

Are the 'laggard states' obstinate or just inefficient?

A study of the EU member states' compliance with EU
environmental legislation 2012- 2016



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Abstract

Despite the fact that EU environmental policy has become increasingly important, the EU member states are struggling to comply with environmental legislation decided on the European level. Interestingly, some member states seem to find it more difficult than others. This thesis seeks to explain the cross-national variation in non-compliance with EU environmental law, that is, why some member states violate it more frequently than others. In order to explain such variance in non-compliance, this thesis draws on two prominent approaches in the compliance literature: the enforcement approach, which emphasizes member states' willingness, and the management approach which stresses member states' capacities to comply. The findings of this thesis suggest that these two approaches should be combined and not treated separately to maximise their explanatory power. Politically more powerful member states with weak or moderate government effectiveness tend to breach EU environmental law more often than politically weaker member states with moderate or strong government effectiveness. Moreover, member states with low government autonomy are more likely to breach EU environmental law, even though government effectiveness seems to mitigate these negative effects to some extent.

Key words: EU, EU environmental law, compliance, implementation.

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1 Introduction

Despite the fact that the environment has become an increasingly important policy area within the European Union (EU), the member states are struggling to comply with EU environmental law. Officially, one of the basic objectives of the EU is that it “shall work for the sustainable development of Europe based on balanced economic growth [...] and a high level of protection and improvement of the quality of the environment” (Art 3 TEU, 2007). The high ambition within this policy area has resulted in a vast amount of legislation at the European level. At the time of writing, the environmental *acquis communautaire*, meaning the laws, rules and procedures governing environmental policy, encompasses over 500 legislative items and represent a substantial body of progressive and far-reaching environmental legislation (Dragneva, 2011: 78). Moreover, by being active and promoting these issues in the global arena, the EU has managed to carve out an international role for itself within this policy field (Lenschow, 2015: 320ff).

However, behind the scenes the EU environmental policy faces a litany of problems that reduce its impact on the environment. Perhaps the most severe one is the big gap between the policy making output and implementation, commonly referred to as the “implementation gap” (Milio, 2010: 3). Previous research shows that the member states are fairly successful in negotiating new environmental legislation at the European level, but despite the severity of the issues, difficulties arise when an attempt is made to implement the legislation (Knill & Lenschow, 1998; Börzel 2000; Bursens, 2002; Börzel 2003; Nimmo Smith et al, 2007; Borghetto & Franchino, 2009; Dragneva 2011; Buckley, 2012; Börzel & Buzogany, 2017; Spendzharova & Versluis 2017; Zhelyzkova et al, 2017).

The latest implementation review conducted by the European Commission (Commission) confirms what earlier research has found, namely that the member states are still struggling to comply with EU environmental law. It states that the legal and practical implementation within the EU is not uniform, consistent and effective, with serious shortcoming in key areas such as biodiversity, water, waste and air (EC, 2017a). In 2016 alone, the Commission initiated 284 infringement proceedings against different member states for failure to comply with EU environmental law (EU, 2017b). In fact, environment is the policy area with the second highest number of violations of EU law, and it includes some of the least complied with pieces of EU legislation (Börzel & Bogdany, 2017: 1).

When looking more in detail at how well the different member states are doing in terms of compliance with EU environmental law, the picture becomes even more intriguing. National compliance with EU environmental law is not uniformly poor across EU-28, even though all member states are lagging behind to a certain degree. Instead, the picture is patchy which substantial cross-national differences. As an illustrative example, from 2012 to 2016, the member state with the worst compliance record – Greece – infringed EU environmental law 13 times more than the best

complier – Lithuania. In a similar vein, Spain breached EU environmental law 11 times more than the Netherlands (see section 2.3). Consequently, it seems as if some member states are more inclined, or capable of complying with EU rules than others, which is the puzzle that this thesis aims to disentangle.

Complying with EU environmental law brings certain costs, since laws need to be transposed, implemented, applied, enforced, and investments need to be made (Jans & Vedder, 2012: 139). However, non-compliance also brings tangible costs to the EU, its member states and the environment. First, social costs are imposed on the member states through an explicit Commission strategy to “name and shame” non-compliers by issuing press statements and publishing scoreboards of compliance (Tallberg, 2002: 617). Second, the Commission has the legal right to impose significant financial sanctions on the member states for breaching EU law. Third, and perhaps most importantly, non-compliance has a strong negative effect on the credibility and effectiveness of EU environmental law. If the EU *acquis communautaire* is not fully implemented, as it is found in this thesis, the EU environmental policy risks becoming a “paper tiger” with little effect on environmental quality (Jordan, 1998). Already today, member states’ failure to comply with EU environmental law brings immense costs to the environment and human health. The Commission estimates that non-compliance costs as much as € 50 billion a year in health costs and direct costs to the environment. Moreover, delayed or inadequate implementation results in regulatory uncertainty for industry and puts in questions the level playing field of the single market. The benefits of implementing the existing legislation would bring substantial advantages to the European industry. For example, in the waste sector alone, full compliance by 2020 would create an additional 400 000 jobs (EC, 2017a).

1.1 Research problem, focus and question

This thesis aims to explain the cross-national differences with regards to non-compliance with EU environmental law, that is, why some member states are violating EU environmental law more frequently than others. This poses an interesting puzzle since one would assume that the member states should be inclined to implement EU environmental law, given high ambition within this policy field, the severity and cross-national nature of the issues and the high costs that follow from non-compliance. So how could one go about explaining this?

I should mention that explaining different degrees of compliance requires different approaches depending on what level it aims to be explained at. There are many possible reasons behind non-compliance with one specific measure. Explaining a member state’s compliance with one single regulation, directive or decision could include factors such as the content of the actual measure, the specificities of the situation, the people that were involved in the process et cetera. However, there is already a considerable amount of studies focusing on specific member states’ implementation of certain environmental legal measures (for a thorough literature review, see section 3.1). There are fewer systematic comparative studies carried out on the macro-level of

compliance, where focus is on the different patterns and differences of how member states comply with EU environmental law, especially after the Treaty of Lisbon entered into force (for an elaboration on contribution to science, see section 3.1). Hence, the focus of this thesis is on the macro-level of compliance.

More concretely, member states' characteristics and traits will be analyzed as determinant of compliance in a broader context, meaning I will investigate all member states over four years (2012 – 2016), and not one single member state's implementation of one or a couple of legislative act. Consequently, two restrictions need to be made: due to the broad focus of this study and the many cases included, I will not incorporate data on member states' compliance strategies or interest. Instead, I will compare some of the general institutional factors of each member state and analyze the association between the preconditions of effective compliance, and the actual success of compliance (cf. Lampinen & Uusikylä, 1998: 237). Thus, this study will contribute to the understanding of what kind of context that promotes compliance with EU environmental law. This in turn is a first step towards closing the 'implementation gap'.

With this broad macro-approach in mind, the research question has been phrased as:

- *Why did the degree of non-compliance with EU environmental law differ between member states in the period 2012 to 2016?*

1.2 Disposition

Chapter two includes the background information of this thesis which is needed to contextualize the EU environmental policy and the compliance mechanisms. This is followed by chapter three which includes the theoretical framework and the independent variables that have been singled out in order to explain the cross-national differences. Chapter four contains the methodological framework, that is, how the study has been conducted and which research design is used. It also comprises methodological clarifications and a discussion about how the independent variables have been operationalized, and why these specific indicators have been selected. Chapter five presents the empirical data and the analysis of these. Lastly, chapter six presents the main findings and proposals for further research.

2 The EU and environmental law

To contextualize what is being researched, a short exposé of the development of EU environmental policy is given in order to highlight the complexities within this specific policy area. Second, a brief presentation is provided of EU environmental law and its application. By taking into account the development and application of EU environmental law, it is possible to see what is being ‘uploaded’ to and ‘downloaded’ from the EU in terms of legislation and policy, and what the ‘downloading’ entails in practice (for terminology, see Börzel, 2000: 159). This is followed by a section on the state of play in terms of compliance with EU environmental law, and the significant cross-national differences that exist within this policy area.

2.1 European Union Environmental policy: Origins and development

The evolution of environmental policy in the EU can be characterized by steady deepening in institutional terms, as well as expansion in substantive responsibilities (Lenschow, 2015: 320). One could roughly distinguish two phases in order to point to some of the characteristic and political features of this evolution, namely pre and post the Single European Act (SEA).

2.1.1 Pre Single European Act

In the late 1950s, the first environmental common market directives were passed, which focused on rules and safety standards on radiation and control of dangerous chemicals (Dragneva, 2011: 71). Although a need for a separate area of EU competence within the environmental area was acknowledged, environmental policy during this period followed primarily trade-related motivations and was legally based on single-market provisions in the Treaties. Common environmental standards for products, and the regulation of production processes in order to protect the environment or ensure the safe treatment of hazardous waste, were decided to level the playing field for economic actors and to remove non-tariff barriers to trade, emerging from different regulatory practices in the member states (Lenschow, 2015: 321).

In the 1970s, as environmental issues became more salient in Europe, pioneering states began pushing for a growing range of measures at a high level of environmental protection. These states, with a strong support from the Commission, began establishing a European environmental policy at the Community level, making linkages to the single market project, and pointing to the trans-border effects of environmental pollution (Lenschow, 2015: 321). For the first time, the newly established policy stated

that economic expansion was not an intrinsic goal, and a forerunner to the DG Environment was formed within the Commission (Dragneva, 2011: 75). The Commission and the pioneering member states enjoyed a growing support from the Court of Justice of the European Union (CJEU), which in a number of rulings offered support in favor of environmental protection (Jans & Vedder, 2012: 6). Despite the need for unanimity in the Council, the laggard states agreed to common European standards in order to secure market access, but also to maintain legitimacy in the “greening” international discourse (Lenschow, 2015: 321).

