpf, 2000; Schneider and Volkert, 1999; Schmidt, 2008; Weck-Hannemann, 1994).

Additionally, the actors are not only influenced by other actors, but also by their surrounding environment, which in regards to environmental politics and policies mainly consists of the national and global economic and environmental situation (Schneider and Volkert, 2008) as well as institutions, which also play an important role (Scharpf, 2000), Both the state of the environment and the economy shape and generally provide the frame for the actions of the aforementioned actors.

Figure 2 provides a general model of a Public Choice framework and the interaction between actors in representative democracies.

[3] Political Economy literature mainly agrees on the identification of those four actors, however the models stemming from it tend to differ in the names they used, e.g Weck-Hannemann (1994) calls them producers, consumers and voters, politicians, and state bureaucracy.

Figure 2 Political Economy Framework and Setting



Source: Schneider and Volkert, 1999, 125

The Public Choice approach is widely used and accepted as a framework to analyse environmental policy making (Schneider and Volkert, 1999; The Encyclopaedia of Public Choice (s.v. b).; Weck-Hannemann, 1994). This, as well as the fact that it combines economic as well as political aspects are the main reasons why this theory will be the main and overall guiding theoretical framework of this research. Furthermore, it acknowledges the multiple actors involved in political decision-making especially in the case of the environment.

The following sections will lead to the specification of the theoretical and explanatory framework of this research in relation to the three aforementioned research questions. The next sections will elaborate on the political decision-making process in regards to envi-

ronmental policy (research question 1), with further discussions on redistribution (research question 2) and institutions[4] (research question 3).

3.1 The Political Economy of Environmental Policy-Making – Interests vs. Effectiveness

Combining elements from both economics and political science, policy measures, produced by governments and legislatures, are viewed as the outcome of an exchange process between them and the private interests and the voters. Elected officials supply policies, which are demanded by interest groups and the voters. In exchange politicians will receive votes, money, and information (Encyclopedia of Public Choice, s.v. a).

Much social science research has been done that discusses the setting and framework of environmental policy-making mostly in regards to implementation of certain environmental policy tools (Muno, 2006). The following section describes the overall situation, the constraints and interests of the four important actors involved when it comes to environmental policy decision-making (Weck-Hannemann, 1994; Schneider and Volkert, 1999; Encyclopaedia of Public Choice, s.v. a):

Overall situation: Environmental protection in general is accepted and acknowledged as an important political goal. This is because environmental protection provides all parts of society with the advantage of e.g. better air quality, less pollution, etc. and is therefore considered a public good. This means a general improvement of living conditions for everyone not just for a certain part of society. However, once the discussion about financing environmental protection and who carries the burden of the costs starts, the picture of support changes, which leads to conflicts of interests. This is why public goods tend to be under supplied. This is when agreement and disagreement between above mentioned actors depend on who gets to be the winner or the loser in this situation. Incentives and

[4] Institutions within the scope of this thesis are defined as political institutions and frameworks providing a general setting for policy-making and guiding it thereby.

compensation measures to overcome possible costs are one decisive element, which explains the creation and implementation of environmental policy.

Private interests[5] are organised groups representing certain industries and their interests. According to Olson (2006) interests can be pursued most effectively in an organised group. Aidt (1998) emphasises the importance of lobby groups, especially in environmental politics. However, not all interests are well organised and they may have little or no political weight when it comes to decision-making. Private interests can be identified amongst three groups in the case of environmental policy-making:[6] producers of environmentally unfriendly and polluting goods, producers of environmental technology and providers of replacement goods which are environmentally friendly and can replace environmentally unfriendly and polluting goods. Producers of environmentally unfriendly and polluting goods are generally going to lose once a government promotes environmental and sustainable policies. They are directly affected, as this will more than likely mean a change in sales and/or production, which means additional costs or losses. On the other hand, producers and interests representing environmental technology would gain direct profit from such a policy change. Providers of substitution goods are not faced with an additional burden of costs. However, their profit depends on whether or not there are enough incentives for their customers to invest in their substitution technology. If this is the case they can also be counted as winners of the promotion of sustainable policies.

As said before, Olson (2004) states that interests can be highly or only somewhat organised. Generally it is assumed that those interests, who are directly impacted, will have a strong preference to pursue their own goals and will demonstrate this and advocate on their behalf and try to avoid additional costs for themselves. This is the case for the group of producers of environmental unfriendly goods. Whereas in the case of the other two

[5] Private interests as well as voters do not represent the focus of this study. However, the understanding of their perspectives, goals, and constraints is essential, as it contributes to the bigger picture in regards to placing political decision-making within those individual interests.
[6] This is a simplistic description of the most important interests in environmental-policy making. It is assumed that only those who will be directly affected will be interested in voicing their opinions and making their opinions heard.

groups they will have less incentive and are therefore assumed to be less organised in this regard.

Voters in general benefit from an increase in environmental protection. Inglehart (1998) discusses, economic development has led to a shift in what is valued most by people from materialistic to post materialistic, which amongst other things also means the acknowledgment of living quality including environmental quality. However, once the costs of environmental protection become obvious and discussion about who has to carry the burden become apparent the support for those policies lessen. Additionally, voter interests are in most cases only to a certain degree organisable.

Administration: the main actor for implementation and execution of environmental policy is the administration. The relationship with the government is described as a principal-agent relationship (The Encyclopedia of Public Choice .s.va). The administration is traditionally well connected with affected industries and therefore has more information compared to the government and can use this to their advantage. The administration cannot just simply be viewed as the government's attachment. The administration has its own interests and goals. As it is the responsibility of the administration to implement and execute policies, it prefers to have as much discretionary power as possible (The Encyclopedia of Public Choice .s.va). More public money spend on environmental policy programs means also a potential increase in discretionary power. They also play an essential role when it comes to budget cuts, which will be explained in the following section.

Politicians are responsible for choosing the right tool or programme. Their primary interest is to get re-elected. Downs (1968) argues that, politicians act based on their interest rather than for the common good. Their main goal is to obtain a position and in the long term to get re-elected. Considering this, political programmes are the results of politicians trying to gain as many votes as possible. Parties currently in governments will therefore try to satisfy as many voters as possible with their programs or otherwise the opposition will take over by doing so. Politicians and governments will therefore carefully monitor

the opinion of several important interest groups. However, they are in no position to act and just pursue their own interest. Weck-Hannemann (1994) states that politicians are generally restricted in three ways: (1) The main aim of a politician to stay in power and get re-elected, party programmes represent a means to achieve that. Therefore political party programmes are designed to secure or to strive for (re-)election and to ensure that secure enough votes. (2) Politicians are restricted financially through the budget that was agreed on, usually by the parliament. (3) Finally, politicians also face administrative restrictions, as the government is highly depending on its administration to implement and execute their policies. Additionally, governments are highly responsive to organised groups and their interests (Aidt, 1998), as they have potential for vote casting, in case of their interests being addressed in the respective political programmes. Those restrictions frame the actions of a government. Especially, financial restriction in particular are assumed to be a main driver and constraint in times of an economic downturn, as the government will be more conscious of how it spends money and on what (Wood and Quaisser, 2008). Unpopular reforms or spending diverted to environmental or sustainable policies might not find the support of the voters or interest groups. Governments might therefore be reluctant to try the risky "green" path. On the other hand, Vis (2009) describes in her study on governments and unpopular social reform that governments are more prone to risky and unpopular decisions when faced with a deteriorating socio-economic situations and a declining political position and/or a rightist government. This is because the extent to which a government will try to undergo social policy reform depends on the losses in regards to the socio-economic and political situation at hand. A deteriorating socio-economic situation can therefore be a trigger point for such reforms. Having said this, Aşıcı and Bünül (2012) further state that the situation of the recent economic and financial crisis is different from earlier crises. The current one happens simultaneously with a social and ecological crisis. This has led to an increase of popularity of green investments of both, the public and private sector, in the eye of the public as those measures represent a more holistic approach to combat those crises. Therefore, investing in sustainable measures for a "green" recovery might be an opportunity for politicians to gain votes and in return serves their self-interest for re-election.

Concluding this the following assumptions can be made:

Assumption 1.1. : The economic crisis may have an impact on environmental policy making.

Assumption 1.2. : The economic crisis may put governments at crossroads, presenting them with an opportunity to provide incentives with a focus on sustainability instead of traditional growth measures, solely aimed at recovery with possible adverse effects.

3.2 Interests Matter – Redistribution and Political Outcomes

According to the World Bank the financial crisis has had several impacts on public finances and their management on three levels: (1) public finance in terms of aggregate fiscal management, (2) prioritization of expenditures, and (3) the technical efficiency of government delivery (The World Bank, 2010).

Supporting this, Mueller (1982), based on Olson's assumption of the strength of interest groups,[7] points out that a weak economy will lead to a focus on distributional issues. Beck and Prinz (2012) state that once a government tries to spend less than it used to, it will immediately be the trigger point for a distributional conflict about the remainder of the remaining pie. Laswell (in Golden and Min, 2013) finds distributive politics to be at the heart of politics and furthermore states that it is all about the "who gets what, when, how" (Laswell in Golden and Min, 2013, 74). Due to the multiple interests and the voters involved and their pressure on the government to choose the "right" tool, it will be more than likely for governments to make inefficient policy choices. This will further lead to political instability and a return again to poor economical performance.

Glennerster (1981), based on analysis of cuts to social services in the UK from the 1970s and the 1980s, argues that governments and politicians will make budget cuts if necessary based on their own rationality and constraints. Whereas one might think it would be best

[7] According to Olson (discussed in Mueller, 1982) the strength of interest groups will worsen the economic situation, as strong interest groups will push for allocation and redistribution in their favour and thereby causing the government to make inefficient policy decisions. A weak economy will then further lead to the worsening of political stability.

to conduct a detailed review of necessary and unnecessary spending and programs, this hardly ever takes place. Rather than that politicians who are keen on making cuts, will try to get as much cut while trying to minimise the unpopularity of these cuts. This factor as well as the government's principal-agent relationship[8] with the administration shapes and frames the way cuts are being made as well as where they are made.

Glennerster (1981) furthermore distinguishes between the rationality of politicians in times when cuts are just a temporary measure and when permanent cuts are required (pp. 183)[9]. He goes on to name and explain different strategies of budget cuts in those two circumstances. The overall assumption is that in a situation where temporary cuts need to be made, a politician will try to delay the request for spending cuts and will hope for improvements in the future or simply for someone else to take care of it thus avoiding unpopular decisions.

On the other hand, when real cuts need to be made, politicians have no way out but to make those unpopular decisions (Glennerster, 1981). Two strategies are fairly common when it comes to real budget cuts. The first aims at spreading out the burden of cuts across all policy areas rather than cut one specific area completely. Although, as mentioned before, most of the time particular governments will have their preferences about where they want to see fewer cuts.

This means, first of all, that cuts will not only appear in the environmental sector, but will be more spread out across all government sectors. Second, when it comes to the environmental sector itself core areas of environmental protection programmes (e.g. water man-

[8] In this case the government is the principal, as it will ask the administration to provide it with possibilities where budget cuts are possible and necessary. The government itself does not have the time and the knowledge to conduct such an analysis. This provides the administration with an advantage of information as the administration itself can decide on what they offer the government for their budget cuts (Glennerster, 1981; Hood and Wright, 1981)

[9] See Glennerster (1981) for a detail description of the different strategies, which politicians, bureaucracies and the voters use when budget cuts are on the agenda (pp. 183)

agement, waste management) will remain the same and newer ones, such as e.g. biodiversity, with less significance will be more likely to get cut.

Assumption 2. : The financial crisis will lead to a focus on distributional issues and thereby force governments to identify priorities based on economical and political considerations in their spending.

Here it is important to notice the advantage of a comparative study with two different countries, such as Ireland and Germany. Ireland and Germany are in two different, but to some degree similar situations. Ireland was forced to undergo severe budget cuts in order to become eligible for the bailout funds by the EU, the ECB and the IMF. Germany, for its part, voluntarily set itself a target to cut its expenditure with the introduction of the "Schuldenbremse" (German for debt break) beginning in 2016. Examining these two cases will enable us to see if there are differences between forced cuts versus voluntary cuts to prepare for the future.

3.3 Institutions Matter - The influence of institutions on political decision-making

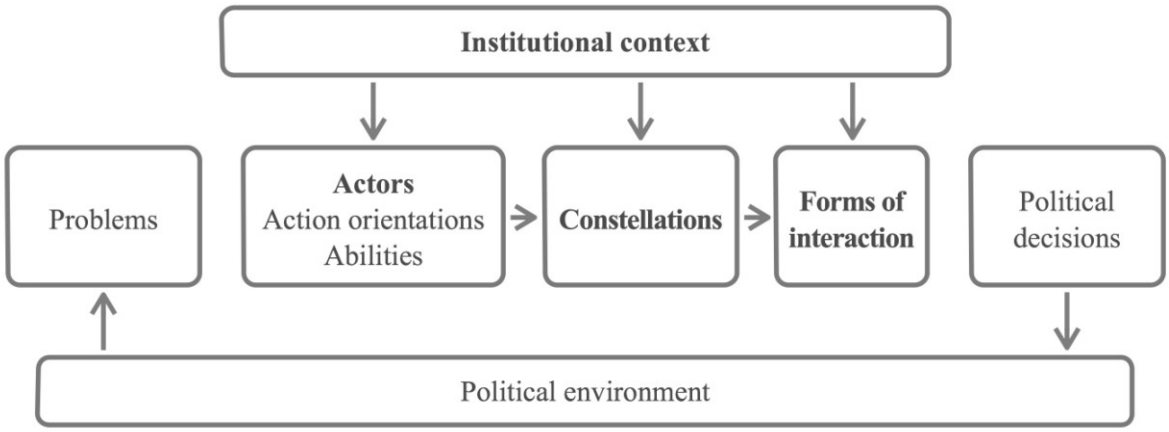
As mentioned before, governments make decisions not only based on their own preferences and interests, but also take other actors interests and preferences into account. One other major influential factor are institutions (Scharpf, 2000).

According to Scharpf (2000) actors in the political environment will choose their actions based on their institutionally shaped preferences, perceptions, and constraints. This means that institutions will provide a framework for actions and further determine what is possible and advisable to do and also what cannot be done. The actor-centered Institutionalism developed by Scharpf and Mayntz emphasizes how institutions shape preferences, perceptions and capabilities of actors (in Scharpf, 2000).

Ostrom, Gardener, and Walker state that institutions can serve as explanatory factors, because they lay out rules and regulations and determine what is allowed, forbidden, and

what is possible (cited in Scharpf, 2000, p. 78). Furthermore, institutions will also shape the way actors can react to decisions of others and their preferences, which in return determines the decision of the actor. The institutional context will therefore define the actors themselves, their preferences and capabilities, the overall constellations of important actors, and the way they are able to interact (see Figure 3).

Figure 3 Constraints of Actors in the Presence of Institutions



Source: Scharpf, 2000, 85

Institutions play a role at the domestic and international level. In the case of the European multilevel governance setting, institutions on the domestic and international level are of great importance. Schmidt (2002) states that EU-Institutions are becoming more relevant as EU policies are now governing and framing issues across all policy areas. When it comes to environmental policy the EU has always played a major role in regulating and framing national policies. It is therefore necessary to look at both the international and domestic level to determine how institutional settings frame policy-making, especially with regard to the environment.