2.1.2 Post Single European Act

The ratification of the SEA marked the second phase of the development of EU’s environmental policy, by ending its previous informal status. For the first time, the objectives of the environment policy were enshrined in the Treaties. The SEA introduced a new title on environmental protection, featuring several new articles which stipulated the objectives, principles and the decision-making procedure to be applied in adopting environmental legislation (Dragneva, 2011: 75). More specifically, the SEA provided an explicit legal basis for environmental regulation, introduced qualified majority voting (QMV) in the Council for some areas of environmental policy, and increased the role of the European Parliament (Parliament) in the decision-making (Lenschow, 2015: 321). The introduction of QMV entailed that member states could no longer rely on their veto power to block environmental legislative proposals (Dragneva, 2011: 75). This was heavily criticized by the southern member states, claiming that European policies had shown no concern for the problems of the economically less developed regions. However, these states’ approval was acquired by the establishment of a cohesion fund set up in order to finance implementation of EU environmental law (Börzel, 2003: 48). The SEA did not only provide the legal basis for EU environmental policy, it also highlighted the need to integrate environmental objectives into other policy areas in order for the EU to be effective under the so-called ‘integration principle’ (Dragneva, 2011: 75).

This was further emphasized in the Treaty on European Union (Maastricht Treaty), signed in 1993, which laid down that environmental protection *must* be integrated into the definition and implementation of other Community policies (Dragneva, 2011: 75f). Moreover, the Treaty stated that environmental policy was one of the principle EU activities, and a reference to sustainable development was included, stating that the EU aimed at achieving “harmonious, balanced and sustainable development of economic activities” (EP, 2004). Another significant change was the inclusion of environmental protection as a formal accession criterion for the candidate countries (EP, 1998).

Following the measures adopted under the Treaty on European Union, the Treaty of Amsterdam introduced further amendments to the legal frameworks in regards to the environmental sector. First, the co-decision procedure (ordinary legislative procedure) was applied on most of the issues concerning environment, meaning that the Parliament received an even more enhanced role. Second, “a high level of protection and improvement of the quality of the environment, the raising of the standard of living and quality of life” was included as EU objectives (Jans & Vedder,

2012: 9). A third improvement was that the integration principle was promoted to a “general principle of EC law” (Ibid: 9). In contrast to the treaty changes described above, the Treaty of Nice did not result in any significant revisions of the environmental field.

In the same vein as the Treaty of Nice, the Treaty of Lisbon did not bring any major changes to EU environmental policy. However, it introduced general changes in regards to institutional power and decision-making procedures which have had an implicit impact on the EU environmental protection. The Treaty of Lisbon has re-allocated some powers from the member states to the EU, and it defines in a clearer way the responsibilities of the EU and the member states, qualifying the environmental policy as a sphere of shared competence (Benson & Jordan, 2010: 470). The Treaty of Lisbon also further extends decision-making powers to the Parliament, since the ordinary legislative procedure is expanded to even more policy areas that have impact on the environment (ibid: 472).

The EU environmental legislation has historically been, and still is, highly dynamic, leaving room for different interpretations and it is very dependent on the preferences of EU actors. This has resulted in several disputes between the Commission, which has tried to push environmental proposals forward, and the member states which have been more cautious. This in turn has led to a number of referrals to the CJEU (Dragneva, 2011: 75).

There have not only been disagreements between the institutions, but also within the Council. European environmental policy-making has been characterized by a “leader-laggard” dynamic, where the leaders in northern Europe have pushed the Community process forward, drawing the laggards up to their level of environmental protection. The highly industrialized member states in the North have developed strict, highly differentiated legal regulations, accompanied by sophisticated state implementation arrangements. By doing so, they have managed to obtain favorable competition conditions for their domestic industry and avoided environmental dumping in low-regulating member states (Börzel, 2003: 44).

This short historical exposé of EU environmental law and policy provides an insight of the complexity of the policy-making procedure within the environmental area, and the member states’ different policy preferences. Moreover, it highlights the dynamics of the EU environmental agenda, which has experienced a rapid development since the 1970s, to become one of the EU’s key competences, comprising approximately 500 legislative items (Dragneva, 2011: 78).

2.2 EU environmental law and its application

The member states are legally obligated to apply EU law and to take the appropriate measures to “ensure fulfilment of the obligations arising out of the Treaties or resulting from the acts of the institutions of the Union” (Article 4.3 TEU, 2007). Hence, EU law supersedes national regulations and entrenched practices (Börzel & Buzogany, 2017).

Primarily, EU environmental law is contained in the Treaties. They are the primary sources of environmental principles and lay down the basic provisions for the decision-making and the implementation of environmental measures, meaning that they provide for minimal legal harmonization on environmental matters (Dragneva, 2011: 80).

Article 288 TFEU (2007) specifies the legal instrument constituting the source of secondary legislations. These binding legal instruments are, in a legal hierarchical order; *regulations*, *directives* and *decisions* (Chalmers et al, 2014: 111).

Regulations are the most centralizing of all Union instruments and are used when there is a need for uniformity, since they must be applied in its entirety across the EU. They automatically form a part of the domestic legal order in each member state on the day they enter into force, meaning that there is no need for further transposition, except in rare cases (Jans & Vedder, 2012: 124f).

Within environmental law however, the EU mainly relies on *directives* (as much as 95 per cent) with a lesser reliance on the other instruments (Dragneva, 2011: 80). Directives are binding as to the results to be achieved, but leave the choice as to form and methods used to implement them to the discretion of the member states. For directives to enter into effect, they must first be legally implemented in the member states. This requires the adoption of new legislative acts, amendment of existing laws or the annulment of provisions preventing the accomplishment of a directive's objectives (Tallberg, 2002: 623). Although, like other legislative instruments, a directive comes into force 20 days after publication or on the time specified in the directive, it will give a deadline, usually 18 or 24 months, by which the member states must transpose its obligation into national law (Chalmers et al, 2014: 112).

In contrast to regulations and directives, *decisions* are only binding on those to whom it is addressed (usually member states, but also private parties) but is also binding in its entirety, that is, it must not be applied incompletely, selectively or partially (Chalmers et al, 2014: 111ff).

2.2.1 Monitoring of non-compliance

Whilst the member states are the ones legally obliged to comply with EU law, the Commission has been delegated the responsibility for monitoring ensuring compliance¹, through its role as the “Guardian of the Treaties” (under Article 17 TEU, 2007). The most important instrument at the Commission's disposal is the procedure laid down in Article 258 TFEU (2007). This article provides that the Commission may bring a matter in front of the CJEU if it considers that a member state has failed to fulfil an obligation under the Treaties (Jans & Vedder, 2012: 171). The Commission

¹ Although this thesis uses the concept of compliance, defined as “a state of conformity or identity between an actor's behavior and a specified rule”, some of the previous research use the concept of implementation (Trieb, 2014: 5). These concepts are related in many ways, but one could argue that compliance has a higher level of abstraction, since it has a macro-perspective and focuses less on the process and more on the outcome of implementation. Given that this thesis focus on the outcome in terms of rule conformity, I use the concept of compliance which, however, often requires implementation (see next page).

distinguishes, from a legal perspective, five different kinds of infringement proceedings:

1) *Violation of Treaty provisions, regulations and decisions*

Provisions, regulations and decisions are directly applicable and do not need to be incorporated into national law. Non-compliance takes the form of not, or incorrectly applying and enforcing European obligations as well as of taking, or not repealing, violative national measures.

2) *Non-transposition of directives ('no measures notified')*

Non-compliance manifests itself in a total failure to issue the required legislation.

3) *Incorrect legal implementation of directives ('not properly incorporated')*

Non-compliance takes the form of incomplete or incorrect incorporation of directives into national law

4) *Improper application of directives ('not properly applied')*

Non-compliance involves the active violation of taking conflicting national measures, or the failure of invoking the obligations of the directive. The latter also involves failure to enforce EU law, that is, taking action against violators.

5) *Non-compliance with CJEU judgements ('not yet complied with')*

Non-compliance refers to the failure of member states to execute CJEU judgements which establish a breach of EU law.

(Börzel, 2003: 9)

To summarize the above - the Commission can initiate infringement proceedings against member states in situations where they have not transposed and implemented the measures on time or at all, but also where they have implemented it incorrectly. The most common type of infringement proceeding within the environmental area is the former of these. As the member states are twice reminded by the Commission of their obligations, a practice has evolved where the Commission initiates an infringement proceeding after expiry of the time limit if a member states has not communicated that the necessary measures have been taken (Jans & Vedder, 2012: 172f).

To detect the potential violations of EU environmental law, the Commission monitors member states' compliance following a two-track approach. On the one hand it collects and assesses information on member states' compliance record through in-house monitoring. On the other hand, it relies on informal procedures through which it records and examines complaints lodged by citizens, companies and NGOs, and on petitions and questions from the Parliament (Tallberg, 2002: 616). During the last decade, the latter approach has developed into the main source of detecting infringements since it provides access to information otherwise unobtainable (Börzel & Knoll, 2012: 10)

If the Commission suspects a breach of EU law it usually starts by informally engaging in a bilateral discussion with the member state concerned. If the discussion is not fruitful and the member state still does not comply, the Commission will initiate an infringement proceeding. However, that is only considered "when all other means have failed" (Börzel, 2003: 14). In total, only about one third of all breaches leads to a formal infringement procedure. These procedures have four stages:

- 1) *Letter of formal notice* is a preliminary stage and thus not a part of the formal infringement procedure. The formal letter of notice means that the Commission invites the member state concerned to submit its observations, usually within two months.
- 2) *Reasoned opinion* is the first official step of the infringement proceeding where the Commission gives the member state a time limit, typically two months, within which it expects the issue to be rectified.
- 3) *Referral to the CJEU* is the last means to which the Commission can resort in cases of non-compliance. Usually before the case is referred to the CJEU, the Commission tries to bilaterally find a last minute solution.
- 4) *CJEU judgement* is the last step where the Court acts as an adjudicator between the Commission and the member state, by investigating if there was a breach of EU law. The Commission can also ask the CJEU to impose financial sanctions.

(Börzel 2003: 10)

2.3 Compliance with environmental law: State of play

European integration is claimed to be hampered by an implementation deficit (Mbaye, 2001; Mastebroek & Van Keulen, 2006: 20; Börzel et al, 2007). From the 1980s onwards, scholars and EU officials have shared the view that member states' compliance records are rather poor. Some scholars even argue that non-compliance constitute one of the most pressing problems for the Commission in its efforts to manage the European integration process and that "the inconsistent observance of law by the member states has stood squarely in the way of unification" (Duina, 1997 in Mastebroek & Van Keulen, 2006: 21). The deficit first came about during the process of establishing the internal market in the late 1980s and early 1990s. In order to develop the single European market, an ambitious legislative program was adopted, comprising approximately 300 measures, mostly in the form of directives. Although the progress on the legislative stage arguably was impressive, the project seemed to slow down at the desks of national bureaucrats and politicians. Member states' implementation of the directives turned out to be far from impressive. In 1991, one year from the agreed starting date, member states had only transposed 65 per cent of all directives. In the 1990s, the Commission was initiating over 1000 proceedings annually, and in 1997 that figure exceeded 1400 (Tallberg, 2002: 625). Since then, however, the Commission has increased its efforts in order to try to close the compliance gap. It started off rather cautiously by establishing working groups focusing on the issue. Yet, over time, the Commission has toughened its stance considerably with the help of the CJEU as a fervent enforcer of EU law (Mastebroek & Van Keulen, 2006:21). However, with the increasing amount of legislative acts at the European level, non-compliance remains today a serious threat to the effectiveness of EU law, with over 1650 infringement proceedings still remaining open in the end

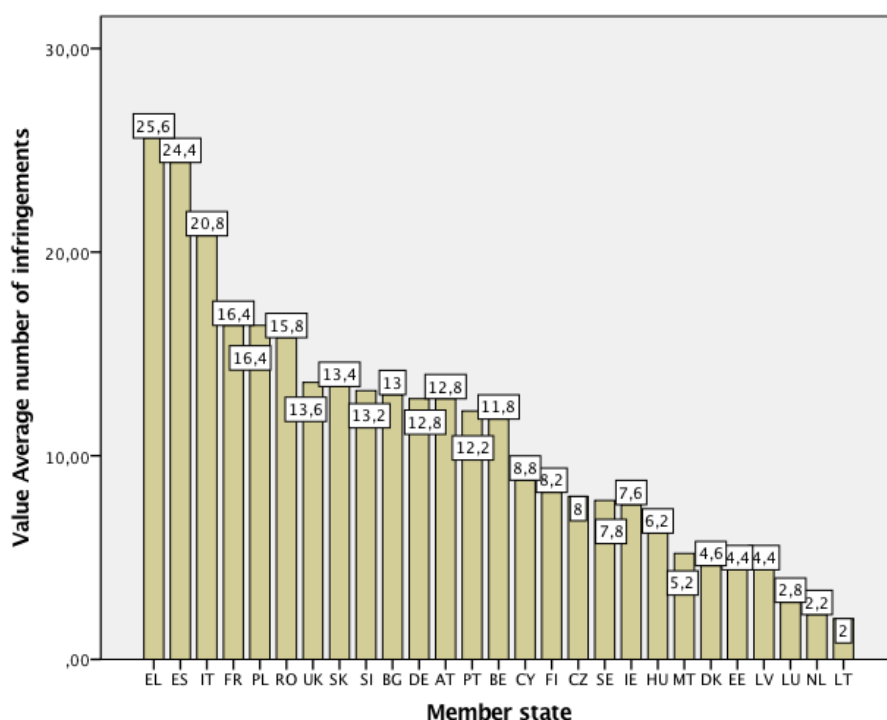
of 2016, which according to the Commission is “not yet good enough” (EC, 2017c; EC, 2017f).

This brings us to the state of play of compliance within the environmental area and the derivation of the dependent variable – the number of initiated infringement proceedings due to member states’ non-compliance with EU environmental law between 2012 to 2016 (for a methodological discussion, see section 4.1). As mentioned in the introduction, environmental directives are one of the most violated EU measures. Approximately 23,7 per cent of the infringement proceedings registered by the Commission fall within the environmental area, despite the fact that as little as seven per cent of the total amount of directives are devoted to this policy area (EC, 2017d:10). One can thus observe that it is a policy area characterized by a comparatively low number of directives, but with many infringement proceedings. In total, the Commission initiated 1485 infringements against member states for breaching EU environmental law between 2012 - 2016. The high number of infringement proceedings within the environmental area reflects the width of the compliance gap, especially considering that as little as one third of all breaches actually results in a formal infringement proceeding (Börzel, 2003: 10). The data is collected from the Commission’s infringement decision database, which contains information about the legal action the Commission has brought against the member states (EC, 2017e). All cases in which the Commission has sent a reasoned opinion and thus started an official infringement proceeding have been included, no matter if it is because of a violation, non-transposition, incorrect implementation or improper application. Moreover, the data does not differentiate between breaches of regulations, directives or decisions.

I have created a bar chart below, presenting the average number of initiated infringement proceedings per year within the environmental area between 2012 -2016. As can be seen from the chart, compliance with EU environmental law is not uniformly poor across all member states. No member state has a taintless track record given that all have infringed EU law at least a couple of times, but the picture is patchy with substantial cross-national differences. For example, Lithuania has on average only infringed EU environmental law two times per year, whilst the worst laggard state Greece has infringed EU environmental law 25,6 times – 13 times more. The same goes for Spain, which has infringed EU environmental law 11 times more than the second best complier, the Netherlands. The member states have on average breached EU environmental law 10, 5 times² per year from 2012 to 2016.

² Five per cent trimmed mean

Figure 1. Average number of initiated infringement proceedings between 2012 - 2016



Source: Author's own compilation from EC, 2017e

These findings are broadly in line with earlier studies on compliance with EU environmental law among the EU-12 and EU-15, which also have identified a north-south divide. Belgium, together with the southern member states Spain, Italy, Greece and Portugal have previously been found to be the biggest environmental laggards, measured by how many infringement proceedings the Commission has initiated (Lenschow, 2015: 334ff; Börzel, 2003). However, as can be seen from the chart, Portugal and Belgium are no longer among the worst compliers while France is. Moreover, Poland – which gained its EU membership in the “big bang” enlargement in 2004 – is also among of the worst compliers. The Nordic countries, United Kingdom, the Netherlands and Luxembourg have previously been identified as the environmental leaders among the EU 15 (Börzel, 2003: 33). However, the United Kingdom is not longer among the leader, which can be seen from its placement in the middle, breaching EU environmental law more than the average 10,5 time per year. The Baltic states which gained EU membership in 2004 have taken the lead with Estonia, Latvia and Lithuania being among the five best compliers. It is worth noting that eight out of the ten best compliers are northern European countries. One could thus conclude that the North – South divide is still rather evident, even though the performance of France and Poland blurs the picture somewhat.

To summarize this chapter; environmental issues have become increasingly important for the EU and its member states, from the first directives passed in the late 1950s until today. However, the member states’ degree of compliance does (still) not match the importance they claim to attach to environmental issues, which has resulted in an implementation gap. Arguably, the gap between the policy output and the

implementation reduces the credibility and the impact of the EU's environmental policy on the environment. This makes it an urgent problem for the EU to solve, and an interesting puzzle for researchers to disentangle.

3 Understanding cross-national differences

This chapter provides the theoretical framework that this thesis is based upon. Since the theories are based on earlier research, I start by providing a short presentation of the previously conducted studies on compliance with EU environmental law. Also, a discussion is provided about what this study adds to the accumulated knowledge on compliance with international regimes. Following this, I present three approaches to compliance. Lastly, section 3.3 and the following sub-sections present the derivation of the four independent variables, based on the enforcement approach and the management approach.

3.1 Earlier research on compliance with EU environmental law

The EU compliance deficit has received significant scholar attention since the Commission, in accordance with article 226 EC, began providing the Parliament with reports on the number of infringement against member states in 1984 (König & Luetgert, 2009: 164). It is not within the scope of this thesis to provide a presentation of this vast amount of literature. Instead, Trieb (2014) and Angelova et al (2012) can be consulted for extensive reviews. The review below will only present the main studies conducted within the environmental area.

Just as within the broader field of compliance with EU law, there are quite a few studies conducted on member states' compliance with EU environmental law. One could broadly divide these into small n-studies and large n-studies.

For instance, in a small-n study Bailey (2002) looked at Germany's and the United Kingdom's implementation of the Packaging Waste Directive investigated whether successful implementation is determined by the compatibility of national and European procedures, or domestic institutional veto points. He concludes that even though institutional veto points are important during transposition, national resistance is often prompted by poor policy fit. Further, Nimmo Smith et al (2007) have researched why Denmark was more successful than the United Kingdom in implementing the Nitrate Directive and found that it was because of the vagueness of the Directive itself, which resulted into different interpretations (see also Buckley 2012). In a more recent study, Bourblanc et al (2012) have researched differences in implementation of the Water Framework Directive in Denmark, France, England/Wales and the Netherlands. They conclude, *inter alia*, that the visibility of the policy process; accountability of politicians and policy-makers vis-à-vis their

constituents and the EU; divisions of responsibilities for implementation; and the involvement of the public, can to a certain extent explain the level of ambition in EU implementation.

Other scholars have researched certain member states over a number of years. For instance, Christoph Knill and Andrea Lenschow (1998) have conducted a study on the United Kingdom's and Germany's implementation of four environmental directives, and found that the extent to which administrative traditions affect implementation effectiveness is less dependent on the "real" cost of adaptation than on the level of embeddedness of existing structures. In other words, administrations refuse to comply when EU rules are contradicting core elements or administrative arrangements. In a similar vein, Tanja Börzel (2000) has, by comparing Germany's and Spain's legal implementation of five environmental policies, found that implementation failure is not a southern problem, and there is no such thing as a "Mediterranean Syndrome". She argues that the southern member states do not constitute a homogenous group, and thus she challenges the notion that these states would be inherently bad at complying with EU environmental law. Instead, Börzel argues that their high degree of non-compliance stems from significant policy misfit, capacity at the decision-making level, socio-economic development and the absence of domestic mobilization in favor of implementation, all which may change over time. Hence, the southern member states are not doomed to be laggards. In a similar fashion, Peter Bursens (2002) has conducted a comparative study between Denmark and Belgium in order to find out why the former has a better compliance record compared to the latter in regards to EU environmental directives between 1997 - 2000. The study finds that the difference could be explained by the national institutional contexts, where Denmark as a centralized country with a competent state bureaucracy has more favorable implementation conditions compared to the federal state of Belgium.