When it comes to the domestic level, according to many studies, one important factor of influence in policy-making is how the political power is distributed in a state (see for example Dellmuth and Stoffel, 2012; Schneider and Volkert, 1999; and Vis 2009). Depend-

ing on whether the country is centralised or organised as a federation, this will shape policy-making, especially when it comes to decision-making in times of economic difficulties. A federal country by its nature has more veto points with regard to decision-making than in a centralized system as a result from the distribution of power. According to Vis (2009) this makes reforms in a political system more difficult. It can therefore be assumed that this is also the case for reforms and budget cuts in environmental policy-making.

Scharpf (2006) describes the dependence on other constituent governments when it comes to important decisions or institutional changes as the "joint-decision trap". Constituent governments will, when it comes to important decisions, defend their own interests. This makes policy innovation difficult, but at the same time might also lead to ineffective or bad policy choices. Scharpf introduced this concept based the experience with reforms in federalist Germany in the 1980s, but it can now also be applied on to the European context with 28 member states trying to find compromise on policy decisions (Scharpf, 2006).

Confirming this, Glennerster (1981) said that in centralised countries, real budget cuts are more likely to happen, as the power lies within the central government. This makes reforms easier as it reduces the number of veto point in the system. Additionally, local governments play an important role when it comes to budget cuts. This is the case as budget cuts in the sector of local governments mean less difficulties with their own administration on the federal level. At the same time, the government can claim making the big cuts and saving money of the taxpayers. Furthermore, this might spare them of directly related political unrest.

Assumption 3.1. : Institutions (constitutional and political settings) may play a role in the environmental policy performance after the crisis

Responding to the economic crisis and its consequences was not limited to countries and domestic policies. One major component of crisis policy management, and especially in

the case of international bailouts, is that international institutions played a major role. Especially in the case of the supranational framework of the EU, the international level is of great importance.

According to Putnam (1988) a sovereign country cannot ignore the importance of what he calls the "two-level game". Drawing from game theory, he states that a government of a country has to play the game at both the international and the domestic level. Both levels have their own actors, with different interests, problem perceptions and action resources. In order to secure and pursue their interests a government needs to be present at both game tables and has to understand and play according to the rules set out on each level.

This means that in case of the crisis management interests at the international level are also of great importance to governments. Dellmuth and Stoffel (2012) analysed whether or not local grant allocation of European Structural Funds in member states of the EU are in line with the funding goals set out by the EU. They found this to be the case that even though theoretically there is evidence that allocation of funding gets largely distorted by local or domestic interests, distributional choices made on the domestic level are largely in accordance with the EU funding goals.

The IMF and the EU have both been involved in the immediate and long-term crisis management. Additionally, the EU has ever since the treaty of Maastricht set out criteria for sustainable budget management of the member states. Scharpf emphasises the importance of the European level for providing institutional rules and guidelines (2000), but also framing policy-making itself (2006). Adding to that, Schmidt (2002) states that decisions made by the EU are affecting people's everyday life across all policy areas. It is therefore more than likely that international organisations will also make sure that their priorities and goal are mirrored in national recovery strategies and reforms to achieve more sustainable budgets.

Assumption 3.2. : International organisations may play an important role in setting priorities for budget cuts and/or policy areas under fiscal austerity.

However, as Scharpf (2000) notes, when it comes to institutions two constraints apply: (1) institutions are different in every country, therefore results might not be applicable outside of the research context. (2) Decisions and results are not deterministically influenced, as sometimes more than just one path of actions is possible and also other factors might explain the behaviour as well.

The first point in particular is of interest to this study. It was taken into account, as it is the case with every study that compares different countries, a different country means a different setting and a different set of institutions that might influence it. However, this study looks at international institutions where both Ireland and Germany are members. This means that both of them have to follow the rules, constraints and opportunities that those memberships provide them with. Furthermore, once it comes to domestic institutional rules and constraints, the intent is to look at the differences, so in this case the different institutional settings between those countries are an essential factor of this study.

Chapter 4 Methods and Procedures

This chapter outlines the methods and procedures of this study and further talks about research design, data collection and analysis, the operationalization of variables, and case selection.

4.1 Research Design

Starke (2013) analyses social policy reactions to the economic crises in New Zealand and Australia. By choosing countries with similar institutional settings, he analysed the political crisis management in these countries. Similar to this approach, this study identifies if and how economic growth and environmental policy-making are linked and if patterns for crisis management can be identified and what other factors played a role in the crisis management of governments in Europe.

This study is descriptive and explanatory. It first tries to identify existing patterns in environmental policy-making, including environmental public spending and second it tries to identify the reasons why environmental policy-making changed and specifically focuses on the influence of external and internal factors on government policymaking outlined in chapters 2 and 3.

Furthermore, a limited longitudinal analysis has been conducted in order to analyse environmental public expenditure and overall public expenditure. Quantitative data as well as qualitative data, such as reports and documents informed this research.

As mentioned before this research focused on the development of environmental-policy-making in Europe through the cases of Germany and Ireland. The overall research design is laid out as a comparative study where both countries are compared based on reports which both countries are subject to (e.g. the OECD Environmental Performance Review). Within comparative analysis two criteria are important, the number of variables and the number of cases (Lauth and Winkler, 2002). In case of comparative studies and countries

as the research objects, sometimes an explanation on the macro level and a complete analysis of all countries is not feasible. Then, two strategies are very common within comparative political science. One is the *most similar case design* (MSCD) and the other is *most dissimilar case design* (MDCD) (Lauth and Winkler, 2002, Gschwend and Schimmelpfennig, 2007). Those designs differ in the way the cases, and both independent and dependent variables are set up. Either they are all similar or all very different (Lauth and Winkler, 2002). This study will use the most dissimilar case design even though both of the countries are in the EU and therefore share a general overarching political framework and have both been impacted by the financial crisis. However, within the category of EU member states these two cases have significant differences, e.g., with regards to their domestic political institutions (Ireland has a centralised government and Germany is federally organised) and their economic situation[10].

According to Neuman and Robson (2009) a comparative research design and the comparison of countries enables the testing of a general concept in more than just one case. This makes the identification of hidden biases or assumptions possible. Another advantage of a comparative research design is the fact that by comparing two or more cases new questions arise and as a result can stimulate and further support theory building and testing in a broader context. However, the disadvantages of comparative research designs cannot be ignored. The comparison of more than one case is in general more time consuming, difficult, and costly (Neuman and Robson, 2009). Also, the problems of different backgrounds, as well as the access and the availability of data make comparative studies difficult, especially in the context of environmental policy (Muno, 2002).

4.1.1 Data Analysis, Collection and Sources

Data analysis was conducted by a combination of quantitative limited longitudinal statistical analysis and additional qualitative analysis of reports, documents, and publications.

[10] See Appendix 1 for more characteristics, commonalities, and differences of both countries in comparison.

The overall assumption is that both approaches complement each other. Neuman and Robson (2009) have put together an overview of advantages and disadvantages of, qualitative and quantitative methods. Also, they have identified several areas of conflict where the use of mixed methods might cause some problems for the overall research and its results.

On the one hand, the overall advantages of mixed methods are that the richness of texts and narratives, etc. add meaning to the numbers, while quantitative methods provide qualitative research with more precision. Testing and building of grounded theory is possible and therefore a broader range of research questions can be covered. It is also possible that by using multiple methods a topic can be covered in more detail. This may also increase the generalizability of the study's findings.

On the other hand, the application of mixed methods also possess several problems or difficulties (Neuman and Robson, 2009). First, it is very time intensive as well as costly, especially for a single researcher. In the case of this study this problem has been taken into account, but since this study solely uses secondary data the time component is not of such importance as it might be in the case of primary data collection. Second, the researcher might not be familiar enough with both methods. However, this only becomes a problem, depending on the background of the researcher. Third, quantitative and qualitative theory purists argue, that to combine these different methods is a violation to the fundamental basics of each of the methods as they mostly contradict each other. I argue however that the theory will benefit from both approaches as it gains insight and is able to cover topics in a broader and more detailed way. Additionally, this study solely uses the deductive approach as it draws and deducts assumptions from theory. Those assumptions guide the empirical analysis afterwards. Fourth, the answers a researcher might get from the different methods, especially when they contradict each other, might make it difficult to draw clear conclusions. One way out might be that a researcher prioritises one method over the other.

Considering this, this research does not intend to privilege the results from one of those types of methods. The overall research design of this study sees the mixed methods approach as useful since quantitative and qualitative approaches are by and large complementary. Both are assumed to be the most suitable to answer the respective research questions in the best way possible.

Quantitative data, all from Eurostat, used in this study includes data on the overall public expenditure of Germany and Ireland, as well as their environmental public expenditure broken down in subdivisions for the general, federal, state, and local level. Data on expenditure is in % of GDP to ensure comparability between the two countries. Also the data on the environmental part of the Europe 2020 strategy comes from Eurostat, which is the EU's statistical information service and the provider of the "European official statistics" (Eurostat, 2012, n. p.) in a diverse variety of areas, such as environmental expenditure from 2002 until 2011 from all 28 member states of the European Union. Eurostat furthermore provides reports and information on the quality of the statistics as well as explaining how they were computed (Eurostat, 2012), therefore ensuring transparency, which is important for both, the quality and a possible recreation of this study.

On the other hand, qualitative analysis also played a major role in this study. In this research qualitative analysis was conducted via a thorough analysis of already existing non-reactive material, such as reports and documents. In a first step relevant organisations and levels for the provision of data were identified on an international and national level. Research is thereby informed by national reports by the respective environmental ministries of Germany and Ireland, in the case of Germany the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety and in the case of Ireland the Department of the Environment, Community and Local Government. However, the main goal is to conduct a comparative study, therefore the main sources which inform this study are reports or documents published by organisations where both countries have been analysed in similar time periods or at least by the same type of review. Identified reports and documents which meet the above criteria for comparison are the environ-

mental performance review published by the OECD, and the country specific recommendations. Additionally, other indicators on environmental and climate change policy performance complete the analysis. Indicators of the latter category had to be compiled based on quantitative and qualitative analysis. This was done to ensure that those indicators were based not only on targets and numbers, but also based on additional qualitative analysis, e.g. additional analysis by experts from the respective countries.

This enabled this project to draw on the results of several studies, reviews and recommendations of those reports combined with national reports[11]. This overall approach is to make sure that multiple indicators as well as sources are used to describe environmental policy and therefore ensuring reliability and validity of this study.

4.2 Selection of Cases

The cases for the study were Germany and Ireland. Both of those countries are in the European Union and represent countries that are supportive of tackling environmental degradation and climate change. Both of the countries have been hit hard by the financial crisis and its economic consequences, as they both had to bailout banks with government money. However, Ireland had to seek out financial bailout from the IMF and the European Union. In order to receive the financial aid from those rescue funds, the Irish government had to agree to severe policy reforms, which included long term budget cuts in order to reach a more sustainable public budget in the future (Eurozone Portal, 2013). Germany on the other hand, is promoting the economic model of the Green Economy and due to the phase-out of its nuclear power plants in the near future, it is currently faced with another challenge, the "energy transition" and the switch to more renewable energy. Both countries, each by themselves already represent interesting developments and findings. Additional explanation will follow after the introduction of the background for this research of both countries in section 5.3.

[11] See Table 1 for detailed information on indicators and sources used for this study.

4.3 Definition of Terms

Several concepts used in this research need to be identified and explained.

Within this study environmental policy-making is defined as policies in the area of the environment and climate change. Following Eurostat environmental protection expenditure are defined as "the money spent on activities and actions that are aimed at the prevention, reduction and elimination of pollution as well as any other degradation of the environment" (Eurostat, 2012)

Economic crisis is understood in this thesis as the economic downturn beginning in 2008. Each country experienced it to a different degree and for different lengths.

Distributive politics within the scope of this thesis are understood as preferences of the government for the allocation or reallocation in certain areas of expenditure.

Crisis management is understood as the actions of the government in response to the economic crisis in 2008 and in the following years.

4.4 Summary of Methodological Procedures

This study is conducted through a mixed methods approach using both quantitative and qualitative analysis of secondary sources. The data collection as well as the analysis was done on a concurrent basis, meaning that both qualitative and quantitative data and methods are of equal relevance and importance with no preference over which results are more valid and more important for this study.

Table 1 provides an overview of the three research questions and the respective main types of data analysis, type of data and data sources.

Table 1 Summary and Overview of Methodological Approach, Operationalisation and Data Sources

	Research question	Type of analysis	Data	Source	Year
1	Short-term effects	Secondary data, descriptive, qualitative analysis	Reports on Green Fiscal Stimulus	HSBC (2009), ILO (2011), Schepelmann et al. (2009), Höfer et al. (2009)	2009-2011
	Long term effects	Secondary data, Descriptive, qualitative, and quantitative statistical analysis from RQ 2	OECD Environmental Performance Review	OECD	DE: 2012 IRL**:** 2010, 2014
			Country-specific recommendations Europe 2020 reports	EU Commission	2011-2013
			Sustainable Governance Index 2014	Bertelsmann Stiftung	2011-2014
			Public Expenditure in percentage of GDP	Eurostat	2005-2012
			Climate Change Performance Index	Germanwatch	2008, 2010, 2012, 2014
2	The role of redistributive politics for environmental policy-making?	Secondary data quantitative statistical analysis (longitudinal)	Public Expenditure in percentage of GDP for the overall, federal, state, and local level	Eurostat	2005 -2012
		Descriptive and qualitative analysis	Reports and documents	Diverse	
3	The role of internal and external factors?	Secondary data, Descriptive, qualitative analysis	Reports and documents	Diverse	

Chapter 5 Findings of the Study

This chapter will present the findings of the study for both Germany and Ireland. The first section will introduce the cases and provide background information and further justify why it is worth comparing them. Following this the finding of the study will be presented through the three research questions stated in the beginning.

5.1 Germany and Ireland

The comparison between Germany and Ireland seems to not make much sense when one first looks at it. On the one hand, you have Germany as an environmental policy forerunner and pioneer with a heavily industrialized economy, which is one of the biggest in the world in the center of Europe. On the other hand there is Ireland, which is a small island in the Atlantic Ocean with a small open economy in the northwest of Europe. Therefore, this section will provide the general and environmental-policy background for this research and in the end justify why it is worth to compare both countries through the same lens. Following this, the findings of this study will be presented.

5.1.1 History and Background of Environmental Policy-Making

Ireland used to be one of the least developed countries in the EU. However it did much better in securing funding from the EU compared to Greece or Portugal, whose GDP is much lower than Irelands at that time (Coyle, 1994, p.62). Unemployment and emigration led to a lower importance of environmental policy and instead kept job security a priority on the political agenda. Also, the later industrialisation and urbanisation of Ireland did not cause much deterioration of the environment, the constant blowing wind kept air pollution away and further Ireland does not have a nuclear power plant (Coyle, 1994). Contrarily in Germany, the environmental and anti-nuclear energy movement put environmental issues and concerns persistently on the political agenda. Especially the occurrence of acid rain, air pollution and the nuclear accident in Chernobyl kept it persistently on the public's and political agenda ever since the 1970s (Muno, 2002). Compared to that, environmental concerns of the Irish have been limited to water pollution, due to agriculture, urban sewage and ineffective septic tanks, and the disposal of toxic waste. Ireland, as a smaller country and administration is not as well equipped with specialists in every policy

area. EU regulations and directives were sometimes implemented as they were in order to save time and resources thereby negating the main purpose of EU regulations, which is supposed to be adjusted to their needs when implemented through national legislation (Coyle, 1994). An increase in legal obligation from its EU membership and the desire to be seen as a pro-active country with regards to environment and sustainability has led Ireland to increased action in this area in the early 1990s (Coyle, 1994).

In several comparisons of environmental performance of OECD countries Germany was usually found at the top of the list, whereas Ireland was usually found at the bottom (e.g. Jahn in Muno, 2002; Scruggs in Muno, 1999; Scruggs 2003). According to Jänicke one of the main determinants of environmental policy performance is the degree of institutionalisation of environmental policy in a country, with the constraints of competencies and resources (in Muno, 2002). Major components of performance are furthermore the capability to reform and the pressure of problems. Comparing the degree of institutionalisation of environmental policy in both countries highlights also the degree of importance given to environmental policy in the respective country. Jänicke and Weidner (in Muno, 2002) have analysed the institutionalisation of environmental policy in OECD countries including Germany and Ireland. Both countries experienced the foundation of their first green party more or less at the same time: 1980 in Germany and 1981 in Ireland (Muno, 2002, p. 310), but the further institutionalisation of the environmental sector developed differently (see Table 2). In general, the German institutionalisation of environmental policy has progressed further than in Ireland.

Table 2 Institutionalisation of Environmental Policy in Germany and Ireland

Countries	Ministry of the Environment	National Environmental Protection Agency	National reports on the state of the environment	Environmental law providing guidelines	Constitution
GDR[12]	1971	1988	1990	1970	1968
Germany[13]	1986	1974	1976	1974	1994
Ireland	1978	1993	1985	-[14]	-

Source: Jänicke and Weidner in Muno, 2002, p. 320

Competencies in regards to environmental regulation are also distributed differently in Germany and Ireland. The federal system in Germany leads to a distribution of power between the federal and the state level, the 16 "Länder". The Länder and their 16 environmental ministries are usually responsible for implementing environmental laws, but the highest national authority is the Ministry of the Environment, Nature Conservation, Building and Nuclear Safety[15] at the federal level (European Commission, 2012b). In Ireland with its unitary system, the competency lies mostly with the central government and the Department of the Environment, Community and Local Government, which develops policy and regulates environmental quality. Other important authorities are the Environmental Protection Agency, responsible for the licensing, enforcement, monitoring, and the assessment of environmental protection activities. The local government (city and county councils) are specifically involved in the planning and licensing process of environmental activities (European Commission, 2012c).

With regards to environmental policies, the German government has been active in a variety of areas. It has built up a comprehensive framework of strict regulations in several areas, especially with regards to water, waste, and recycling management. After the Fukushima nuclear accident, the decision to phase out all nuclear power plants by 2022 has shifted the focus in Germany from

[12] Data refers to the territory of the German Democratic Republic until unification in 1990.
[13] Data refers to the western part until 1990 and to the whole territory of the Federal Republic of Germany after unification in 1990.
[14] According to Jänicke and Weidner (in Muno, 2002) no policy-guiding framework exists in Ireland and the protection of the environment is also not written in the constitution. However, the framework "Sustainable Development – A Strategy for Ireland" published in 1997 and reviewed in 2002 defines principles and policies for sustainable development (DECLG, 2014a) and could generally be viewed as such.
[15] Areas of competence of the federal level include general environmental protection, waste management, laws on chemicals, renewable energy and climate protection, water conservancy, emission protection, nuclear safety and radiological protection, and nature and landscape conservation (European Commission, 2012b).

regulation to renewable energy. The Renewable Energy Act and its feed-in tariff for renewable energy is the major guiding policy framework and has gone through constant review by several governments in place ever since its establishment in 2000. The so-called "energy transition" (German: Energiewende) has been, due to the shift to renewable energy, a major responsibility of the Ministry of the Environment. However, after the last elections and the formation of a new coalition government in 2013, the responsibility for the management of the energy transition has now moved to the Ministry of Economic Affairs and Energy.

In terms of Irish policy, the Irish government published a framework entitled "Sustainable Development – A Strategy for Ireland" in 1997 (amended in 2002). It defines principles and policies for sustainable development and was supposed to be reviewed further in 2008, but the policy framework was not renewed until the new comprehensive Framework for Sustainable Development "Our Sustainable Future" was published in 2012 (DECLG, 2014a). This strategy outlines a comprehensively the next steps for Sustainable Policy with an implementation time frame of 2020, although some long-term goals were set for 2050 (DECLG, 2012). Additional major policies currently being developed, going through public consultation or being implemented are the Carbon Action and Low Carbon Development Bill (Bertelsmann Stiftung, 2014b) and the development of a National Low Carbon Roadmap for Ireland for the sectors of energy (power generation), the built environment, transport and agriculture (DTTAS, 2014). Additionally, due to its responsibilities under the EU-IMF-Agreement, the Irish government is currently undertaking structural reforms, especially in the water and waste management sector (DECLG, 2014b).

Additionally, the so-called concept of the Green Economy is of importance to both countries, but in a different way. Whereas, Germany has been a long time promoter of green industry and is furthermore the biggest producer of green technology worldwide (HSBC, 2009, p. 25) Ireland sees the concept of the Green Economy as one part of its economical path to recovery (DELCG, 2014b).

When it comes to environmental regulations, the European level and therefore the guiding frameworks and regulations of the EU are of importance as well. The major principles, strategies and goals of the EU environmental action are generally laid out in the EU's Environmental Action Programmes (European Commission, 2014a). The current 7th Environmental Action Pro-

gramme (2014-2020) defines (1) the protection, conservation and enhancement of the natural capital, (2) the safeguarding of EU citizens from environmental-related pressures and risks, and (3) the transition of the EU into a resource-efficient, green, competitive and low-carbon economy as the main objectives. Additionally, so called "enablers" will help to improve implementation of legislation, the knowledge base, more and wiser investment for environment and climate policy, and the full integration of the environmental issues, requirements, and concerns into other policies. Another major objective is the increase of sustainability in cities and to help the EU and its member states to address international environmental and climate challenges more effectively (European Commission, 2014a).

Besides the overarching framework for the environmental sector, the EU has launched a growth and jobs strategy in 2010 called Europe 2020 (European Commission, 2014b). This strategy provides the guidelines for the road to recovery and addresses shortcomings of the current system that lead to the crisis. The EU has set out five headline targets, which are supposed to be achieved by 2020 covering the topics of employment, innovation, education, poverty reduction and climate and energy. The overall aim of the EU in this area is to reduce GHG-emissions by 20% or even 30% if conditions are right, to reach the threshold of 20% of the EU's energy coming from renewables, and to increase energy efficiency by 20% by 2020. Those key parameters have been translated into national targets for each member state, defining each country's own progress and targets to meet by 2020. To further support this development seven "flagship initiatives" have been put in place, with two of them concerning smart, inclusive, and sustainable growth specifically supporting resource efficiency, increasing energy security, and the reduction of CO_2-emissions. Together with Europe 2020 the EU has put in place a new system in order to monitor the progress of the member states with regards to the overall economic situation, but also the progress towards the five EU-level targets and the progress under the flagship initiatives. The so-called European Semester is a comprehensive all year long reporting schedule involving the European Commission, the European Council, the European Parliament, and the member states. Every year the European Commission proposes country-specific recommendations for budgetary, economic and social policies (European Commission, 2014b). If the member state does not respond, the Commission is monitoring the compliance, issues recommendations and gives policy warnings (Europa-Kolleg Hamburg, 2013).

5.1.2 The Economic Crisis in Germany and Ireland

The crisis began in Germany in the second half in 2008 as the country's GDP officially slipped into recession (HSBC, 2009, p. 25) and growth slowed down to 1.1% (Eurostat, 2014a). The economy contracted by 5.1%, but the economy rebounded with an impressive and unexpected growth of 4% in 2010 and 3.3% in 2011 (Eurostat, 2014a). Another result and consequence of this rebound were the lowest numbers of unemployment in 20 years at 6.6% according to OECD harmonised figures (in Hill, 2011, p.7).

The reasons for the fast rebound of Germany were based on a couple of factors, which are unique to the German economy and its crisis management. Hill (2011) states in his analysis of Germany's success during and after the crisis that smart crisis management, but also long-term planning of governments in the past have resulted in Germany having a highly competitive, but also resilient economy.

According to Hill (2009) governments pursued sound economic policies emphasising the long-term. Amongst other factors, one major one was that compared to, e.g. the UK and Ireland, Germany kept its emphasis on the manufacturing sector as the backbone of the German economy. Therefore while some banks have been severely impacted by the financial crisis, the backbone of the economy was still intact, even though it slowed down due to the worldwide economic downturn and its dependence on exports.

Another factor in the success of Germany's economy are its small and medium size enterprises[16] and its highly skilled workforce. One emphasis of the stimulus programme of the German government was therefore to support SMEs. One other major component was the so-called "Kurzarbeit" (short work) (Hill, 2009; European Commission, 2009). This government programme allowed companies to put workers on short working hours rather than laying them off. Most of the lost hours of the workers got then reimbursed by a government fund, saved up in economically better times. This not only saved employees from unemployment and the government from paying support for them, it primarily allowed the companies to keep their skilled and well-educated workers on hold until economic improvement and with it demand came back. At the same time,

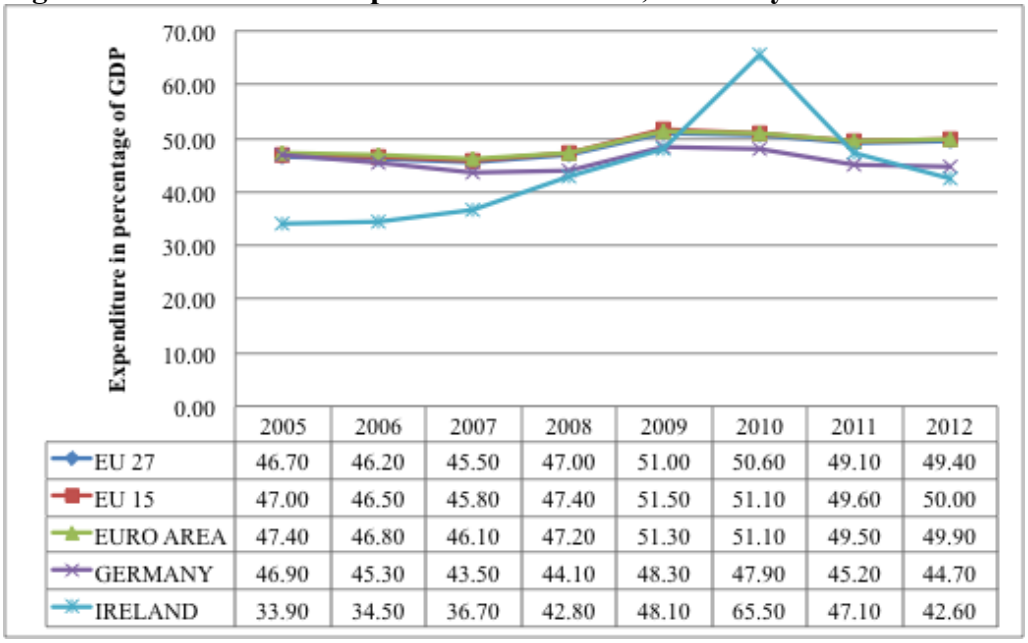
[16] SMEs are defined as firms with annual sales below 50 million euro and employing less than 500 workers (Hill, 2009, 8)

workers did not get laid off and were able to spend their money, which kept the domestic demand and therefore the economy running.

On the other hand, Ireland entered recession already in 2008 with its GDP contracting by 2.2%, coming from an average growth rate of 5% since 2002 (author's calculation based on Eurostat, 2014a). But compared to Germany, which immediately rebounded from recession in the following year Ireland entered an even more severe recession in the following years with a contraction of 6.4 in 2009 and 1.1 in 2010 (Eurostat, 2014a). The Irish government had to pay a total of EUR 46.3bn, which made up 29% of its GDP, to bailout its banks due to the collapse of the financial banking system (European Commission, 2011, p. 13). This and the on-going economic downturn further lead to the Irish government's request for financial assistance from the EU and the IMF on November 21, 2010. The main objective of the so-called Economic Adjustment Programme for Ireland was "to restore financial market confidence in the Irish economy's banking sector and the sovereign" (European Commission, 2011, p.19). The programme with a financial assistance of EUR 85bn in total was designed: (1) based on an export-led recovery, (2) to restore financial stability, (3) and to undergo fiscal policy reform, and (4) structural reforms (European Commission, 2011). Ireland has successfully completed the programme and has now entered post-programme surveillance, which means that the progress will be monitored frequently until at least 75% of the liabilities are paid back, which will be until 2031, if no early payments or delays occur (European Commission, 2014b).

According to the European Commission (2009) Ireland's government, apart from financial rescue measures, focused mostly on measures for the labour market and social protection. Ireland's rescue measures included improving job placement and investment in retraining, reinforcing activation and maintaining or respectively reinforcing social protection. Confirming this, Ireland's expenditure rose significantly in 2009 and 2010, whereas Germany's expenditure stayed mostly a little below EU average (see Figure 5).

Figure 4 Overall Public Expenditure in the EU, Germany and Ireland 2005 – 2012



	2005	2006	2007	2008	2009	2010	2011	2012
EU 27	46.70	46.20	45.50	47.00	51.00	50.60	49.10	49.40
EU 15	47.00	46.50	45.80	47.40	51.50	51.10	49.60	50.00
EURO AREA	47.40	46.80	46.10	47.20	51.30	51.10	49.50	49.90
GERMANY	46.90	45.30	43.50	44.10	48.30	47.90	45.20	44.70
IRELAND	33.90	34.50	36.70	42.80	48.10	65.50	47.10	42.60

Source: own illustration, based on data from Eurostat

5.1.3 Why is it worth comparing them?

This chapter started out with the question about why it is important or worth look at both countries when they are obviously so different in environmental-policy making, but also in their political framework.

As mentioned briefly in chapter 4, this study aims to compare what each country has done with regards to environmental policy and climate change after the crisis broke. It would be easy to compare similar countries, maybe both environmental laggards and then compare what they have done. However, what makes this study interesting is to compare countries, one of them a leader in regards to environmental policy and the other one which did just enough to satisfy tourism needs, as one important economic branch and comply with EU legislation. As the crisis has put governments at crossroads (Hemerijck et al., 2008), this enabled them to decide whether or not they choose to go the old or new ways.

5.2 The Crisis and Environmental Policy-Making in Germany and Ireland

As Starke (2013) points out the effects of the crisis on social policy have been both short term and long-term. Once the crisis hit, governments were primarily interested in getting the economy

back on track and with crisis response. Hemerijck et al. (2008) talks about the different after-shocks of the economic crisis and how they have to be dealt with in the short and long-term. It is therefore important to look at impacts of the crisis from a short and long-term perspective.

5.2.1 The Short-Term Crisis Management – How "Green" were the Stimulus Packages?

This study defines the short-term effects on policy as the immediate reaction of governments to the crisis. Several governments in Europe and worldwide put together recovery or stimulus packages in order to promote the recovery of their economies.

There have been quite a lot of studies on the green component of economic stimulus packages. Most of them are comparisons of the green component of packages used by various countries. Germany is usually one of the cases selected by these studies. In the case of Ireland, there is no data or detailed analysis available, even though it was one of the many countries that launched a fiscal stimulus programme. HSBC (2009) mentions Ireland in one of their tables, but without any numerical data. According to the European Commission (2009), Ireland focused on labour market and social protection support and improvement. This leads to the conclusion that Ireland did not devote any part of its fiscal stimulus package to green investments. For this reason, the analysis of the short-term effects will be mostly based on the analysis of the green fiscal stimulus package of Germany.