Over the years, an increasing number of scholars have enhanced our knowledge about compliance through quantitative studies, even though they still are quite rare within the environmental area. Borghetto and Franchino (2009) have found, by collecting information about over 700 directives in nine member states between 1978 and 2004, that sub-national involvement tends to prolong the process of transposition of EU environmental law. Moreover, Spendzharova and Versluis' (2013) study on member states' transposition of 143 environmental directives between 1996 - 2008 demonstrates that member states and governments attaching high salience to environmental protection, and governments comprising Green parties, tend to transpose environmental directives faster than those which do not. In another study, Zhelyazkova et al (2017) have compared the old and the new EU member states' compliance records in regards to internal market, Justice and Home Affairs, environment and social policy directives, and found that the new member states were generally more efficient in transposing EU law than the old member states, despite low levels of administrative capacity. This is explained by the pre-accession conditionality, meaning that the new member states have gained particular skills by transposing vast amounts of EU law into national legislation. In one of the more recent studies, Börzel and Buzogany (2017) have found that the environmental implementation gap has in fact narrowed over the last years. Except for the southern enlargement, taking on new member states has not widened the compliance problems with regards to

environmental law. This is explained by the Commission's new compliance strategy and the development of new instrument strengthening member states' capacities in implementing EU legislation.

To summarize the above, scholars have used different research designs, relying on different data sets, testing different variables and hypothesis, aimed at explaining different assumptions. In general, the small-n studies have pointed to the degree of misfit between European rules and existing regulatory traditions, while the quantitative studies have analyzed what institutional and state characteristics that are most conducive to compliance. Theoretical insights from the literature on compliance with international regimes and Europeanization have all been applied to the study of compliance with EU environmental law. The attention of these theories roughly converge on the impact of preferences, as emphasized by the enforcement approach, and institutional capacity for change, as stressed by the management approach. Acknowledging the results of the earlier research, this thesis will also focus on these two approaches, something which is elaborated further upon in section 3.2.

Even though this study builds on the accumulated knowledge gained on compliance so far, it differs from the earlier research in several ways. Firstly, in contrast to these earlier studies, which mainly have relied on selective research designs comparing implementation of a few, specific directives in a couple or more member states, this thesis will have a broader focus by studying the EU-27s' compliance with several EU measures over a longer time period. A big majority of the earlier studies were conducted in, or focus on the 1990s and early 2000s, which is why they only include the EU-12 or EU-15. No earlier studies, with the exception of Zhelyazkova et al (2017), focus on the EU-28. Hence, by taking a step back and including all the member states, this thesis will incorporate countries that have not yet been studied in the context of compliance, thus adding to the accumulated knowledge within this research area (for a discussion on case selection, see sub-section 4.2.2).

Secondly, this thesis will cover an under-researched time period. The time period is particularly interesting because no other research within this field has focused on the post-Lisbon era, which – as described in section 2.1.2 – brought some institutional changes with bearing on environmental policy. Since it covers the post-Lisbon era up until 2016, it aims to reach conclusions on the current state of play with regards to compliance with EU environmental law.

Thirdly, this piece will combine and apply theoretical findings from other EU policy fields to the specific policy field of environment, thus adding to the theoretical understanding of compliance with EU environmental law.

To summarize - by focusing on the under-researched time period between 2012 and 2016, with new member states, incorporating theoretical findings from other policy fields, this thesis will provide additional insights to answer the ongoing controversy between scholars, who disagree on the causes of non-compliance.

3.2 Three Compliance Approaches

After having presented the earlier research, this section will address the insights gained so far about the political, economic and administrative parameters influencing compliance with EU environmental law. As argued in section 3.1, much of the previous research has tried to identify the state characteristics that are most conducive to making compliance possible. The dominating approaches in this debate are commonly referred to as the *enforcement approach*, emphasizing member states' willingness to comply and the *management approach*, stressing member states capacity to comply (Tallberg, 2002: 611). At a more general level, the discussion on the influence of willingness versus capacity connects to the discussion on whether compliance with EU law should be perceived as a political or administrative process. A political vision of the process emphasizes the importance of preferences, while if compliance is merely seen as an administrative exercise, there is little room for political preferences (Toshkov, 2007).

The following discussion about what factors influence member states' compliance with EU law starts with a reasoning on why EU level explanations are not relevant to this study. Following that, I present the two broad theoretical approaches used in this thesis.

3.2.1 EU-level based explanations

Several features that stem from the European level are thought to contribute to the rather high degree of compliance failure within the environmental area (Tallberg, 2002: 613). These features could broadly be divided into governance-related and content-related factors. The former mainly points to the role of the Commission as the "Guardian of the Treaties" and includes shortcomings such as bad communication and responsiveness (ibid.). The latter points to ambiguity and inconsistency of directives, and the high degree of technicality of these (Lampinen & Uusikylä, 1998; Bursens, 2002: 180).

Both the governance and content-related factors are arguably important, and since they should affect all member states equally they are likely to be effective in explaining the member states' overall bad compliance record within the environmental area (cf. Bursens, 2002: 180). However, given that the member states are not equally affected by poor compliance, and that this thesis aims at explaining these cross-national differences, the European level factors will not be further elaborated upon.

3.2.2 Enforcement approach

The enforcement approach originally stems from the rationalist theory school which posits that states are rational actors that weigh the costs and benefits of alternative behavioral choices when making compliance decisions in cooperative situations

(Tallberg 2002: 611). The general assumption is that the member states with stronger incentives to deviate from a particular EU legislative instrument will take longer time to transpose it and are thus less likely to comply (Argomaniz, 2010: 307). States may not value the actual contents of the legislation, even though they consider the act of participation and signing as important, especially in an organization such as the EU where the member states value the existing consensus culture (Tallberg 2002: 612). Thus, even though a government thinks that the signing of an agreement is in its interest, the calculations on whether to actually comply are different – that decision may be a matter of priorities given that compliance usually comes with adaptation costs, requiring resources that could have been put to alternative use.

3.2.3 Management approach

In contrast to the enforcement approach, the management approach focuses instead on the administrative and institutional traits of the member states. This approach posits that over many legislative acts, the capacity and quality of member states' administrations affect the speed and quality of implementation. Hence, non-compliance or slow implementation is considered involuntary, caused by for example lack of resources and knowledge, rather than an active and conscious decision. Some member states' administrative structures could thus be said to be more adequate to transpose legislation than others (Argomaniz, 2010: 309; Tallberg, 2002: 613). Political capacity limitations arise when a government does not have the ability to ensure that public and private actors meet international commitments. The central government may for instance be unable to secure ratification, command compliance from their sub-national authorities, or pool the necessary administrative capacity to comply (Tallberg, 2002: 613). In contrast, economic capacity problems arise when financial constraints affect a member state's ability to fulfil its international commitments (*ibid.*). Hence, macro-economic factors are indirectly important, since they set the economic and political framework within which actors operate (*ibid.*).

Consequently, economic and political capacity problems are expected to have a negative effect on member states compliance capacity.

3.3 Deriving independent variables

The broad theoretical approaches and explanations provided above interlink further in the following sections. Since the general theoretical idea is that willingness (enforcement approach), as well as the practical dimension of capacity (management approach) play a role in compliance, I have singled out explanatory variables to belong to one or the other of these. In total, four independent variables based on the two distinct approaches have been created, reflecting the assumed necessary condition for efficient transposition and compliance of EU environmental law. The variables I have selected in line with the enforcement approach are issue salience and political power. The management approach does not however use the concept of state capacity

uniformly in the literature. Resource-centered scholars define capacity as a state's ability to act, whilst neo-institutionalist scholars argue that the domestic institutional set-up influences the degree to which a state can act and its autonomy to make decisions (Börzel et al, 2007: 8). To do these two lines of argument justice, I differentiate between the autonomy of member state governments and administrative efficiency, both of which belong to the management approach.

Clearly, other variables than the ones presented in the following section, based on the approaches presented in sub-section 3.2.2 and 3.2.3 could have been included in this thesis. However, time and space constraints limit the variables that can feasibly be included in any one project, which is the case also for this study (Landman, 2008: 24). Instead, this thesis aims at explaining the bigger picture and the explanatory weight of the selected variables. Hence, it is acknowledged already at this stage that this study alone cannot fully explain everything in the macro-field of compliance within the environmental area – it rather adds one more piece to the highly complicated puzzle.

The selected variables were identified as the most suitable for the following reasons. First and foremost, these variables are not taken from a vacuum – all of them are based on academic literature or previous research on legal compliance with international regimes and thus have been proven useful. Issue salience and administrative capacity have been tested previously in relation to member states' compliance with EU environmental law, (cf. Spendzharova & Versluis, 2013), whilst the other selected variables have been tested on legal compliance in other policy fields, with other member states and during different time periods (cf. Mbaye, 2001, Börzel et al, 2007).

Secondly, since the number of cases – EU-27 – is rather small for a statistical study, including additional variables could risk leading to “too many inferences and not enough observations”, which in turn could lead to faulty assumptions (Landman, 2008: 30). Hence, including too many irrelevant variables would risk making the research design indeterminate (King et al, 1994: 178).

Lastly, the number of cases and the selected time period already provide for a substantial workload, which is why certain pragmatism needs to be practiced. This in turn admittedly leads to a risk of *omitted variable bias*, meaning that some important factors could be left out (King, et al, 1994). However, by practicing intersubjectivity and transparency in the selection and operationalization of the variables, and comparing the results with findings of previous research, the risk of omitted variable bias is mitigated (elaborated further upon in section 4.3).

3.3.1 Impact of issue salience

Since policy-makers operate with limited available time and capacities, they cannot focus on all policy items on the political agenda. Instead, they need to focus on a smaller sub-set of issues that have most attracted their attention. It is this relative importance of an issue that is assumed to influence policy-makers' prioritization and actions (Spendzharova & Versluis, 2013: 1499). Hence, salience influences how much attention decision-makers devote to certain issues, or in other words the “cognitive shortcuts of human actors to select which information they process before deciding

on a course of action” (Ibid: 1503).