As noted above, Germany's stimulus packages were subject of multiple analyses. One of the main analyses of green stimulus programs is "A Climate for Recovery. The color of stimulus goes green" from HSBC (2009). Based on this study the ILO (2011) conducted additional research and analysed fiscal stimulus packages and their "green" components in more detail.

Germany created a twin stimulus package with the first announced in November 2008 and the second in January 2009. Representing 37% of total EU packages, this twin package was the largest in the EU (HSBC, 2009, p. 26). The packages amounted to total of EUR 80bn (104.8bn US Dollars), which makes up 1.5% of the GDP in 2008 and 2% of its GDP in 2010. The whole package included tax cuts and infrastructure investments. Furthermore, 13.8bn US Dollars are as-

signed to green topics.[17] This represented 13.2 % of the total stimulus package (HSBC, 2009, pp.25).

Germany's green stimulus according to ILO (2011) was mainly focused on energy efficiency and renewable energy and on the transportation sector (primarily automobiles). Infrastructure investments were related to expansions and rehabilitation of federal infrastructure in the rail, highway, and sewage sector, and the investment of 2bn EUR in public transportation systems. Additionally, the car sector was one of the biggest profiteers of the stimulus packages, as it included a car bonus, 5bn EUR car loans for the development of new low-carbon engines (ILO, 2011, p. 26). On top of that, the government introduced a car tax reform, which is based on the engine size and the amount of CO_2-emmissions of the car. Another major component of the stimulus package was dedicated to energy efficiency. This part was aimed at the improvement of energy efficiency in new buildings or existing ones through renovation (ILO, 2011, p. 26).

It has to be mentioned, that renewables were not promoted in these measures. This is to some degree because of the fact that in some areas respective legislation and support was already in place, which made further support unnecessary (HSBC, 2009). Table 3 provides a detailed overview of the green components of Germany's stimulus package, also tax measures are included here.

[17] HSBC (2009, p.10) defines the green part of fiscal stimulus packages based on spending in categories of their climate change index, which encompasses four categories: (1) Low carbon energy production, (2) energy efficiency & energy management, (3) waste, water and pollution control incl. water conservation, treatment, and supply, and (4) carbon finance, most notably associated with carbon markets. This definition is to some degree problematic, as it focuses on the low carbon element.

Table 3 Germany's Green Fiscal Stimulus Package

GERMANY					
Name of Instrument	**Type of sector**	**Type of Instrument**	**Year of introduction**	**Object**	**Source**
Expansion and rehabilitation of Federal transport infrastructure with KfW program	Rail/Highway/Sewage	Infrastructure	11/27/2008, 01/12/2009	Railway, highway, sewage	EC INST
Vehicle tax suspension	Car	Tax	11/27/2008, 01/12/2009		EC INST
Car bonus	Car	Subsidy	11/27/2008, 01/12/2009	For the purchase of friendly ecologically vehicle. Gives a "scrappage" bonus of EUR2,500 for replacing cars that are more than nine years old with new cars that meet EURO4 emission standards.	HSBC, EC INST
Car loans	Car	Loans	11/27/2008, 01/12/2009	To support the development of new low-carbon engines, the government will provide EUR.5bn in loans over the next two years.	HSBC
Car tax reform	Car	Tax	Jul-09	The government planned to introduce emission-based vehicle taxation from July 2009 for older vehicles and for new vehicles from 2013.	HSBC
Transportation	Car/Rail/Bus	Infrastructure		Modal shift: The package will also invest EUR2bn in public transport systems over 2009 and 2010.	HSBC
Energy efficiency of buildings Fund	Building	Green technology	11/27/2008, 01/12/2009	Buildings' energy efficiency	EC INST
Central innovation Programme for SMEs (ZIM)	Renewable/Energy efficiency	Green technology	11/27/2008, 01/12/2009		EC INST
Promoting applied research for environmental improvement	Renewable/Energy efficiency	Green technology	11/27/2008, 01/12/2009		EC INST
Energetic building renovation program of KfW	Energy efficiency	Green technology	11/27/2008, 01/12/2009	Subsidies for household repairs, especially for enhancing energy efficiency under the CO2 building renovation programme.	EC INST, HSBC
Green Investment	Renewable/Energy efficiency	Investment	11/27/2008, 01/12/2009		EC INST
Green job	Job	Job	2009	25,000 jobs are expected in manufacturing and construction for retrofitting buildings for energy efficiency. Renewable energy accounted for 280,000 jobs in 2008 and planned investments, some of which will be financed out of the stimulus package, are expected to create more, including some 30,000 in the construction of offshore wind parks.	G20 policy
The Renewable Energy Sources Act	Renewable Energy	Green technology	2009	To increase the share of renewable energy in total electricity consumption to at least 30% by 2020, a doubling of the current share of almost 15%.	G20 policy
The Transfer Renewable Energy and Efficiency (TREE) project	Renewable Energy	Green technology	2008	Renewable energy international cooperation on knowledge and technology transfer. Technical support on the development of renewable energy (annual project fund USD 130 m) is being provided to over 50 countries.	G20 policy

Source: ILO, 2011, p. 26

In their report, HSBC is promoting the green recovery packages, stating that many governments have incorporated green spending in economic recovery and conclude that it now makes up a big component of recovery spending (HSBC, 2009, p. 1). However, a closer look at the numbers leave a lot of space for improvement in some countries (see Table 4). Germany dedicated 11.8bn US Dollars to green spending. Those numbers seem very small compared to China, which dedicated over 200bn US Dollars (34.30%) and South Korea 60bn UD Dollar (78.8%) to green recovery investments (HSBC, 2009; ILO, 2011). This could put Germany at a significant disadvantage as it competes especially with China on the market in green technology. In general Asian countries (especially China, Japan, and South Korea), as well as the US have dedicated larger amounts to green investments. This puts the EU-members leadership role in environmental and green policy in question (Schepelmann et al., 2009; HSBC, 2009).

Table 4 Fiscal Stimulus Packages and their Green Component
Source: ILO, 2011, p. 22

Country	Packages	Date announced	Fund USD bn	Period Years	Green Fund USD bn	% Green Fund	Low-Carbon Power		Energy Efficiency (EE)				Water/Waste
							Renewable	CCS/ Other	Building	Vehicle	Rail	Grid	
Asia Pacific													
Australia	Nation Building and Jobs Plan	3/2/2009	26.7	2009-12	3.1	11.80%	0.32	-	2.06	-	0.76	-	-
	Budget 2009-2020	12/5/2009	17.1	2009-13	6.8	39.80%	1.4	1.77	0.17	-	3.46	-	-
China	NDRC Stimulus Package	9/11/2008	586.1	2009-10	200.8	34.30%	-	-	7.31	1.5	98.7	70	23.38
	Budget 2009	6/3/2009	63	2009	17.2	27.30%	1.58	-	-	-	4.95	-	10.63
Indonesia	Stimulus Package	28/01/2009	5.9	2009	0.1	1.60%	0.07	-	-	-	0.03	-	-
Japan	Safeguard People's Daily Lives	12/12/2008	485.9	2009 onwards	12.4	2.60%	-	-	12.43	-	-	-	-
	Countermeasures to economic crisis	10/4/2009	154	2009 onwards	23.6	15.30%	1.07	12.93	5.9	3.7	-	-	-
	Second Supplementary Budget	8/12/2009	72	2010	7.2	10.00%	-	-	4.09	2.95	-	-	0.2
South Korea	Green New Deal	6/1/2009	76.1	2009-12	59.9	78.80%	1.8	29.05	6.41	1.8	7.01	-	13.89
Saudi Arabia	Budget 2009	23/12/2008	126.8	2009	9.5	7.50%	-	-	-	-	-	-	9.45
Sub-total Asia Pacific [1]			1630.5		342	21.00%	6.2	43.7	38.4	9.9	116	70	57.8
South Africa	Budget 2009-2010	11/2/2009	7.5	2009-11	0.8	10.70%	-	-	0.1	-	0.61	-	0.1
Europe													
EU[2]	Economic Recovery Plan-Only EU	26/11/08	38.8	2009-10	24.7	63.70%	0.65	12.49	2.85	3.88	-	4.85	-
Germany	Stimulus Plan	5/11/2008	104.8	2009-10	13.8	13.20%	-	-	10.39	0.69	2.75	-	-
France	Revival Plan	10/12/2018	33.7	2009-10	6.1	18.30%	0.87	-	0.57	-	0.39	4.13	0.19
Italy	Emergency Package	28/11/2008	103.5	2009 onwards	1.3	1.30%	-	-	-	-	1.32	-	-
Spain	Stimulus Package	27/11/2008	14.2	2009	0.8	5.80%	-	-	-	-	-	-	0.83
The UK[6]	Green Stimulus with Loan for cars	22/04/2009	34.9	2009-11	5.2	15.00%	0.1	0.64	0.79	1.72	1.93	-	0.05
	Prebudget report 2009	9/12/2009	-	2010-11	0.6	-	0.07	0.06	0.39	0.04	-	-	-
Other EU States	Stimulus Package	9-Jan	207.1	2009-10	3.2	1.50%	1.9	-	0.8	0.3	0	-	0.1
Sub-total EU			537		55.8	10.40%	3.6	13.2	15.7	6.7	6.4	9	1.2
Norway	Fiscal Stimulus	26/01/2009	2.9	2009	0.9	29.70%	0.2	0	0.2	0	0.3	-	0.2
Sub-total Europe			539.9		56.6	10.50%	3.8	13.2	15.9	6.7	6.7	9	1.4
Americas													
Canada	Economic Action Plan	27/01/2009	31.8	2009-13	2.8	8.70%	0.16	0.92	0.24	-	0.39	0.79	0.27
Mexico	Aggr for Home Economics&Emp	7/1/2009	7.7	2009	0.8	9.70%	-	-	0.75	-	-	-	-
USA	Emergency Economic Stabilization Act	3/10/2008	185	10 years	18.7	10.10%	10.25	2.6	3.34	0.76	0.33	0.92	0.52
	American Recovery Reinvestment Plan [3]	15/01/2009	787	11 years	94.1	12.00%	22.53	3.95	27.4	4	9.59	11	15.58
	Budget 2010[4]	9-Mar	4.9	2010	4.9	-	-	-	-	-	1	-	3.9
Sub-total Americas [5]			1024.1		121.2	11.80%	32.9	7.5	31.7	4.8	11.3	12.7	20.3
Total			**3202**		**521**	**16.30%**	**43**	**64.4**	**86.1**	**21.4**	**134.5**	**91.7**	**79.6**

[1]Includes Thailand and India [2]Only EURO30bn from direct EU contribution considered for calculation as the rest (EURO170bn) is contributed by member states; [3]USD700bn under TARP for bank bailout not considered; [4]Includes only additional spending; [5]Includes Argentina and Chile Stimulus; [6]Rail upgrade investment of GBP1.1bn not considered for % green stimulus calculation.

However, it needs to be said that those recovery measures only indicate the potential improvement and investments. For example in the case of China and South Korea parts of the spending are not issued with timelines, requirements or any other commitments. In fact, depending how they are implemented they have potential to be either environmentally beneficial or harmful (Schepelmann et al, 2009).

Another problem with measuring "green" stimulus is the fact that the data for the green stimulus of HSBC is based on low carbon emission. This was pointed out by Höhne et al. (2009) as a problem since it provided an opportunity for countries to categorise investments that produce low carbon emission but which are nevertheless environmentally risky, as "green" stimulus investments. For example, Canada categorised its investment in nuclear energy as "green" stimulus. Considering their potential high risks for the environment, and their long-term and final storage issues, it is questionable whether or not this can be labeled as "green" fiscal stimulus (Höhne et al., 2009; Schepelmann et al., 2009).

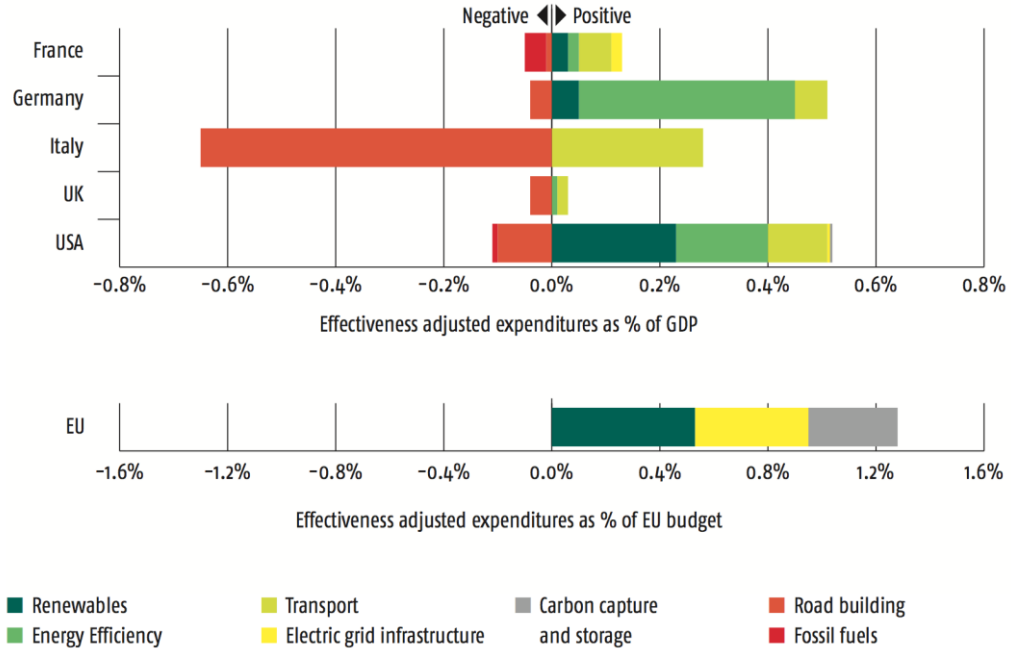
Höhne et al. initiated by ECOFYS and Germanwatch generated a scorecard for recovery packages, which incorporates negative and positive effects on the environment and weighed them against each other (2009) [18]. The scorecards are based on the desire to make potential adverse effects of stimulus measures visible, as these can potentially negate or even overpower the positive effects of "green" stimulus. For example, investments in infrastructure might be depending on the sector of investment positive or negative for the environment. High investment in road infrastructure also means an increase of cars and therefore higher emissions (Höhne et al, 2009). However, new roads or infrastructure might also include new road material, which might lead to better grip and less fuel consumption and less air pollution and then in return provide a positive contribution to the environment.

As Figure 6 shows Germany's green stimulus packages contain significantly more measures contributing to environment than adverse effects. In fact, the positive outweigh the negative by far. It only contains a small part in road building, compared to the Italian programme. In the case of Italy, this even outweighs the positive effects of other measure. Additionally, the focus on energy

[18] For details on effectiveness factors and calculation of the scorecard see Höhne et al. (2009, p. 4) for further details.

efficiency and renewables is obvious here since it forms the biggest block of the green stimulus in Germany.

Figure 5 Scorecard for Recovery Packages



Source: Höhne et al., 2009, p. 5

In conclusion, even though Germany and Ireland both launched fiscal stimulus measures, Germany's packages were, apart from bank loans, dedicated to a broader field of measures, while areas like social protection did not receive further support. This was the case in Ireland. Apart from bank loans, Ireland focused solely on labour market and social protection and did not have specific "green" stimulus measures in place. Again, it needs to be mentioned that this conclusion is based on reviews of fiscal programs and missing data in the report from HSBC (2009). Germany dedicated approximately 11% of its stimulus packages to green investments, which can be mostly seen as measures benefiting the environment. This is way below the 25% threshold for fiscal stimulus packages, which the Federal Ministry of the Environment, Nature Conservation and Nuclear Safety published set in order to create a green economy and shift to a more sustainable growth after the crisis (BMU, 2009). Additionally, the main focus of Germany's packages were on energy efficiency and renewable energy, with a focus on supporting the car sector's development. Higher support for increased renewable energy usage was not needed, as respective policies were already in place. However, the amount of the green stimulus package was very

small compared to China's green investment or South Korea, which dedicated over 80% of its measures to green investment.