Since policy-makers are expected to consider public opinion, I will test whether the relative salience of environmental issues among the public affects a member state’s compliance record. The underlying assumption is that when the general public cares about an issue and indicates that it should be considered as a top priority, there is more pressure on the government to act, meaning that it calls for efforts at the EU level to agree and deliver on legislation, and on the national level to comply with that legislation (Spendzharova & Versluis, 2013: 1504). That holds especially true for the specific policy field of environment, which is more controversial and frequently receives more public attention than for instance agricultural policy, thus raising the costs for non-compliance (Angelova et al, 2012: 1283). It is therefore assumed that compliance is more likely in member states where environmental issues are salient, since politicians tend to make decisions that promote their re-election.

Spendzharova & Versluis’ (2013) study on how issue salience affected member states’ transposition of 143 directives adopted between 1996-2008 shows that this variable has some explanatory weight, even though the effect is rather small. In contrast to this, there are scholars that argue that the more salient an issue is, the slower the transposition, due to the likeliness of domestic conflict (Börzel & Knoll 2014: 13). Hence, this thesis endorses Angelova and colleagues’ call to further expose this variable to empirical testing (Angelova et al, 2012). The hypothesis is phrased as:

H1: The more salient environmental issues are in a member state, the less likely it is to breach EU environmental law.

Spendzharova & Versluis (2013) also investigate how salient environmental issues are for the selected governments by studying their respective party manifestos. This explanation has also proven to be fruitful, but due to the limited scope of this thesis such a labor-intensive investigation is unfortunately not possible. However, it is reasonable to assume that public opinion and governments’ priorities correlate to a certain degree, because governments whose electorates care about the environment are likely to dedicate sufficient room for this issue in their party manifestos, since they care about re-election.

3.3.2 Impact of EU- specific political power

Following the argument of Keohane and Nye on power, states can be regarded as more sensitive to the costs imposed by sanctions if they have less political power compared to other states, the latter being more resistant to external pressure (Keohane & Nye, 1977). If one considers the dependent variable, one would thus expect that the less politically powerful a member state is, the more sensitive it is to external pressures from the Commission and other member states, and the less likely it is to cause an infringement proceeding. Contrariwise, the more politically powerful member states would be more resistant to external pressure, which is why one could assume that these states breach EU environmental law more often. According to this line of argumentation, the political weight translates into indifference or even resistance vis-

à-vis “external” rules imposed on states. This mechanism of obstinacy thereby predicts a positive relationship between the power of a member state and the number of infringements (Börzel et al, 2007: 5).

Another variant of the enforcement approach also focuses on the political power of the member states, but puts more emphasis on the decision-making process. According to this line of reasoning, the member states’ political power affects their compliance record through the decision-making process. The underlying rationale is that the political weight is closely related to a state’s ability to shape legislation according to its preferences at the EU decision-making level. Smaller, and politically weaker states cannot ignore the more powerful ones during the decision-making in the Council. One would thus assume that the outcome of the decision-making process lies closer to the preferences of the more politically powerful member states than the weaker ones (Börzel et al, 2007: 6). Since EU directives must be implemented by all member states, those member states that have been able to sell their argument in the legislative-making process will be able to transpose and comply with the legislative acts with less effort than those who have not, since the adoption costs are comparatively lower. Hence, politically more powerful member states are assumed to comply to a higher degree than the weaker ones.

Since the two described lines of reasoning contradicts each other, it is important to expose them to further empirical testing. However, while it is hypothesized that EU-specific political power influences a member states’ compliance record, the direction of the effect must be left unspecified. Hence, the second hypothesis is phrased as:

H2: A member state’s EU specific political power affects its compliance record.

3.3.3 Impact of government autonomy³

The involvement of sub-national authorities, meaning the regional and local governments within national states, in decision-making and implementation poses both an opportunity and a risk for the EU. Broader participation is in line with the principle of subsidiarity and it is believed to narrow the EU’s alleged legitimacy problems. However, the involvement of sub-national authorities has its price too. First, their involvement in the consultation and implementation phase multiplies the number of conflicting perspectives that have to be aggregated, thus increasing the number of potential veto players which in turn increases the risk for late implementation (Borghetto & Franchino, 2010:2; Tsebelis, 2002). Second, the literature on US public policy shows that sub-national policy-makers tend to skew policies to the extent that the outcomes do not match national outcomes. This twisting of policies at the sub-national level can have the effect of causing infringements at the national level (Mbaye, 2001: 264). Hence, it is theorized that hierarchical states in which greater authority is vested in the central government will have an easier time transposing international

³ In the compliance literature, government autonomy is also referred to as centralization, multi-level governance, and in some cases institutional veto points.

regimes into national law than decentralized systems in which the central government has little control over the sub-national authorities (Mbaye, 2001: 264).

In essence, the involvement of sub-national authorities thus represents another point in the policy cycle where delays or failures could occur, which in theory would add to the already existing implementation gap. This is especially relevant within the environmental area, where the involvement of the sub-national authorities is higher compared to other policy areas, which is probably due to the strong territorial nature of this sector (Borghetto & Franchino, 2010: 10; Mbaye, 2001: 264). Accordingly, timely and accurate transposition is assumed to be more likely in states with higher degrees of government authority, where the central government has both power and responsibility within its borders, compared to states with lower degree of government autonomy (Haverland & Romeijn, 2007: 773).

This variable has been tested in previous research (cf Mbaye, 2001; Borghetto & Franchino, 2010) but as Steunenberg and Rhinard concludes, it has not held up well under empirical testing “and thus requires further elaboration” (2010: 498). The hypothesis is phrased as:

H3: The higher the degree of government autonomy of a member state, the less likely it is to breach EU environmental law.

3.3.4 Impact of administrative efficiency

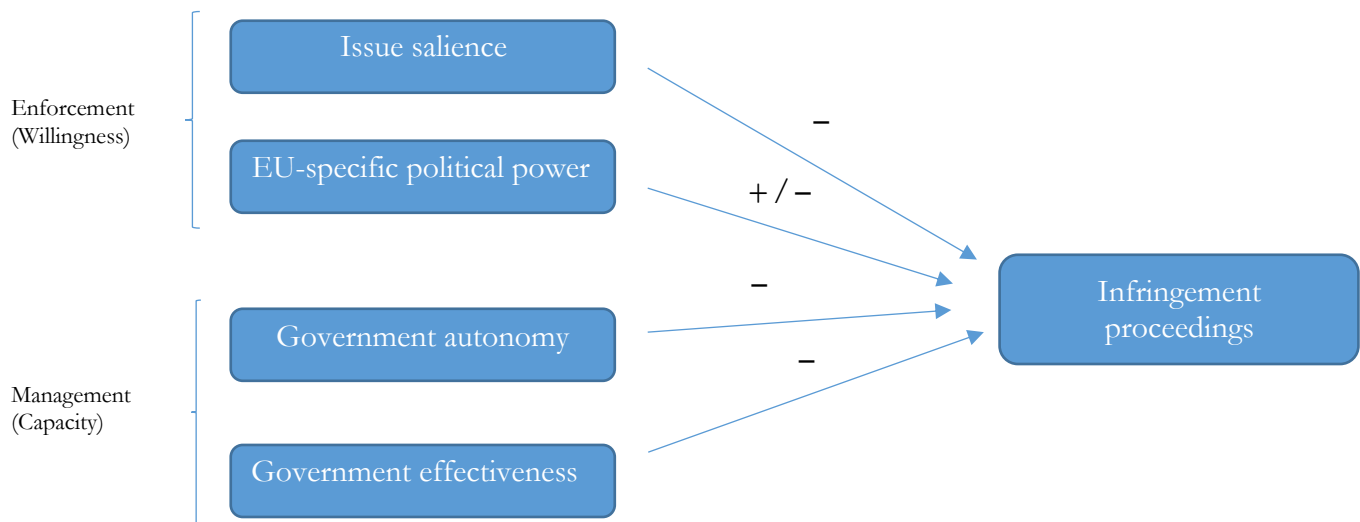
As mentioned earlier, the management approach stipulates that non-compliance is involuntary and not the result of an active decision. Legislative actors are forced to rely on already established bureaucratic institutions that may lack the sufficient resources, capacity or knowledge to implement legislation. Hence, even though a legislative proposal gets support at the political level, effective implementation is dependent on the effective functioning of domestic institutions (Zhelyazkova et al, 2017: 831). Some of the member states have been found to lack the efficient administrative machinery to transpose EU law, even though they have the political will to do so (Argomaniz, 2010).

Administrative efficiency as a variable has been tested in many other policy areas, and it has registered a significant effect (cf. Mbaye 2001; Toshkov 2007). However, in a recent study conducted by Zhelyazkova and colleagues (2017), they find that the central eastern European countries (CEEC) that gained EU membership in 2004 and 2007 in general do not perform worse in terms of transposition of EU directives compared to the other states, despite a less efficient state bureaucracy. Consequently, this variable requires further empirical testing.

H4: The more efficient the bureaucracy of a member state is, the less likely it is to breach EU law.

To sum up this chapter: four independent variables in total have been singled out from the theoretical framework. Two are in line with the enforcement approach and two which are based on the management approach. These four variables are assumed to affect the number of infringement proceedings.

Figure 2. Factors assumed to affect successful compliance with EU environmental law



Source: Author's own compilation.

4 Measuring state characteristics

This chapter begins with a methodological clarification regarding the issues arising from using infringement proceedings as an indicator for non-compliance. Further, a discussion is held about the time period in focus of this study. Following that, in section 4.2, I present and explain the choices made with regards to the research design and case selection. This is followed by a section where I describe how the operationalization is carried out, and discuss how and why the indicators have been defined and structured the way they have.