5.2.2 Long-Term Effects

Much research has focused on how to measure environmental performance, exploring many different methods and concepts (see e.g. Muno, 2002; Scruggs, 2003). This study looks at environmental policy performance from a different perspective as it combines quantitative data and qualitative analysis. In regards to policy performance, numbers cannot present a whole picture. This is especially true with regards to policy performance after the economic crisis as information about the context and background for policy decisions is critical to this analysis. Therefore, indicators have been chosen which are based on (1) quantitative data and (2) qualitative analysis with additional information on context with regards to policy decisions and government actions. Three main indicators have been used, which are not only available for both countries, but also meet the aforementioned criteria and for which there is additional information on their methodology.

As mentioned above, the Europe 2020 targets are accompanied by a constant monitoring by the European Commission, who provides further country-specific recommendations. In the case of Ireland no further reports on country-specific recommendations have been issued. This was done to avoid causing any confusion with the EU-IMF Programme for Ireland. However, both countries have answered to the Commission's recommendations in their respective national reform programmes.

In the case of Germany, the European Commission criticised Germany for not having made enough effort and progress to address the Commission's recommendations. The main concerns of the Commission are specifically related to Germany's radical energy transition and its consequences in terms of costs and problems with the grid system. In addition the commission stated that Germany's cooperation with its neighbors with regards to energy policy needs to be improved (European Commission, 2014c). Germany replies in their "Nationales Reformprogramm 2014" by stating that the Renewable Energy Act is scheduled for review and that aspects, such as economic costs and the transition into a less subsidised systems and support of renewable energy, are being addressed with the aim to achieve the set targets for Europe 2020 (BMWi, 2014). The

German government has furthermore reacted to the slow upgrade and improvement of the national grid system and has made investment in that sector easier (BMWi, 2014). In terms of the regulation of the energy costs, the government focuses on the general distribution of energy costs, but remains set in its position to keep supporting internationally competing high-energy intensive industry and transport sector by excluding them from additional fees (BMWi, 2014). As discussed before, this leads to a problem since it means that these industries have a relatively low incentive to improve emission or reduce their energy consumption. Further, the recommendation for more coordination of energy policy with neighbouring countries will be dealt with in already existing committees, meetings and forums EU-wide, regionally and locally (BMWi, 2014).

After 2011 the focus was mainly on policies to support or guide the energy transition of Germany after the decision by the German government to phase out nuclear energy by 2022. The OECD Environmental Performance Review of Germany sheds light on policies before that. Important environmental legislation includes the National Sustainable Development Strategy (2004, 2008), the National Strategy on Biological Diversity (2007), the Integrated Energy and Climate Programme (2007), and the German Strategy for Adaptation to Climate Change (2010) (OECD, 2010). It is interesting to note that most of this legislation, not related to energy or climate change had been passed before the crisis. The OECD voiced concerns about a possible implementation deficit, due to capacity and resource constraints with the states being responsible for implementation of environmental policy. The OECD (2010) recommends that better monitoring and assessment of the implementation of policies where the jurisdiction lies with the Länder needs to be in place. It also stated, that improved coordination between the federal and the state level with respect to policy needs to be further improved. This problem of policy coordination is currently a problem with regards to the development and upgrade of the grid system. Here, in general the state level has influence as it is represented in the second chamber, which approves major federal policies. Additionally, the coordination between the federal and the state level is ineffective, as every state has its own concept for the energy transition with little cooperation with the other states. Even though a forum for the coordination of action on energy transition exists, policy action is still lacking an overall national concept that would coordinate, sets targets and provides an overall framework (Spiegel Online, 2013).

Another recommendation made by the OECD is the removal of the tax exemption on coal production and export-oriented industrial sectors, which are therefore not subject to any GHG emission incentive. As outline above, this is still a problem. Additionally, Germany spends large amounts on subsidies with potentially adverse effects for the environment. The OECD (2010) outlines this area as a potential field where public finances could benefit from the abolishment of those measures. However, as argued by the BMWi (2014), tax and fee exemptions will stay in place in order to secure economic competitiveness of the German economy and the infrastructure. However, some tax exemptions have been reduced for example with the introduction of an air travel tax (OECD, 2010).

On the other hand, Ireland has undergone 12 reviews, every four months, under the EU-IMF Programme until the end of 2013 with the result of delivering 290 policy actions in different areas. Action in regards to the Europe 2020 targets was thereby constrained by the requirements for economic growth, job creation, and fiscal austerity (European Commission, 2014d). Ireland has been assigned ambitious targets in the Europe 2020 strategy, especially with regards to the reduction of GHG emissions. According to the Irish government, a reduction of 20% poses serious problems to affordability. Nevertheless, the government has put in place primary legislation to battle climate change with the Climate Action and Low Carbon Development Bill, which is expected to be passed in 2014, after going through several reviews and public consultations. Further action in this area is found in the Low Carbon Roadmap to 2050. This guiding framework focuses on GHG emission reduction in the key sectors of electric generation, the built environment, transport and agriculture. A first draft is expected to be released, accompanied by a draft of the Strategic Environment Assessment, in 2014. To increase the share of renewables in final energy consumption to 20% by 2020, the Irish government has set out additional goals to achieve this. The target will be reached if the energy for electricity reaches 40% (19.6% in 2012), 10% (2.4% in 2012) for the transport sector, and 12% (5.2% in 2012) for heat production come from renewable energy. This is further supported by an increase of investment in offshore wind power: the accompanying legislation the “Offshore Renewable Energy Development Plan” was launched in 2013. This legislation provides a framework for the sustainable development of renewable energy beyond 2020. It is also part of the re-evaluation of future energy policy that the Irish government is currently undertaking to replace the 2007 pre-crisis plan, which is inappropriate for the post-crisis situation (European Commission, 2014d). Additionally, the efforts to increase energy effi-

ciency are addressed by several pieces of legislation. The general intent is to move away from grant-based funding of projects and measures due to the constraints of the public budget. Several measures, e.g. the introduction of an Energy Efficiency Fund are currently in the development phase to balance out the losses due to budget cuts (European Commission, 2014d).

The 2014 mid-term progress report of the Irish government to the OECD confirms this development of Ireland being active in re-evaluating and reviewing their legislation in regards to effectiveness and efficiency of implementation. Additional to the abovementioned developments in climate and energy policy, policy on air quality, water and waste issues have also been introduced. What became apparent in the mid-term progress report of Ireland is the overall commitment to reconciling fiscal budget constraints and environmental legislation. In the case of climate policy, a carbon tax was introduced bringing in a revenue of EUR 388m in 2013. However, the challenge of this decision was to present yet another burden on the taxpayer in economically hard times (DECLG, 2014b).

Another commitment made under the EU-IMF agreement in regards to structural reforms was the fundamental reform and evaluation of the water service sector. This incorporated the establishment of a national water authority "Irish Water", the introduction of primary and secondary legislation, as well as the introduction of nation-wide metering and water pricing, which had not existed before. Metering of water and the billing of households has been delayed, but is currently in the phase of public consultation and is expected to start in October, with customers being billed from January 2015 (DELCG, 2014b). This is seen as both a means of lifting a burden from the fiscal budget and as a way to creating awareness for water conservation through the polluter-pays principle. Another part of the reform of the water sector is the inclusion of other sectors, responsible for water pollution, such as the agricultural sector. The Good Agriculture Practices Regulations of 2012 aims at reducing pollution of drinking water caused by agriculture (DELCG, 2014b).

Another major undertaking of the Irish government was the reform of the waste sector with a focus on resource efficiency and sustainable production. This was also undertaken in order to comply with several environmental EU regulations, such as the waste hierarchy and the 7th Environmental Action Programme. Another part of the reform was the restructuring of waste plan areas

from ten to three and an emphasis on the reinforcement of regulations. The Environmental Protection Agency will further support the development of the green industry in this area with grants and a Green Business programme (DECLG, 2014b).

Other activities have focused on the ratification of the Aarhus Convention, the access of environmental information by the public, and an overall the increase of public and ENGO consultation when it comes to legislation. The improvement in compliance with and the enforcement of existing regulations, especially with EU directives, is one of the main responsibilities of the Environmental Protection Agency. The aim is to reduce economic costs and promote green industry by complying with environmental regulation, as lessons learnt from the past, where environmental regulation had been lacking strict enforcement (DECLG, 2014b).

The Irish government has undertaken considerable steps to ensure environmental progress in times of economic downturn. The government itself states that significant progress has been made across a range of environmental policy areas since 2009. However, the challenges to maintain focus on environmental issues during an economic downturn are difficult and have led to the need to find opportunities to integrate environmental issues and sustainable development into the new economic model based on the constraints of the public budget and job creation. One example is the further investment in the green economy. This is identified as a concept combining both sustainable development and economic growth. It will be therefore further supported in areas, such as renewable energy, agriculture and food, tourism, bioenergy, and research, innovation, and technology (DECLG, 2014b). The guiding policy document for the road to economic recovery and the future of the economy by the Department of the Taoiseach "Building Ireland's Smart Economy. A Framework for Sustainable Economic Renewal" emphasises the green economy as one part of the way to recovery with its potential for future economic growth and job creation (Department of the Taoiseach, 2008).

The development with regards to progress under the Europe 2020 strategy confirms the findings for both countries. As mentioned before, the EU plays an important role in environmental policy-making. The strategy Europe 2020 sets out specific targets for environmental and climate friendly growth and provides further country-specific analyses of progress and areas of improvement for the countries published by the European Commission (European Commission, 2014a).

Table 5 provides an overview of environmental and low-carbon targets[19] of Europe 2020 and the development of Germany and Ireland so far. First, it needs to be mentioned that out of the eight categories only three include targets. Germany has one in each of the three categories. Ireland only has a target in the area of GHG emissions in sectors where the European carbon-trading scheme does not apply. However, both countries were able to make progress in each category. The numbers of 2009 show the impact of the economic crisis as numbers for GHG emissions and energy consumption decrease drastically, e.g. Ireland reduced most of its GHG emission in 2009 (Index dropped from 127.78 (2008) to 113.78 (2009)). Ireland has made progress to reduce its GHG emissions back to the level of 1990. Both countries have done well in reducing their emissions compared to the starting of Europe 2020 (Index ESD base year = 100). Ireland has set itself here a higher target of 80 compared to Germany with 86 Index points, keeping in mind that Germany already had reduced its emission from the 1990 level before the start of this strategy, where Ireland is still above this level. Both countries are close to reaching their targets (Germany +7.69 Index points and Ireland +8.32 index points away from their individual targets). In the case of Germany, it needs to be mentioned that even though it has reduced its total emissions, emissions started to increase in 2012 with the economic rebound effect in 2010; this is partly also based on Germany's contradictory incentives for its industry and the missing incentives from the European Emission Rights Trade System (ETS)[20] for the industry (OECD, 2010). The same applies also to Germany's consumption of energy. In the area of renewables both countries have made progress in regards to the share of renewables in the final energy consumption. Ireland has made little more progress in regards to the decrease of energy consumption than Germany (Index Germany: 93.8; Ireland: 92.1 in 2012). The distance is much bigger when comparing the final energy consumption between the two countries. Germany has returned to the level of 2005 after the crisis and was only able to reduce it only slightly (Index Germany: 97.5 in 2012). Ireland was able to keep reducing its energy consumption even after the return of economic growth and a small re-

[19] Germany and Ireland have specified further targets themselves and refer to those in their respective national reform programme. Ireland aims at reducing non-ETS emissions by 20%, to increase final share of renewable to 16%, and additionally to move towards 20% of energy efficiency by 2020 (European Commission, 2014d, p. 34). Germany wants to reduce its GHG emissions by 20% (by 2020; 80-95% by 2050) compared to 1990, increase the share of final renewable energy consumption to 20% (by 2020; 60% in 2050) and increase energy efficiency by 20% (2050: 50% compared to 2008) by 2020 (BMWi, 2014, p. 25).

[20] The European Carbon Scheme is supposed to provide incentives for reducing emissions, especially for heavy polluters. The problem however was that the allocation and calculation of carbon units has happened before the crisis and therefore was adjusted to an economic growth, which has never occurred. This has lead to an over accumulation of carbon units and missing incentives for the polluting industries. Phase 3 of the ETS therefore underwent many changes and was launched in 2013. Data of the effectiveness of the revised ETS is therefore not yet available (European Commission, 2014c).

bound effect in 2010, but continued then with a reduction of 15.2 Index points in total compared to 2005 (Index Ireland: 84.8).

Table 5 Europe 2020 Targets and Development until 2012

Overall EU-level goals: GHG gas emissions should be reduced by 20% compared to 1990 The share of renewable energy sources in final consumption should be increased to 20% Energy efficiency should improve by 20%								
Category	**Unit**	**Country**	**2005**	**2009**	**2010**	**2011**	**2012**	**Target**
GHG emissions	Index 1990=100	Germany	80.9	74.17	76.7	74.48	-	-
		Ireland	127.78	113.78	113.32	105.82	-	-
GHG emissions in non ETS-sectors	Million tonnes of CO_2 equivalent	Germany	509.73	480.8	486.6	464.33	476.69	437.6
		Ireland	46.99	44.56	44.08	41.72	41.38	-
	Index ESD base year = 100	Germany	100.18	94.5	95.64	91.26	93.69	86.0
		Ireland	100.29	95.1	94.08	89.06	88.32	80.0
Share of renewable energy in gross final energy consumption	%	Germany	6.7	9.9	10.7	11.6	12.4	18
		Ireland	2.8	5.2	5.6	6.6	7.2	-
Primary energy consumption	Million of tonnes of oil equivalent (TOE)	Germany	317.2	296.0	311.1	294.7	297.6	-
		Ireland	14.7	14.6	14.9	13.7	13.6	-
	Index 2005 = 100	Germany	100	93.3	98.1	92.9	93.8	-
		Ireland	100	99.3	100.9	93.1	92.1	-
Final energy consumption	Million of tonnes of oil equivalent (TOE)	Germany	218.5	205.8	209.2	213.1	-	-
		Ireland	12.6	11.9	11.0	10.7	-	-
	Index 2005 = 100	Germany	100	94.2	100.9	95.8	97.5	-
		Ireland	100	93.3	94.5	86.8	84.8	-

Source: own illustration, based on data from Eurostat, 2014b

Overall what can be said for both countries is that policy design has shifted from sector-specific to a cross-cutting approach (OECD, 2010). Both countries have made efforts to improve environmental policy performance, but Ireland was able to introduce more major environmental legislation after the crisis than Germany, especially in the area of non-energy policy. The specific situation of Ireland and the pressure to deliver results, as well as to improve in terms of effectiveness and efficiency, has led to the introduction and development of several comprehensive policy frameworks. Ireland has taken on a lead in Climate Change Policy with the carbon tax and the introduction of the Climate Action and Development Bill (Bertelsmann Stiftung, 2014b). Confirming this development Ireland has improved over the last few years in Climate Change Policy Performance according to Germanwatch (2013; see table below). According to their score Ireland has improved in Score and Ranking since the crisis, while Germany has lost its position as a leader in climate change, due to its restraint in regards to the Climate policy on the national and European level.