4.1 Methodological clarifications

All studies on compliance face the methodological challenge of measuring non-compliance. Some scholars have developed their own assessment and collected their own data in case studies, whereas others have drawn on statistical data provided by the monitoring bodies of international organizations. In contrast to these studies, I have “outsourced” the identification of violations of EU law by relying on statistics on initiated infringement proceedings as an indirect indicator for compliance with EU law. This is admittedly not without methodological problems. As Börzel and colleagues, rather bluntly, state: “[...] there are good reasons to question whether infringement proceedings qualify as a valid and reliable indicator for compliance failure and constitute a representative sample of all the violations that occur” (Börzel et al, 2007: 3). There are several reasons for this. Firstly, the Commission has limited resources which is why it is not capable of detecting and pursuing all breaches of EU law. Since infringement proceedings refer to cases that are both detected by the Commission and where it decides to act, one cannot know for sure in how many cases it does not react when a member state is not complying. Hence, one could argue that the infringement proceedings only represent a fraction of all breaches, and that those only constitute the “tip of the non-compliance iceberg” (Hartlapp & Falkner, 2009: 292). Second, in theory the initiated infringement cases could be a result of conscious strategy from the Commission, meaning that it might treat the usual laggards more strictly, and policy priorities may guide its enforcement policy (ibid).

These deficiencies are acknowledged, but all researchers that are interested in studying compliance face similar problems of measurement, and all approaches have their pros and cons. However, there are also strong arguments in favor of using infringement proceedings to measure non-compliance. For instance, there are no indications that the Commission’s limited capacity to detect non-compliance systematically biases data towards specific member states (Börzel et al, 2010: 1373). If the Commission in its roles as “the Guardian of the Treaties” was systematically biased

in its selection of infringement cases, it would not only undermine its self-perception, but also its legitimacy and mandate. The Commission is assumed to be aware that its authority is highly dependent on its credibility as an impartial adjudicator between competing interests, which is why it needs to avoid giving the impression that it treats member states differently (Börzel & Knoll, 2012: 8). Moreover, as described in subsection 2.2.1 there are strong safeguards in place against a prosecution bias, meaning that the detection of non-compliance does not only rely on the Commission's in-house assessment but also on reports from the member states, complaints from citizens, companies, NGOs, petitions from the Parliament et cetera. To sum up the above – overall there are no indications that the infringement data contains a bias towards specific member states. While it is not possible to know how big the non-compliance iceberg actually is, the infringement data provides means to explore why some member states comply worse than others. A clear strength of using infringement proceedings as a measurement for non-compliance is that I for sure know that there has been a breach of EU law, since the infringement proceeding is the last step in a long chain of notifications from the Commission. Further, by using infringement proceedings, I can test the independent variables over a relatively large number of cases, thus enabling generalizations and enhancing the external validity of the study.

Another methodological point needing clarification is the time period in focus of this thesis. The purpose of this thesis is not to explain variation in compliance over time, but rather why some member states breach EU environmental law to a higher degree than others. To answer the question, the focus of this thesis is on the years 2012 to 2016. Although this is a relatively short time period, it is long enough to pick up on several infringement proceedings that provide us with a clear and representative picture of which states are doing well and those doing comparatively worse in terms of compliance. However, it is acknowledged that this only represents a snapshot in time.

4.2 Methodological point of departure

4.2.1 Research design

A comparative research design is found most suitable to answer the research question. A comparison of the member states allows the hypothesis derived from the theoretical framework to be tested through examining cross-national differences and similarities. This mode of analysis is often seen as the *raison d'être* for new comparative politics, and it is believed to contribute to the progressive accumulation of knowledge about the political world (Landman, 2008: 7ff).

When conducting comparative studies, scholars face the decision of choosing between using quantitative or qualitative methods. In essence, quantitative research uses statistical methods, it abstracts from particular instances to seek general descriptions or to test causal hypothesis, and it seeks measurement that are easily replicable by other scholars. Qualitative research on the other hand covers a wide range of approaches, but they usually focus on a small number of cases and none of these

approaches relies on numbers (King et al, 1994: 2f). Quantitative and qualitative research are usually depicted as dichotomous. For the sake of clarity, it should be stated early on that this study falls into the former of these methods. However, it may be worth recalling that this division is a false one since both methods “adhere to the goal of making inferences from available evidence” (Landman, 2008:21), and that all research can be understood to derive from the same underlying logic of inference (King et al, 1994).

To explain cross-national differences with regards to non-compliance on a macro-level, a statistical method is deemed most appropriate. The main underlying assumption of statistical analysis in general is that events and facts in the world exhibit certain distributions, which can be described, compared and analyzed. The comparison of the distributions is carried out to see if a relationship exists between them for the sample. Comparing many countries on the basis of their internal traits moves one step beyond the descriptive level, by testing hypothesis about possible relationships between variables. If there is a relationship between the variables, there ought to be a certain association between the distributions of values for one variable and the distribution of values for another variable (Landman, 2008: 52, 53).

More concretely, the analysis is done by first presenting the values on the independent variable for each member state. Second, I categorize the member states into different groups on the basis on their values with regard to each independent variable. The categorization is done with pragmatism in mind, but with the main aim of simplifying comparison and to systemize the analysis. When this is done, I conduct a bivariate analysis. By quantifying the independent variables and creating scatter plots it becomes possible to, via showing the expected differences in numbers between the different member states, establish the relationship between the independent variables and the dependent variable. The discussion about each scatter plot is based on the previously created groups. When creating the scatter plots, I will also get a coefficient of determination (R^2) – also called “the goodness of fit” – which is a descriptive measurement of how well the units of analysis gather around the regression line. An R^2 of zero means no relation between the variables, while an R^2 of one means that the regression line cuts through all units of analysis. However, one cannot say what is considered as a high or low R^2 value – that depends on what we can expect from earlier research and on the scholar’s own judgement (Teorell & Svensson, 2007: 177). Finally, each section ends with a Pearson correlation test which determines whether the relation that is expected to exist is statistically significant, that is, not the result of chance.

An obvious shortcoming of a bivariate analysis is that it is only possible to see that there is a relationship between the variables, but not the direction of the relationship. However, given that I regard one variable as dependent and the others as independent, and that there is support for the causal criteria, a bivariate analysis and correlation tests gives me sufficient information to be able to say something about the explanatory weight of the included independent variables (Teorell & Svensson, 2007: 177). Moreover, it is certainly true that “correlation is not causation” (King et al, 1994: 75). However, given that the derived hypotheses have a firm base in theory, the indicators are reliable, and that the findings are being compared with earlier research, there are good conditions to draw certain causal inferences. As King and colleagues argue, “our

uncertainty about causal inferences will never be eliminated [...] but this uncertainty should not suggest that we avoid attempts at causal inference” (ibid: 76). Rather, the most important thing is to provide the reader with the best and honest estimation of the uncertainty of the inferences (ibid).

4.2.2 Case selection

A basic rule in terms of case selection is that it should allow for the possibility of some variation on the dependent variable (King et al, 1994: 129). Accordingly, to explain differences with regards to non-compliance with EU environmental law, one needs to include both member states that are doing well and those which are doing comparatively worse in terms of compliance. To meet this requirement, I have not made any case selection at all, meaning that this thesis will incorporate all EU member states, apart from Croatia. The decision to not include Croatia is made because it only joined the EU in 2013 and therefore does not yet provide for a large transposition record, given the conventional transposition deadline of two years after the adoption of the directive, which in Croatia’s case is 2015.

A comparison of the EU-27 in terms of compliance, on the basis of the independent variables, mitigates any problems in terms of a potential selection bias which easily emerges when choosing cases on the dependent variable (Landman, 2008: 36f). Moreover, the selection of the EU-27 in the sample aims to correct a shortcoming observed by Angelova and colleagues that studies on compliance with EU law rarely include both complying northern European states and non-complying southern European states (Angelova et al, 2012).

Further, by including all member states one allows for stronger inferences, since a given relationship can be demonstrated to exist with a greater degree of certainty, compared to if one has just included a couple of member states. The inclusion of relatively many cases also makes it possible to draw inferences that have more general applicability (Landman, 2008: 27ff).

4.3 Operationalization of the variables – indicators

Since this thesis focuses on the macro level of compliance, comparing many countries at once, it requires a higher level of abstraction in its specification of concepts compared to studies with few cases (Landman, 2008: 20). It is acknowledged within political science that concepts such as power and efficiency are by nature highly difficult to measure. This in turn increases the risk for conceptual stretching, leaving them without meaning and precision. To be able to measure these concepts, I will introduce proxy variables, which admittedly is not without any methodological problems. The main weakness of using proxy variables is the crudeness of the measurement, meaning that it generally only captures one aspect of the social scientific concept. However, the risk of stretching the concepts in this study is mitigated by

being as transparent and intersubjective as possible throughout the operationalization, thus allowing for critique regarding the choices made, which in turn enhances the validity of the study (ibid.).

4.3.1 Measuring issue salience

As mentioned in sub-section 3.3.1, the theory stipulates that the more salient environmental problems are in a member state compared to other issues, the less likely it is to breach EU environmental law.

I follow the example set by Spendzharova and Versluis' (2013) by using the Eurobarometer surveys to capture the salience of environmental issues for the general public. The surveys, which consists of approximately 1000 face-to-face interviews conducted throughout each member state, are published twice a year, which adds up to eight surveys in total between 2012 -2016. The question asked in the surveys is "What do you think are the two most important issues facing (our country) at the moment?" (EC, 2012a; 2012b; 2013a; 2013b; 2014a; 2014b; 2015a; 2015b; 2016a; 2016b). The interviewees are asked to choose two policy areas out of 15, one of them being "the environment, climate and energy issues". The question is framed in the same way during all the researched years, which is why it is comparable across the selected time period. The relative salience of environmental issues is arguably a better measure than the absolute, since decision-makers do not have infinite resources, which is why they have to focus on the areas that their constituent consider most important.

Since this thesis does not aim at explaining difference in compliance across time, but rather why non-compliance differs between EU member states, it would be cumbersome and not particularly useful to present the public opinion numbers for each member state, for each specific year. Instead, I have calculated a mean value of issue salience for the period 2012 - 2016. This is possible since the time period investigated is relatively short, and the number for each member state is relatively stable for each year. However, for the sake of transparency, intersubjectivity and replicability, the numbers for each year are presented in the annex.

I should mention that there could be a possible time lag between issue salience and compliance with EU environmental law, meaning that issue salience probably does not have an instant effect on how member states comply with EU law, as political processes usually are slow. Ideally one would measure the salience of environmental issues a couple of years before 2012 in order to capture the possible time lag. However, this is not possible since the categories that the interviewees choose from changed in 2012, making it unfeasible to compare the newer Eurobarometer surveys with the ones published before 2012. This is indeed unfortunate, but a possible time lag should not be a major issue since there are no indications that the numbers in the years before 2012 would have been drastically different from 2012-2016, considering that the numbers are relatively stable throughout the researched time period.

4.3.2 Measuring EU-specific political power

As discussed in sub-section 3.3.2, it is assumed that the EU-specific political power of a member state affects its compliance record, even though it is difficult to know the direction of the relationship on beforehand.

The EU-specific political power, that is, the power distribution within the Council, is measured through the Shapley and Shubik Index (SSI). The SSI is one of the most well-known power indexes, which offers a method of *a priori* evaluate the division of power among members of legislative bodies. The Shapley value is applied to what in mathematical theory are known as simple games. The idea is that the member states in the Council can be regarded as “players” in a game. Voters arrive in a random order, and when a coalition turns winning, the full credit is given to the last arriving, pivotal player. All the different ways in which a voter arrives is taken into consideration. A player’s power is thus defined as the proportion of orders when it plays a pivotal role in turning a coalition into a winning one. Consequently, the SSI shows that if a decision is made, what probability a specific player has in being instrumental to making that decision (Petroczy et al, 2016). Thus, the index is a function of the number of votes and the majority threshold.

The data is retrieved from a study conducted by Antonakakis et al (2014) who has calculated the proportion of times when a member state is pivotal under direct majority voting (DMV⁴). The sum of the values of this index for all the member states amounts to 100. An advantage of using the SSI is that it also captures population, since the number of votes that a member state has is based on the size of its population (Börzel et al, 2007: 7).

4.3.3 Measuring government autonomy

Government autonomy has previously been operationalized in different ways. Some previous scholars have categorized the member states into two groups by themselves – one with federal states and one with unitary states – to investigate the relationship between government autonomy and compliance with EU law (Haverland & Romeijn, 2007). However, I would argue that such a measurement is too crude, since it does not capture the nuances of government autonomy. Instead, I follow the example set by Mbaye (2001) using the Regional Authority Index (RAI) as a proxy variable for government autonomy. Regional authority and government autonomy are seen as two sides of the same coin, meaning that the more authority the regions enjoy in a specific member state, the less government autonomy there is.

The RAI is an index comprising measurements of the authority of regional governments in all the member states, over the period 1950-2010 (Hooghe et al, 2016). Even though the index does not include the time period in focus of this thesis, the figures for 2010 are likely to be stable until 2016, given that regionalization is a very

⁴ DMV is a form of qualified majority voting (QMV) that was introduced after the ratification of the Lisbon Treaty. Any decisions taken under the DMV requires support from 55 per cent of the member states, which in turn must represent 65 per cent of the citizens.

slow process, and that the numbers for the member states have been very stable throughout the 2000s (Hooge et al, 2016). Regional autonomy is measured along ten dimensions: institutional depth; policy scope; fiscal autonomy; borrowing autonomy; representation; law making; executive control; fiscal control; borrowing control and constitutional reform. The index presents a possible summary score between 0 and 40 for each member state, where zero means no regional authority, and 40 means full regional authority.

The decision to use the RAI is arguably open to criticism, since a lack of government autonomy is not relevant in cases where the central government is fully responsible for adopting transposing laws and where the federal chamber does not hold veto power (Trieb, 2014: 26). However, earlier research has found that the regions are highly involved in the implementation of directives in Belgium, Germany, Portugal, the Netherlands, Spain, Italy and Austria (Borghetto & Franchino, 2009). All of them have been given a high score according to the RAI index. Consequently, even though the results should be interpreted with a certain degree of caution, I consider the RAI index to be a valid indicator.

4.3.4 Measuring administrative efficiency

The concept of administrative efficiency is not used uniformly in the literature and the operationalization differs significantly between studies. In this thesis, it is deemed necessary to use two indicators for this variable, both of them which are prominent in the academic literature, in order to capture both political capacity limitations and economic capacity problems (as discussed in section 3.2.3). The indicators used are GDP per capita and government effectiveness.

The first one – GDP per capita – is a general measure for the financial resources on which member states can draw to ensure compliance, which is especially relevant within the environmental area where compliance tends to be costlier compared to other policy areas (Börzel et al, 2007: 9). As previously discussed, resource limitations may directly hamper a member state's compliance efforts and macro-economic factors are important by setting the economic and political framework in which public and private actors operate (Tallberg, 2002: 613). The data is retrieved from the World Bank's "World Development Indicators" and is measured in current US dollars (World Bank, 2017). To be able to capture a possible time lag between GDP per capita and compliance with EU law, I have calculated an average from 2010 - 2016. One could of course discuss whether these two additional years really capture the possible time lag. However, pragmatism is practiced, and since the numbers are relatively stable there is nothing to suggest that measuring this indicator even earlier than 2010 would affect the outcome of the study. For the sake of transparency, the number for each year is presented in the annex.

The other indicator used is "government effectiveness", which is retrieved from the Worldwide Governance Indicators (WGI, 2017a). The WGI project is based exclusively on subjective or perception-based measures of governance, taken from surveys of households and firms, as well as assessments produced by various organizations. It reports composite indicators of six dimensions of governance,

covering 200 countries since 1996, and it is updated annually. Each member state has been given a score between - 2,5 (weakest governance performance) and + 2,5 (strongest governance performance). However, I have transformed the scale so it ranges from 1 to 5 instead to produce a positive index, which does not change anything in substance. An average score between 2010 - 2016 is calculated in order to capture a possible time lag, but the numbers for each specific year is presented in the annex.

The underlying rationale of including this indicator is that even though a state has the sufficient resources to comply with EU law, it might not have the efficient machinery to pool and coordinate these resources. Government effectiveness captures “perceptions of quality of services; the quality of civil service and the degree of its independence from political pressures; the quality of policy formulation; and the credibility of the government’s commitment toward such policies” (WGI, 2017 b).

Lastly, the government effectiveness index correlates to a very high degree with the Transparency International “Perceived Corruption Index” (Pearson correlation coefficient of 0,938), which is why perceived corruption has not been included in the analysis.

5 Explaining cross-national differences

In this chapter, I provide an analysis of the effects of the independent variables on the dependent variable. The analysis is structured and the variables are operationalized in accordance with the methodological framework laid down in the previous chapter. Following the analysis of each variable, a final section, 5.5, deals with the combined weight of the included variables.

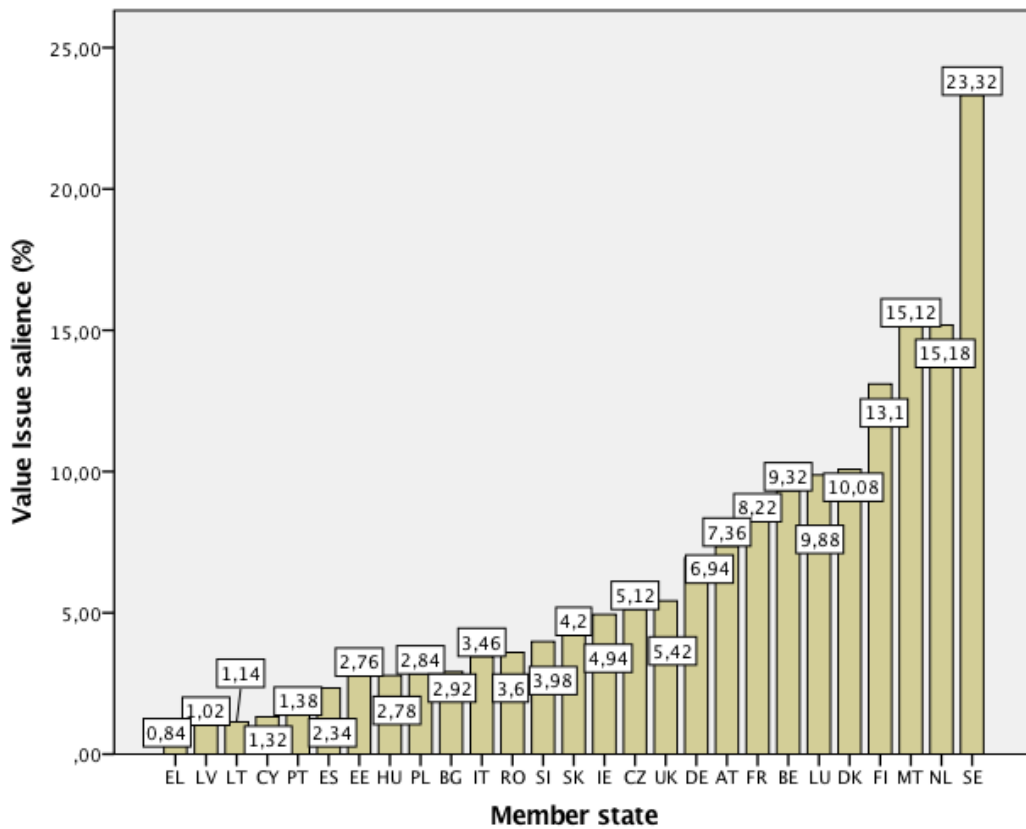
5.1 Issue salience

As stated in section 3.3.1, it is predicted that the more salient environmental issues are in a member state, the less likely it is to breach EU environmental law.

Below, I have constructed a bar chart to display the average salience of environmental, climate and energy issues in EU-27 between 2012-2016, measured in per cent. As seen from the chart, there are big differences between the member states in terms of how much weight the citizens attach to environmental issues. The mean value is 5,7 per cent⁵. The rather high mean value is probably the result of the fact that Sweden stands out as a clear outlier, with as much as 23,32 per cent of the population that consider environmental, climate and energy issues to be one of the two most important issues facing their country at the moment. Interestingly – and perhaps a bit counterintuitive – environmental, climate and energy issues are highly salient in Malta, which is likely to stem from its high import dependency on energy (EC, 2015c). On the other extreme end one finds Greece, Cyprus, Latvia and Lithuania where approximately one per cent of the population considers environmental, climate and energy issues to be of top importance for their country.