Table 6 Climate Change Performance Index 2008 until 2014

Year / Country	2008 Rank/Score	2010 Rank/Score	2012 Rank/Score	2014 Rank/Score
Germany	2 / 64.5	7 / 65.3	6 / 67.2	19 / 61.90
Ireland	44 / 46.4	22 / 54.9	17 / 60.9	12 / 65.01
Best placed country	1 / 65.6 (Sweden)	4[21] / 68.0 (Brazil)[22]	4 / 68.1 (Sweden)	4 / 75.23 (Denmark)

Source: own illustration, based on data from Germanwatch 2007, 2009, 2011, 2013

As table 7 shows, overall in raking and respectively in score Germany is performing better than Ireland with regards to environmental policy performance. In terms of domestic environmental performance, Germany scored 8, while Ireland scored 7. This means that

[21] Places 1 until 3 remain unoccupied as the authors want to express that no country is doing sufficiently enough in terms of climate change policy action in 2010. This is the same for 2012 and 2014 (Germanwatch 2009, 2011, 2013).

[22] As the Climate Change Performance Index 2010 mentions, it is important to say that the indicator is energy-induced emissions based, due to the lack of data emissions from land-use are not integrated. This makes up for most of Brazil's emissions. From 2014 emissions from deforestation is included, although with less data quality than the energy induced one.

both countries have environmental policies in place, which largely protect and preserve the sustainability of natural resources and quality of the environment (Bertelsmann Stiftung, 2014d). However, Estonia, Latvia, and Switzerland have been granted a score of 9, which means that they have environmental policy in place, which effectively protects, preserves and enhances the sustainability of natural resources and quality of the environment (Bertelsmann Stiftung, 2014d). This means that for both countries there is room for improvement especially with respect to effectiveness. It is also worth mentioning, that no country gained the highest score possible of 10 (Bertelsmann Stiftung, 2014d).

It is interesting to point out that the three rank gap between Germany and Ireland on domestic environmental policy is considerably smaller than the 17 rank gap in global environmental protection. The lower rank of Ireland is more than likely a result of the fact that Ireland mainly contributes to global environmental protection through its participation in the European Union's activities in this regard (Bertelsmann Stiftung, 2014b). This means that in both cases "the government contributes to international efforts to strengthen global environmental protection regimes. It demonstrates commitment to existing regimes and occasionally fosters their advancement or initiates appropriate reforms" (Bertelsmann Stiftung, 2014e). Again, neither Germany nor Ireland are in the top category, which means that while both countries contribute to global environmental protection they are not actively pushing forward new regulations or an increase in policy action.

However it is interesting to point out that Ireland has improved, along with Iceland the most in score (+0.5), while Germany has only slightly improved compared to 2011 (see table 7.

Table 7 Do Domestic and International Environmental Policies Address Sustainability Issues?

Year / Country	2014			2011	Difference to 2011
	Overall SGI / Score	Environment	Global Environmental Protection	Overall	
Germany	4 / 7.6	8 (Score 8)	3 (Score 8)	7.5	+ 0.1
Ireland	13 / 6.4	11 (Score 7)	20 (Score 7)	5.9	+ 0.5

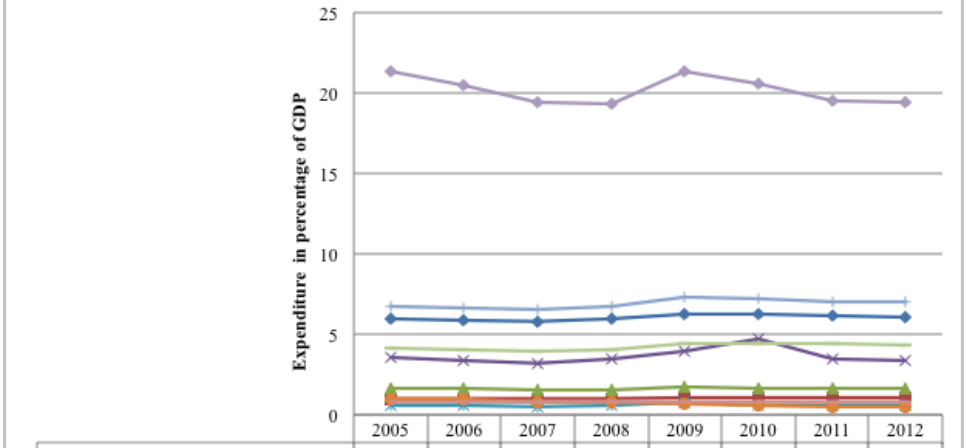
Source: own illustration, based on data from Bertelsmann Stiftung, 2014a

5.3 The Distribution of Expenditure in the Environmental Sector and the Crisis

Every policy does not only require the willingness of politicians and other groups participating in the decision-making, it also has to be financially affordable. Public expenditure is therefore an indicator of how much a society is willing to pay for a certain sector, e.g. the environment. Therefore it is important and relevant to know if and how environmental public expenditure was affected by the crisis.

Germany's public expenditure has stayed relatively the same (see Figure 7 below). Only the expenditure on social protection has decreased from 21.3 % of GDP in 2005 to 19.4% of GDP in 2012. Expenditure in this sector has decreased constantly over time. It was in 2009 that it had risen back to the 2005 level, as a result of the financial and economic crisis. The housing and community amenities (-0.3 % of GDP), economic affairs (-0.5 % of GDP) and social protection (-1.9 % of GDP) have decreased the most since the crisis (2009).

Figure 6 Overall Public Expenditure in % of GDP in Germany

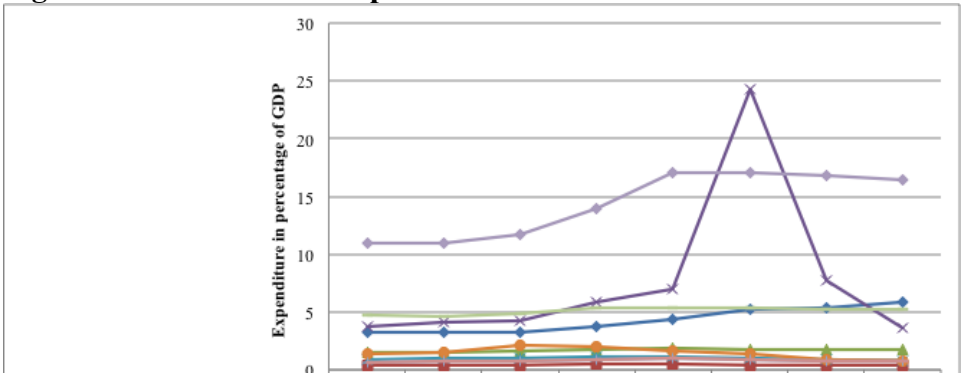


	2005	2006	2007	2008	2009	2010	2011	2012
General public services	6	5.9	5.8	6	6.3	6.3	6.2	6.1
Defence	1	1	1	1	1.1	1.1	1.1	1.1
Public order and safety	1.6	1.6	1.5	1.5	1.7	1.6	1.6	1.6
Economic affairs	3.6	3.4	3.2	3.5	3.9	4.7	3.5	3.4
Environmental Protection	0.60	0.60	0.50	0.60	0.80	0.60	0.60	0.60
Housing and community ammenities	1	1	0.8	0.8	0.7	0.6	0.5	0.5
health	6.7	6.6	6.5	6.7	7.3	7.2	7	7
Recreation, culture and religion	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Education	4.1	4	3.9	4	4.4	4.4	4.4	4.3
Social Protection	21.3	20.5	19.4	19.3	21.3	20.6	19.5	19.4

Source: own illustration, based on data from Eurostat

The situation in Ireland developed differently because of the crisis which lasted longer than in Germany. As a result of the resulting high unemployment rate, Irish public expenditure has increased compared to the levels of 2005 in almost all sectors, except for the area of economic affairs, environmental protection, and housing and community amenities. Expenditure on Social Protection has risen 5.5% of GDP compared to 2005, but mostly since the crisis, as level before 2009 have stayed more or less at the same level as 2005. This is more than likely the result of higher unemployment after the crisis. It is interesting to point out that environmental protection, health, recreation, culture and religion, and education have either only somewhat decreased (environmental protection) or gained (rest) somewhat since 2005. But when compared to the numbers in 2008 and the beginning of the crisis, there has been a decrease in all of the above-mentioned categories of -0.2% of GDP.

Figure 7 Overall Public Expenditure in % of GDP in Ireland



	2005	2006	2007	2008	2009	2010	2011	2012
General public services	3.3	3.2	3.2	3.7	4.4	5.2	5.4	5.8
Defence	0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.4
Public order and safety	1.5	1.5	1.6	1.8	1.9	1.8	1.7	1.7
Economic affairs	3.8	4.1	4.2	5.9	7	24.3	7.7	3.6
Environmental Protection	0.9	1	1	1.1	1.1	1	0.9	0.8
Housing and community ammenities	1.4	1.5	2.1	2	1.6	1.4	0.9	0.8
health	0.6	0.7	0.7	0.9	1	0.9	0.8	0.8
Recreation, culture and religion	0.6	0.7	0.7	0.9	1	0.9	0.8	0.8
Education	4.7	4.6	4.8	5.3	5.4	5.4	5.2	5.2
Social Protection	10.9	11	11.7	13.9	17	17.1	16.8	16.4

Source: own illustration, based on data from Eurostat

A look at the average spending in each of the categories before (2005-2007) and after the crisis (2008-2012) confirms this observation. In Germany average expenditure has risen in the categories of general public services, economic affairs, environmental protection, health, and education. Expenditures in Germany in the education sector have risen since the crisis, when part of the stimulus packages was assigned to educational training. The numbers with regards to environmental protection expenditure need to be taken with care as the increase in the average results by a 0.2 % of GDP increase in 2009, most likely due to increased investments in wastewater infrastructure. This does not indicate a trend in increase of expenditure.

Table 8 Average[23] Expenditure in % of GDP between 2005 and 2012 in Germany and Ireland

Category	Germany			Ireland		
	Overall average	Average 2005 until 2007	Average since 2008	Overall average	Average 2005 until 2007	Average since 2008
General public services	6.08	5.90	6.18	4.28	3.23	4.9
Defense	1.05	1.00	1.08	0.43	0.40	0.44
Public order and safety	1.59	1.57	1.6	1.69	1.53	1.78
Economic affairs	3.65	3.40	3.8	7.58	4.03	9.7
Environmental Protection	0.61	0.57	0.64	0.98	0.97	0.98
Housing and community amenities	0.74	0.93	0.62	1.46	1.67	1.34
Health	6.88	6.60	7.04	7.25	6.60	7.64
Recreation, culture and religion	0.80	0.80	0.80	0.80	0.67	0.88
Education	4.19	4.00	4.3	5.08	4.70	5.3
Social Protection	20.16	20.40	20.02	14.35	11.20	16.24
Total	**45.74**	**45.23**	**46.04**	**43.90**	**35.03**	**49.22**

Source: own illustration and calculations, based on data from Eurostat

Environmental protection received the least amount of spending when compared to other areas, except for Ireland, which spent less on recreation, culture and religion in the years before the crisis. However, Ireland spent a larger share of its GDP on environmental protection than Germany. In Germany environmental expenditure stayed relatively the same. Considering that Germany has been very active in environmental policy making and has also been ranked well in different indices for policy performance it can be concluded that the amount or the share of expenditure is no indicator for the quality of environmental policy performance. Confirming this, environmental protection expenditure in Ireland has

[23] The average was calculated as the mean. Where outliers have occurred and caused distortions, it is mentioned in the analysis (e.g. in the case of environmental protection).

decreased after the crisis[24], even though it underwent considerable policy changes, but also made progress in regards to policy management, especially in terms of effectiveness and efficiency of policy instruments. This might indicate that it is not the amount a country is willing to spend on environmental protection that matters most. One of the main components of successful environmental policy-making might therefore be effectiveness and efficiency of policy instruments and, especially in the case of Ireland, the willingness, or pressure, to implement, evaluate and reform policy or introduce new legislation.

Also, contrary to what might have been expected, expenditure on environmental protection as a percentage of GDP even increased due to the crisis through increased investment in infrastructure. In the case of Ireland, environmental protection expenditure did not rise as much, confirming what has been mentioned above about Ireland mainly focusing on social protection and economic affairs in regards to the stimulus package. Additionally, when comparing the policy performance between economic, social and environmental policy, performance did not suffer from the crisis (see Table 9 below). Germany scores the highest in environmental policy performance compared to the other two areas and Ireland scores second best in environmental policy performance, with considerably lower performance than Germany in the area of economic policy. Therefore, it cannot be stated that environmental policy spending suffered considerably from the crisis. However, as stated by the Irish government the communication of fiscal burdens to the public and the identification of opportunities to combine both sustainability and economic growth have shown to be essential in dealing with environmental policy in an economic downturn (DECLG, 2014b).

[24] Table 7 shows a continued decline from 2009 of 0.3% of GDP. However, the opposite is portrayed in Table 8 where it actually slightly rises (+0.1% of GDP). This expresses the limitations of the mean as a statistical indicator in some cases. Table 7 provides a more detailed view and was therefore decisive for the final analysis, e.g. regards to environmental protection in Ireland.

Table 9 Sustainable Policy Performances

Country	Overall Policy Performance		Difference to 2011	Economic Policy	Social Policy	Environmental Policy
	Rank	Score				
Germany	6	7.26	+0.27	7.32	6.86	7.60
Ireland	23	5.91	+0.18	4.52	6.78	6.43

Source: own illustration, based on data from Bertelsmann Stiftung, 2014a

In addition to the comparison of expenditures in policy sectors, it is interesting to look at the development of environmental protection subdivisions (categories of environmental spending) and their share of expenditure (see Table 10 and 11):

In the case of Germany, the numbers for environmental protection expenditure also indicate the different jurisdictional responsibilities. In federally organised Germany every level of government has responsibilities with regards to environmental protection activities and therefore expenditure. In the case of Ireland only the central and local government, and not the counties, have jurisdiction in environmental protection activities. Germany's expenditure for environmental protection is mostly in the areas of water, waste management and pollution abatement, with expenditure staying mostly at the same level.

Comparing government sectors, the local government level spends the most on environmental protection, followed by the central (federal) government and then the state government. This is to some degree surprising, as many jurisdictions in the environmental sector lie within the state level in Germany. Sadly, in the case of Germany more detailed data on the distribution of expenditure among different government levels is unavailable.

Ireland, which like Germany invested in waste, water management, pollution abatement, also invested heavily in the protection of biodiversity and the landscape. This could be due to the major importance of the tourism sector for Ireland and therefore the importance of protecting the heritage and landscape in general. In both countries the biggest share of environmental protection expenditure is located at the local level. In the case of Ireland the reduction of expenditure is the same across all sectors, except for the waste sector

where the introduction of the waste policy framework has led to an increase in public expenditure in this field. Additionally, both countries do not invest a considerable amount into research and development of environmental protection measures or at least not directly.

With regards to budget cuts or government rationalisation, Ireland has committed to undergo reform and evaluation of policies and in order to comply with the requirements of the EU-IMF programme it had to further undergo fiscal consolidation. The so called "Croke Park Agreement" between the government and public sector unions, states that the government will not lay off any public workers until 2015. However, due to its commitment to the EU-IMF programme and the Programme for Government 2011-2015, the Irish government has committed itself to implement 73 measures to rationalise government agencies. The Department of Environment, Community and Local Government was heavily impacted, but more due to its responsibilities for local government than in regards to the environmental sector. Out of eight measures for the department only three were directly related. The former Council on Sustainable Development was integrated into the National Economic and Social Council. In addition other existing agencies were also merged. This does not necessarily mean that environmental issues are not considered less important compared to social and economic issues. It might even be beneficial as it brings environmental issues closer to economic and social issues, which in the long term might support sustainable decisions. However, it is questionable whether environmental issues are receiving a big enough attention considering the economic situation of Ireland.

Compared to the environmental sector, the local government sector had to, and still is, undergoing considerable structural reforms. Many government agencies have been reintegrated into local government to secure more efficiency. Additionally, the rationalisation resulted in the abolition of 80 town councils and further changes in legislation. The rationalisation strategy involved over 100 state bodies.

Table 10 Environmental Public Expenditure of Germany in % of GDP

Government sector	year	environmental protection	Waste management	waste water management	pollution abatement	protection of biodiversity and landscape	R&D environmental protection	environmental protection n.e.c.
general	2005	0.6	0.2	0.2	0.1	0	0	0.1
central		0.1						
state		0.1						
local		0.4						
general	2006	0.6	0.2	0.2	0.1	0	0	0.1
central		0.1						
state		0.1						
local		0.4						
general	2007	0.5	0.2	0.2	0.1	0	0	0
central		0.1						
state		0.1						
local		0.4						
general	2008	0.6	0.2	0.2	0.1	0	0	0
central		0.1						
state		0.1						
local		0.4						
general	2009	0.8	0.2	0.2	0.3	0	0	0.1
central		0.3						
state		0.1						
local		0.4						
general	2010	0.6	0.2	0.2	0.2	0	0	0
central		0.2						
state		0.1						
local		0.4						
general	2011	0.6	0.2	0.2	0.1	0	0	0
central		0.2						
state		0.1						
local		0.4						
general	2012	0.6	0.2	0.1	0.1	0	0	0
central		0.2						
state		0.1						
local		0.3						

Source: own illustration, based on Eurostat

Table 11 Environmental Public Expenditure of Ireland in % of GDP

Govern-ment sector	year	environ-mental protection	Waste manage-ment	waste wa-ter man-agement	pollution abatement	protection of biodi-versity and landscape	R&D envi-ronmental protection	environ-mental protection n.e.c.
general	2005	0.9	0	0.7	0.1	0.1	0	0
central		0.3	0	0.2	0	0.1	0	0
state								
local		0.8	0	0.7	0.1	0	0	0
general	2006	1	0	0.7	0.1	0.1	0	0
central		0.4	0	0.2	0	0.1	0	0
state								
local		0.8	0	0.7	0.1	0	0	0
general	2007	1	0	0.8	0.1	0.1	0	0
central		0.3	0	0.2	0	0.1	0	0
state								
local		0.9	0	0.8	0.1	0	0	0
general	2008	1.1	0	0.9	0.1	0.1	0	0
central		0.4	0.1	0.2	0	0.1	0	0
state								
local		0.9	0	0.9	0	0	0	0
general	2009	1.1	0	0.8	0.1	0.1	0	0
central		0.5	0	0.2	0	0.1	0	0
state								
local		0.8	0	0.8	0	0	0	0
general	2010	1	0	0.7	0.1	0.2	0	0
central		0.5	0	0.2	0	0.2	0	0
state								
local		0.7	0	0.7	0	0	0	0
general	2011	0.9	0.1	0.6	0.1	0.1	0	0
central		0.4	0.1	0.2	0.1	0.1	0	0
state								
local		0.7	0	0.6	0	0	0	0
general	2012	0.8	0.1	0.6	0.1	0.1	0	0
central		0.4	0.1	0.2	0.1	0.1	0	0
state								
local		0.6	0	0.6	0	0	0	0

Source: own illustration, based on Eurostat

Chapter 6 Summary, Conclusions, Discussion and Recommendations

The findings presented in the last chapter, will now be summarised and then discussed, followed by the conclusion and finally the suggestion for further research.

6.1 Summary of Findings

This study examined short- and long-term effects of the crisis especially related to environmental policy-making. In regards to the short-term response and the analysis of stimulus packages, the following could be found:

Even though Germany and Ireland both launched fiscal stimulus measures, Germany's packages were, apart from bank loans, dedicated to a broader field of measures, while areas like social protection did not receive further support. This was the case in Ireland. Apart from bank loans, Ireland focused solely on labour market and social protection and did not have specific "green" stimulus measures in place. Again, it needs to be mentioned that this conclusion is based on reviews of fiscal programs and missing data in the report from HSBC (2009). Germany dedicated approximately 11% of its stimulus packages to green investments, which can be mostly seen as measures benefiting the environment. This is way below the 25% threshold for fiscal stimulus packages, which the Federal Ministry of the Environment, Nature Conservation and Nuclear Safety published set in order to create a green economy and shift to a more sustainable growth after the crisis (BMU, 2009). Additionally, the main focus of Germany's packages were on energy efficiency and renewable energy, with a focus on supporting the car sector's development. Higher support for increased renewable energy usage was not needed, as respective policies were already in place. However, the amount of the green stimulus package was very small compared to China's green investment or South Korea, which dedicated over 80% of its measures to green investment.

In the case of long-term response the analysis provided results related to both general policies in four areas:

General policies: According to the European Commission (2014c) Germany has not put enough effort to address the recommendations made by the Commission. The German government addressed some of the recommendations; others remain unaddressed, as the government will continue to support globally competitive high-energy intensive industries. After 2011 the main focus of Germany was to support and guide the energy transition of the country. However, Germany has already a comprehensive environmental policy framework in place on which it can still rely on. Compared to that, Ireland which did not have such a comprehensive policy framework to rely on, has intensified its actions in this regard since the crisis. Multiple policies and policy frameworks have been published or are on their way to implementation in the near future. Main areas were water and waste management policies but also in regards to energy policies Ireland wants to increasingly invest in renewable, mostly wind energy. Additionally, Ireland has put much effort into reviewing and evaluating existing policies in regards to their structure, efficiency and compliance with EU regulations to avoid future fines and fees associated with missing targets.

Europe 2020: Both countries have made efforts to comply with targets and aims of the Europe 2020 strategy. In regards to GHG emissions Germany was able to reduce its emissions shortly after the crisis, but is now bouncing back to higher emissions. It needs to be said that Germany had already reduced its emissions compared to 1990. Compared to that Ireland has not yet reduced emissions below the 1990-level, but has reduced its emissions ever since the start of the monitoring within the Europe 2020 strategy. It remains to be seen whether this reduction was just an effect of the economic crisis. In the area of energy consumption Ireland has made a little more progress than Germany. Both countries have increased their share in final renewable energy consumption. Here, Germany has almost double the share than Ireland, mostly due to the push and support from the country's energy transition.

Climate Change and Environmental Policy Performance: Based on the Germanwatch Climate Change Performance Index, it can be said that Germany falls score-wise behind

its own value and lost 17 ranks compared to 2008. On the other hand, Ireland has improved in rank (32 ranks higher than 2008) as well as in score. Additionally, both Ireland and Germany have environmental policies on a domestic and international level in place, but could do more. Compared to other areas, such as economic and social policy, environmental policy did not suffer in performance. In fact it is Germany's strongest field and Ireland's second compared to the other two fields.

Environmental Public Expenditure: Germany's environmental expenditures have remained relatively the same, whereas in Ireland the impact of the crisis years has lead to an increase in expenditure. The effect of the crisis can also be seen in the fields of expenditure in other areas. Compared to other areas, environmental public expenditure receives in both countries relatively little from the pie of public spending. Germany's environmental spending stayed relatively the same, whereas Ireland reduced its costs even though it intensified its actions in this area. The analysis by subdivisions in terms of environmental expenditure according to various political levels did not deliver any results, besides that the distribution of expenditure mirrors the jurisdictional responsibilities in both countries. Other results could not be obtained due to the lack in more detailed data.

6.2 Discussion

The following discussion will first restate the assumptions stated from Chapter 3 and then discuss the findings together with findings in literature.

How are Environmental Policies influenced by Economic Crises?

Assumption 1.1. : The economic crisis may have an impact on environmental policy making.

Assumption 1.2. : The economic crisis may put governments at crossroads, presenting them with an opportunity to provide incentives with a focus on sustainability instead of traditional growth measures, solely aimed at recovery with possible adverse effects.

Overall it can be concluded that the economic crisis had an impact on environmental policymaking. First of all it slowed down the economy significantly, thereby instantly decreasing GHG emissions and energy consumption of the industry as less was produced. This has lead in the long term to the ETS being inefficient as a means to mitigation GHG emissions of industry. As the amount of units released to the industry was calculated before the crisis taking into account an economic growth that never happened lead to the over allocation of carbon units to the industry. For this reason, the ETS was reformed recently.

Additionally, the economic crisis can be seen, in the case of Ireland, as a window of opportunity to push through several primary and secondary legislations in the waste and water sectors. There was considerable pressure due to the requirements of the EU-IMF-Agreement to undergo structural reforms and consolidate the budget so that it is sustainable. This led to the identification of the growth and job potentials within the green industry, especially in the sector of agriculture, tourism, as well as in the waste and water sector. Furthermore, Ireland has pushed forward a Climate Action and Development Bill, including the introduction of a carbon tax and the development of a Low Carbon Roadmap for several key sectors, such as transport until 2050. This was also done in order to comply and further make progress toward the Europe 2020 targets, as one objective of Ireland's post-crisis policy management is to improve public consultation, policy management and efficiency and also compliance with EU regulations and other international treaties (DECLG, 2014). This supports the assumption of Vis (2009) that governments act risk averse and only a deteriorating socio-economic situation in combination with other factors will lead to the government risking social reform. The case of Ireland would support this concept also for the case of environmental policy. Confirming this, Germany, who rebounded from the crisis much quicker and in better shape than Ireland, did not follow the same direction, at least not to the same degree. However, it is important to mention that Germany already had comprehensive environmental legislation in place. Often positioned as one of the forerunners in environmental policy Germany had only limited opportunities to improve the way Ireland did. It is generally easier to get to the top than

trying to stay at the top. Additionally, Germany is currently radically restructuring its energy supply. The so-called energy transition is a highly ambitious new project, which currently takes up most of the country's environmental policy focus. This project is a massive undertaking, especially for a highly industrialised country like Germany. Therefore, continued economic growth and the competitiveness of German industries is high on the government's list of priorities after the crisis. This has led to the country losing its leading role in climate change policy. In fact, according to Germanwatch (2013) Ireland ranks now higher in this area than Germany.

Additionally, when looking at the short-term effects of the crisis and the amount of green stimulus in Germany's and Ireland's recovery packages, these countries did not have the promotion of green growth as their priority. Even though some analysis (HSBC, 2009) claimed that countries had dedicated sufficient amounts to green investment, in the case of Germany this is only partly on the case. Germany has dedicated approximately 12% of its stimulus package to green activities, missing the target set out by the federal ministry of the environment of 25% by more than half (BMU, 2012). Investments were focused mainly in the area of energy efficiency. Additionally many of those measures have been designed to assist the car industry, confirming the assumption that economic growth still is the primary concern of governments rather than the support of green growth and sustainable development after the crisis. This would confirm the statement of Schneider, Kallis and Martinez-Alier (2010) that the economic crisis provided governments with the opportunity to "green wash" their traditional approaches to crisis management. Here, Ireland did not officially dedicate any investment to green measures.

What role do redistributive conflicts / policies play in the crisis management of governments, especially in regard to environmental policies?

Assumption 2. : The financial crisis will lead to a focus on distributional issues and thereby force governments to identify priorities based on economical and political considerations in their spending.

Both governments have increased their expenditure in social protection and in economic affairs. However, apart from that in both countries no real preference of expenditure could be identified other than that public environmental protection expenditure is one of the smallest parts of governmental expenditure. However, Ireland improved in environmental policy-making and the decrease of expenditure since the crisis. This might suggest that the amount of public environmental expenditure is no indicator for the quality of environmental policy. However, the financial crisis has in the case of Ireland led to the identification of effective and efficient implementation and policy management, as well as compliance with existing regulation and frameworks as one way to lower expenditures. Nothing in this regards can be said for Germany, as Germany has just recently introduced its debt break. A continuously good economic situation and the fact that pressures to significantly reduce expenditure and the budget have not yet started to have an effect. Therefore, Germany was able to comply with sustainable budget requirements set out by the EU without major action (BMWi, 2014; European Commission, 2014c). This can therefore also be said in regards to environmental policy.

In Ireland, the Croke Park Agreement, as an agreement between the government and the unions of the workers in the public sector, does not allow any layoffs until 2014. Budget cuts have so far occurred through the evaluation of over 100 state bodies. This has led to the implementation of 73 measures (only eight related to the environmental sector) where agencies have been merged or their function integrated into other existing bodies. This was, for example the case for the Council on Sustainable Development, which is now integrated into the National Economic and Social Council.

What Role do Domestic and International Institutions play in the response of governments?

Assumption 3.1. : Institutions (constitutional and political settings) may play a role in the environmental policy performance after the crisis

As mentioned above the government in Ireland agreed to not layoff any workers until 2014. But in order to comply with the EU-IMF-Agreement the government had to undergo considerable steps in terms of structural reforms, e.g. in the water sector, but also evaluated over 100 state bodies for potential in savings, and improvement of effectiveness and efficiency. The government's rationalisation of the local government led in the end to the abolishment of 80 town councils. The Local Government Reform Act 2014 provides the basis for the restructuring of the local government level in regards to structure, functions, financing, and governance (DECLG, 2014b).

In the case of environmental policy making the Irish centralised government was able to push through a considerable amount of policies. However, most of the policy frameworks have included public consultation procedures and thereby introducing and consulting with additional groups (DECLG, 2014b). According to the OECD (2012) Germany needs to invest in more policy coordination amongst its domestic levels, especially with its Länder, but also coordination with the EU level is necessary. The slow progress of the energy transition is an example, as the project is lacking coordination between the energy policies of the sixteen states and the federal level. Each state has its own targets and means to get there. Furthermore this is a problem as the states have jurisdictions of their energy policy, but the federal level has responsibilities for the grid systems, supporting Scharpf (2006) and his theory of the joint decision-trap to some degree. The grid system and a coherent energy policy remain problems to be solved.

Assumption 3.2. : International organisations may play an important role in setting priorities for budget cuts and policy areas under fiscal austerity.

The EU-IMF assistance programme of a total of EUR 85bn until the end of 2013 was financed mainly by three parties, the EU (EUR 45bn), the IMF (EUR 22.5bn), and Irish financial buffers (EUR 17.5bn). EU's contribution was financed through different mechanisms: EUR 22.5bn came from the EFSM (EU member states), EUR 17.7bn from the EFSF (euro area countries), and EUR 4.8bn from bilateral loans of the UK, Sweden, and

Denmark, which do not have the euro as a currency (European Commission, 2011, p. 38). The EU-IMF agreement set the requirements, but the Irish government was responsible on its own for the development of appropriate means and tools to consolidate its budget. Furthermore, Ireland underwent substantial review procedures (12 reviews in three years) and submitted quarterly reports on implementation to the Department of Taoiseach and the Department of Jobs, Enterprise and Innovation (European Commission, 2014d).

Commitments in regards to environmental policy have been agreed on in the water sector and the waste sector. Additionally, the forest sector was supposed to be privatized, but this will more than likely be postponed or not implemented as fears exist about the loss of revenue through privatization (Bertelsmann Stiftung, 2014b). Those measures, especially with respect to water regulation and pricing have led to significant improvements.

EU legislation was a major driver and guidance for the introduction of comprehensive regulatory frameworks in the traditional waste and water sectors. Overarching strategies, such as Europe 2020 and the Environmental Action Programme provide incentives for the environmental policy performance for both countries. The strategy of Europe 2020 furthermore requires of governments to report their progresses in sustainability of budgets. They also have to report on their progress with respect to the Europe 2020 targets, which also in times of economic downturn includes environmental targets, although less ambitious (van der Heijden, 2008). Eurostat is furthermore monitoring the progress of all member states. The European Commission publishes additionally country-specific recommendation. The member states then respond through the publishing of their yearly national reform programmes, also published by the European Commission (European Commission, 2012a). The compliance with EU regulations is one driver, which keeps environmental issues on the agenda even in economic downturns. However, van der Heijden (2008) argues that the EU is not doing enough to promote climate change and environmental policy, with the ETS currently being the only real instrument in place, which assists in reaching the Europe 2020 targets on the EU-level. The ETS has undergone review after difficulties in the beginning, where e.g. energy-intensive sectors have not been sub-

ject to the ETS (van der Heijden, 2008). Therefore, compliance with EU law was not only one important area of improvement it also provided further guidance in identifying policy actions, e.g. in the area of climate change and low carbon policy in the case of Ireland.

Contributions

These findings contribute to the understanding of the impact of economic downturns on environmental policy-making, and how they affect both environmental forerunners and laggards. It also shows how a crisis can trigger and urge an economy to reinvent itself and work towards achieving sustainable development. Furthermore, the study showed that determinants of good environmental performance, such as levels of decision-making, veto points and problem pressure are of importance. Distributive politics is only to a certain degree relevant to environmental policy-making. Interests groups, especially organised ones are equally as important as determinants to environmental policy performance as in redistributive politics theory, e.g. in the case of incentives for energy consumptions and mitigation of GHG-emissions in Germany. Due to the lack of more detailed data no real statement can be made on the distribution of expenditure on the different state levels.

Furthermore, this study showed that the approach of comparing two different cases with each other is possible as the trigger event was the same. The aim of this study was to analyse how environmental policy-making and performance were impacted by the economic crisis. The crisis was the trigger event. Furthermore, the EU framework regulations, along with overall strategies with set targets and indices, make a comparative study with two different cases possible. This might not be the case outside of the EU where the policy coherence and overall frameworks do not exist do this degree. Additionally, this study combined quantitative and qualitative analysis of secondary sources. Qualitative data and analysis was necessary to provide context and background for the respective indicators and indices. This study therefore was able to not only look at the development in environmental policy performance according to policy documents, quantitative data analysis added another layer to this study where the evaluation of policies and policy performance was possible.

Theoretically, the case of Germany showed the importance of looking at interest groups and their constraints, but also the understanding of how they can influence political decision-making. Support of private industry interests have led to a loss in focus on successful and effective climate change policy. In the case of Ireland the pressure from international institutions has helped to introduce new guiding policy frameworks as well as the review of existing policies. Due to the lack of more detailed data in regards to state level as well as categories of environmental protection expenditure no real conclusion was possible. Again, it needs to be said that the intention of this study was not to state hypotheses and falsify or verify them through empirical analysis, but rather to state assumptions, which will generally guide and frame the empirical analysis.

6.3 The Crisis and Environmental Policy-Making – Doomsday or Turning Point?

This study raised the question in the beginning of whether the economic crisis is to be considered as doomsday or turning point for environmental policy-making. The answer, and at the same time conclusion to this study, is too some degree more positive than expected in the beginning of this research.

Germany has lost its former leading role in the area of climate change policy. Germany is currently mostly focused on energy policy, after the decision to phase out nuclear power after 2020. Support of renewable energy, energy and resource efficiency are other areas. The main concern about the energy transition is to make it affordable, but at the same time minding private industry interests (mostly energy intensive industry and the transport sector). However, the support of the private industry come with a price for the environment, as incentives to cut energy consumption and GHG emissions are lost. Further problems are the coordination of seventeen different decision-making entities (the federal government and the sixteen states), which all have their own concept of the energy transition. Reforms are therefore difficult to implement and undertake. It needs to be mentioned however, that Germany compared to Ireland had already build up a comprehensive environmental policy framework, especially in the waste and water management sector. The

green economy and the promotion of German green technology was already on the political agenda. Germany currently struggles after a positive development in and shortly after the crisis to meet or make further progress in meeting its ambitious targets in climate and in environmental policy.

On the other hand, policy-making in Ireland, especially in regards to the environmental and climate change changed after the crisis. This was in part due to the pressure to meet commitments set by the EU and the IMF. Ireland has reformed its water and waste sectors for example, and is about to introduce water metering in all Irish households, which previously did not exist. Furthermore the Irish government is active in responding to international legislature, such as EU regulation compliance, but has also responded to the review of its policies by the OECD (DECLG, 2014b). Effective implementation and compliance with existing legislation to avoid fee is an essential part of policy-making. Additionally, the Irish government is pushing for the increase of renewable energy in accordance with EU targets as well as the mitigation of GHG emissions and has therefore implemented climate change policy to guide further action including a carbon tax. Furthermore, the government is promoting a smart economy with an emphasis on a low carbon economy.

Additionally, legislation and overall guiding legislation is following an across-sector approach. In both countries policies were coordinated among more than just one department, speaking for the increasing importance of the environmental sector and sustainable development. Furthermore it confirms that environmental and climate change policies need an across-sector approach rather than each department making their own. This furthermore saves costs, which under budget constraints is essential. The lack of green measures in fiscal stimulus packages, as well as the continued support of environmentally adverse operating industries indicates that economic growth and job creation is still top priority in crisis management, rather than sustainable development and the support for green investment.

Concluding this, the economic crisis was definitely not the doomsday of environmental policy. However, it was also not a full turning point. Rather it was more an attempt to change things, which may eventually lead to a paradigm shift. Governments invested in green stimulus measures, but in the case of Germany it was 12% of the whole packages whereas South Korea dedicated over 80% to green investments (HSBC, 2009). Furthermore, as stated by the Irish government climate change goals and emission reductions are ambitious targets in the EU, but for Ireland GHG emission reduction of 20% becomes a question of whether or not the country can afford it or to introduce a tax with yet another burden on the taxpayer. However, in times of budget constraints it is essential to combine economic growth with job creation and environmental protection (DECLG, 2014b). The green economy and its potential for green jobs might be one of the solutions to this problem. This development needs to be further evaluated and researched on as the future will tell whether this was "green washing" or the start of a shift in economic paradigm.

6.4 Suggestions for Further Study

This study only has findings considering the events up until present (June 2014). Some data was only available from 2012, such as the progress regarding the Europe 2020 targets. The further development and the consequences of some policy action could therefore not be included in this study. Additionally, the debt break in Germany and budget cuts in terms of layoffs in Ireland, after the end of the Croke Park Agreement will start to come into effect next year and in the following ones. Further and continued research about environmental policy under continued budget constraints is therefore necessary.

Furthermore, the effects and impact of the crisis on the public and private industry were also not discussed in this research, but due to the increase in importance of the green economy further research in this area is necessary, especially in regards to whether this is a long term shift in economic paradigms or if it is just a one hit wonder.

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Appendix 1 Background information about Germany and Ireland

Characteristics	Ireland / Eire	Federal Republic of Germany / Bundesrepublik Deutschland
Capital	Dublin	Berlin
Population	4,722,028 (July 2012 est.)	81,305,856 (July 2012 est.)
Total area	70,273 sq km	357,022 sq km
Administrative divisions	29 countries and 5 cities	16 states (Länder)
Government type	Republic, parliamentary democracy	Federal republic
Executive branch		
Chief of state:	President Michael D. HIGGINS (since 29 October 2011)	President Joachim GAUCK (since 23 March 2012)
Head of Government:	Taoiseach (Prime Minister) Enda KENNY (since 9 March 2011)	Chancellor Angela MERKEL (since 22 November 2005)
Cabinet:	Cabinet appointed by the president with previous nomination by the prime minister and approval of the lower house of Parliament	Cabinet or Bundesminister (Federal Minister) appointed by the president on the recommendation of the chancellor.
Elections:	President elected by popular vote for a seven-year term (eligible for a second term); prime minister (taoiseach) nominated by the House of Representatives (Dail Eireann) and appointed by the president	President elected for a five-year term (elegible for a second term) by a Federal Convention, including all members of the Federal Parliament (Bundestag) and a equal number of delegates elected by the state parliaments; chancellor elected by an absolute majority of the Federal Parliament for a four-year term.
Legislative branch	Bicameral Parliament or Oireachtas consists of the Senate or Seanad Eireann (60 seats; 49 members elected by the universities and from candidates put forward by five vocational panels, 11 are nominated by the prime minister; members serve five-year terms) and lower house of Parliament or Dail Eireann	Bicameral legislature consists of the Federal Council or Bundesrat (state governments sit in the Council) and the Federal Parliament or Bundestag (622 seats; members elected by popular vote for a four-year term under a system of personalized propositional representation; 5% of the national vote or three direct mandates to gain proportional representation
Elections:	Last held in 27 April 2011	There are no elections for the Bundesrat; composition is determined by the composition of the state-level governments; the com-

		position of the Bundesrat has the potential to change any time one of the 156 member states holds an election.
Environment - current issues	Water pollution, especially of lakes, from agricultural runoff	• Emissions from coal-burning utilities and industries contribute to air pollution. • Acid rain, resulting from sulfur dioxide emissions, is damaging forests. • Pollution in the Baltic Sea from raw sewage and industrial effluents from rivers in eastern Germany • Hazardous waste disposal • Government working to meet EU commitment to identify nature preservation areas in line with the EU's Flora, Fauna, and Habitat directive
Environment - international agreements **Party to:** **Signed but not ratified:**	18 2	25 none
Economy and the development in the crisis	• Ireland is a small, modern, trade-dependant economy. • Ireland was among the initial group of 12 EU notions that began circulating the euro on 1 January 2002. • GDP growth averaged 6% in 1995–2007, for economic activity has to drop sharply since the onset of the world financial crisis, with GDP falling by over 3% in 2008, nearly 7% in 2009, and less than 1% in 2010. • Ireland entered into a recession in 2008 for the first time in more than a decade, with the subsequent collapse of its domestic property and construction markets. • The export sector, dominated by foreign multinationals has become a key component of	• The German economy – the fifth largest economy in the world in PPP terms and Europe's largest – is a leading exporter of machinery, vehicles, chemicals, and households equipment and benefits from a highly skilled labor force. • Germany faces significant demographic challenges to sustained long-term growth. • Low fertility rates and declining net immigration are increasing pressure on the country's social welfare system and necessitate structural reforms. • Reforms launched by the SCHOEDER government deemed necessary to address chronically high unemployment and low average growth, contributed to strong growth in 2006 and 2007 and falling unem-

Ireland's economy.

- In 2008 the COWEN government moved to guarantee all bank deposits, recapitalize the banking system, and establish party-public venture capital funds in response to the country's economic downturn.
- Faced with sharply reduced revenues and a burgeoning budget deficit, the Irish Government introduced the first in a series of draconian budgets in 2009.
- In addition to across-the-board cuts in spending, the 2009 budget included wage reductions for all public servants.
- In 2010, the budget deficit reached 32.4% of GDP – because of additional government support for the banking sector.
- In late 2010 COWEN Government agreed to a $122 billion loan package from the EU and IMF to help Dublin further increase the capitalization of its banking sector and avoid defaulting on its sovereign debt.
- Since entering office in March 2011, the KENNY government has intensified austerity measures to try to meet the deficit targets under Ireland's EU-IMF program.
- Ireland achieved moderate growth in 2011 and cut the budget deficit to 10.0% of GDP, although the recovery is expected to slow down in 2012 as a result of the eurozone debt crisis.

ployment.

- These advances, as well as a government subsidized, reduced working hour scheme, help explain the relatively modest increase in unemployment during the 2008-09 recession – the deepest since World War II – and its decrease to 6.0% in 2011.
- GDP contracted 5.1% in 2009 but grew by 3.6% in 2010, and 2.7% in 2011. The recovery was attributable primarily to rebounding manufacturing orders and exports.
- Domestic demand is therefore becoming a more significant driver of Germany's economic expansion.
- Stimulus and stabilization efforts initiated in 2008 and 2009 and tax cuts introduced in Chancellor Angela MERKEL's second term increased Germany's budget deficit to 3.3% in 2010, but slower spending and higher tax revenues reduce the deficit to 1.7% in 2011, below the EU's 3% limit.
- A constitutional amendment approved in 2009 limits the federal government to structural deficits of no more than 0.35% of GDP per annum as of 2016.
- Chancellor Angela Merkel announced in May 2011 that eight of the country's 17 nuclear reactors would be shut down immediately and the remaining plants would close by 2022.
- Germany hopes to replace nuclear power with renewable energy.

GDP		
Composition by sector (%):	Agriculture: 2% Industry: 29% Services: 69% (2001 est.)	Agriculture: 0.8% Industry: 28.1% Services: 71% (2011 est.)
Real growth rate (%):	1% (2011 est.) -0.4% (2010 est.) -7% (2009 est.)	2.7% (2011 est.) 3.6% (2010 est.) -5.1% (2009 est.)
Industrial production		
Production growth rate (%):	3% (2001 est.)	6.7% (2011 est.)
Industries	Pharmaceuticals, chemicals, computer hardware and software, food products, beverage and brewing, medical devices	Among the world's largest and most technologically advanced producers of iron, steel, coal, cement, chemicals, machinery, vehicles, machine tools, electronics, food and beverages, shipbuilding, textiles
Exports		
Overall amount:	$124.3 billion (2011 est.)	$1.408 trillion (2011 est.)
Commodities:	Machinery and equipment, computers, chemicals, medical devices, pharmaceuticals, food products, animal products	Motor vehicles, machinery, chemicals, computer and electronic products, electrical equipment, pharmaceuticals, metals, transport equipment, foodstuffs, textiles, rubber and plastic products
Partners:	US, UK, Belgium, Germany, France, Switzerland	France, US, Netherlands, UK, Italy, China, Austria, Belgium, Switzerland
Imports		
Overall amount:	$71.35 billion (2011 est.)	$1.198 trillion (2011 est.)
Commodities:	Data processing equipment, other machinery and equipment, chemicals, petroleum and petroleum products, textiles, clothing	Machinery, data processing equipment, vehicles, chemicals, oil and gas, metals, electric equipment, pharmaceuticals, foodstuffs, agricultural products
Partners:	UK, US, Germany, China, Netherlands (2010)	China, Netherlands, France, US, Italy, UK, Belgium, Austria, Switzerland (2001 est.)
Unemployment rate (%)	14.3% (2011 est.) 13.6% (2010 est.)	5.7% (2011) 6.8% (2010)
Natural resources	Natural gas, peat, copper, lead, zinc, silver, barite, gypsum, limestone, dolomite	Coal, lignite, natural gas, iron ore, copper, nickel, uranium, potash, salt, construction materials, timber, arable land

Budget revenues:	$ 76.2 billion	$ 76.2 billion
Expenditures:	$98.59 billion	$98.59 billion
Budget surplus (+) or deficit (-)	-10.1% of GDP (2011 est.)	-1.7% of GDP (2011 est.)
Public debt (% of GDP)	107% of GDP (2011 est.) 92.5% of GDP (2010 est.)	81.5% of GDP (2011 est.) 83.4% of GDP (2010 est.)
Distribution of family income - Gini index	33.9 (29, 8, 2011)	27 (28, 3, 20120
Disputes - International	Ireland, Iceland, and the UK dispute Denmark's claim that the Faroe continental shelf extends beyond 200 nm.	None

Source: CIA. 2012