⁵ Five per cent trimmed mean.

Figure 3. Salience of environmental, climate and energy issues (per cent)

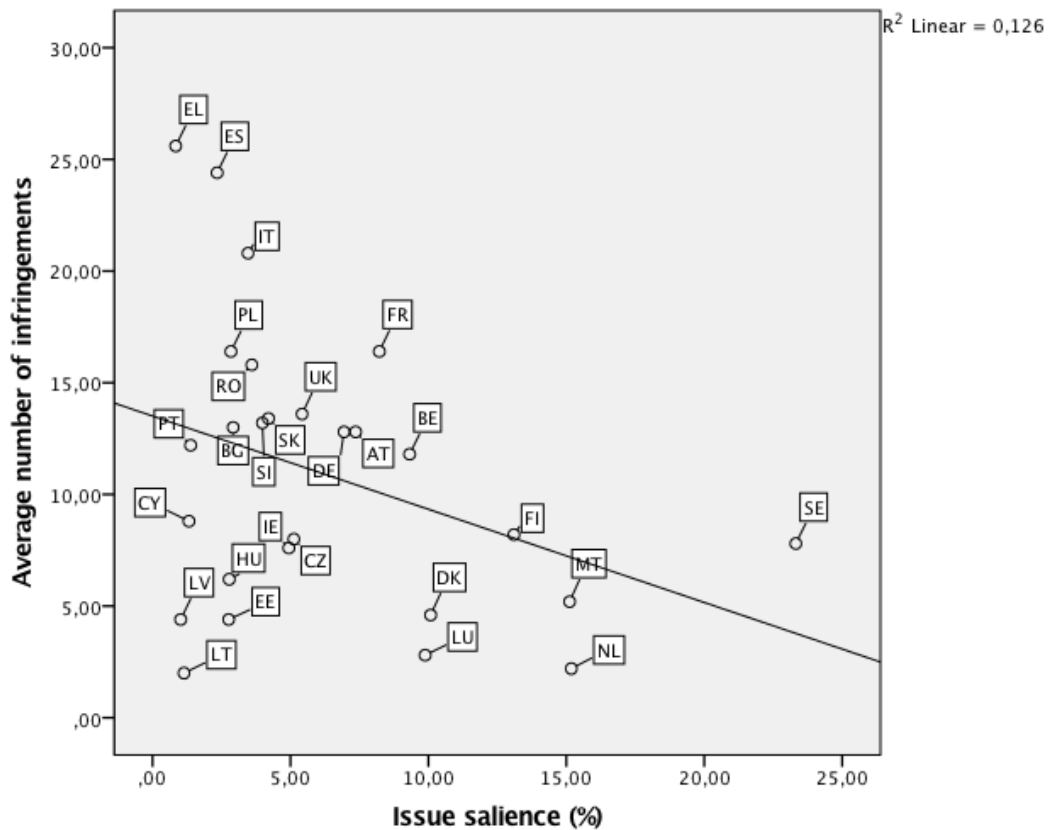


Source: Author's own compilation from EC, 2012a, 2012b, 2013a, 2013b, 2014a, 2014b, 2015a, 2015b, 2016a, 2016b

Based on the bar chart, the member states can roughly be divided into three groups to simplify comparison and allow for a systematic analysis. Group number one includes the member states where **less than five** per cent have mentioned environment as one of the two most important issues facing their country (low salience). Group number two contains the states where **five to ten** per cent have mentioned environment (moderate salience). Lastly, group number three includes the member states where **ten or more** per cent have mentioned environment as one of the two most important issues (high salience).

After having retrieved and presented the data for the salience of environmental, climate and energy issues in each member state, it is now time to investigate the relationship between this variable and our dependent variable: the average number of infringements between 2012-2016. This is done through a simple scatter plot with the dependent variable on the Y-axis and the independent variable on the X-axis. The result can be seen below:

Figure 4. Scatterplot of average salience of environmental, climate and energy issues, and average number of infringement proceedings



Source: Author's own compilation from EC, 2017e, and EC, 2012a; 2012b; 2013a; 2013b; 2014a; 2014b; 2015a; 2015b; 2016a; 2016b.

As can be seen from the scatter plot, the picture is rather mixed. Judging from the downward regression line, there seems to be a slight negative correlation between the average number of infringements and issue salience. In other words, the more people care about the environment in a certain member state, the fewer infringements of EU environmental law occur. However, the relationship seems to be rather weak, which can be seen from the coefficient of determination (R^2) of 0,126, meaning that 12,6 per cent of the variance on the dependent variable can be explained by the independent variable – issue salience.

5.1.1 Group 1 (low salience)

Group number one arguably challenges the first hypothesis. Even though these member states do not consider environmental issues as salient, there are considerable intra-group differences in terms of non-compliance. For instance, environmental issues are equally salient in Spain, Greece, Italy and Poland as in Latvia, Lithuania and Estonia. Despite this, these states have completely different compliance records, with Spain, Greece, Italy and Poland being the worst laggard states, whilst the Baltic states

are among the best compliers. Judging from this group of member states, it seems as if issue salience does not have a substantial effect on compliance with EU environmental law.

5.1.2 Group 2 (moderate salience)

The second group, ranked as environmentally more aware, also shows a mix of compliance. While Luxembourg and Czech Republic have compliance records that could be expected given that the environment is a quite salient issue in these member states, the cases of France, Germany, Belgium and the United Kingdom, being among the worst laggard states, blur the picture.

5.1.3 Group 3 (high salience)

The third group incorporates Sweden, The Netherlands, Malta, Finland and Denmark. This group seems to provide certain support for the hypothesis that issue salience matter for compliance, since all of these states has less than the average 10,5 infringement proceedings per year. However, while Sweden is a clear outlier in terms of the high percentage of the population that consider environment important, it does not comply with EU environmental law substantially better than many of the other member states.

5.1.4 Bivariate (Pearson) correlation

The mixed picture is confirmed when looking at the results from the bivariate correlation test. The result shows that there is a negative correlation of 0,311. However, the result is not statistically significant, meaning that one cannot be sure that the correlation is not the result of chance. Judging from the analysis above and the correlation test, there is little evidence that support the hypothesis that issue salience affects member states' compliance with EU environmental law.

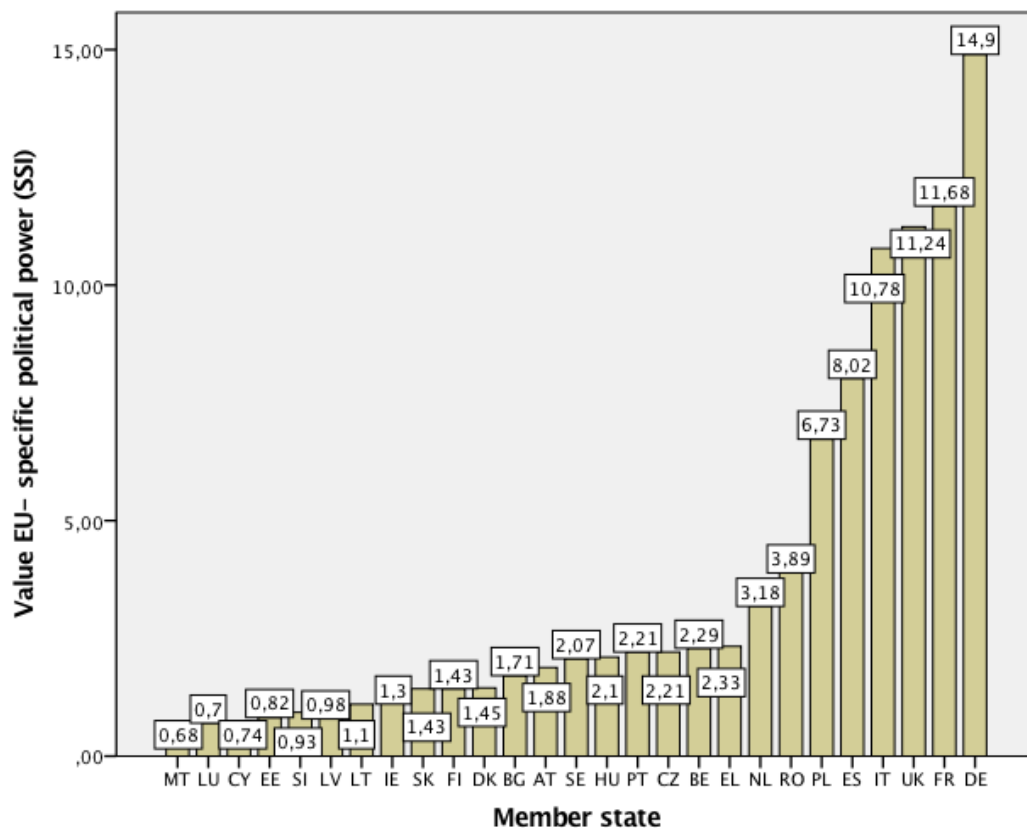
Correlations

		Infringement proceedings	Issue salience (%)
Infringement proceedings	Pearson Correlation	1	-,311
	Sig. (2-tailed)		,070
	N	27	27

5.2 EU-specific political power

As mentioned in 3.3.2, I assume that member states' EU-specific political power affects their compliance record. However, it is difficult to say anything about the exact relationship between political power and compliance, since the different theoretical approaches contradict each other. One variant of the enforcement approach suggests that politically powerful member states are less sensitive to external pressure and sanctions, which is why they are more likely to infringe EU law. The other variant posits that the adaptation cost is smaller for the more politically powerful member states. Hence, one would expect the politically powerful states to breach EU law less frequently than weaker states. However, before I can go and examine the relationship between the independent and dependent variables, I must first identify how powerful the member states are according to the Sharply-Shubik index. The bar chart below shows how much EU-specific political power each member state has.

Figure 5. Member states' EU-specific political power



Source: Author's own compilation from Antonakakis et al, 2014

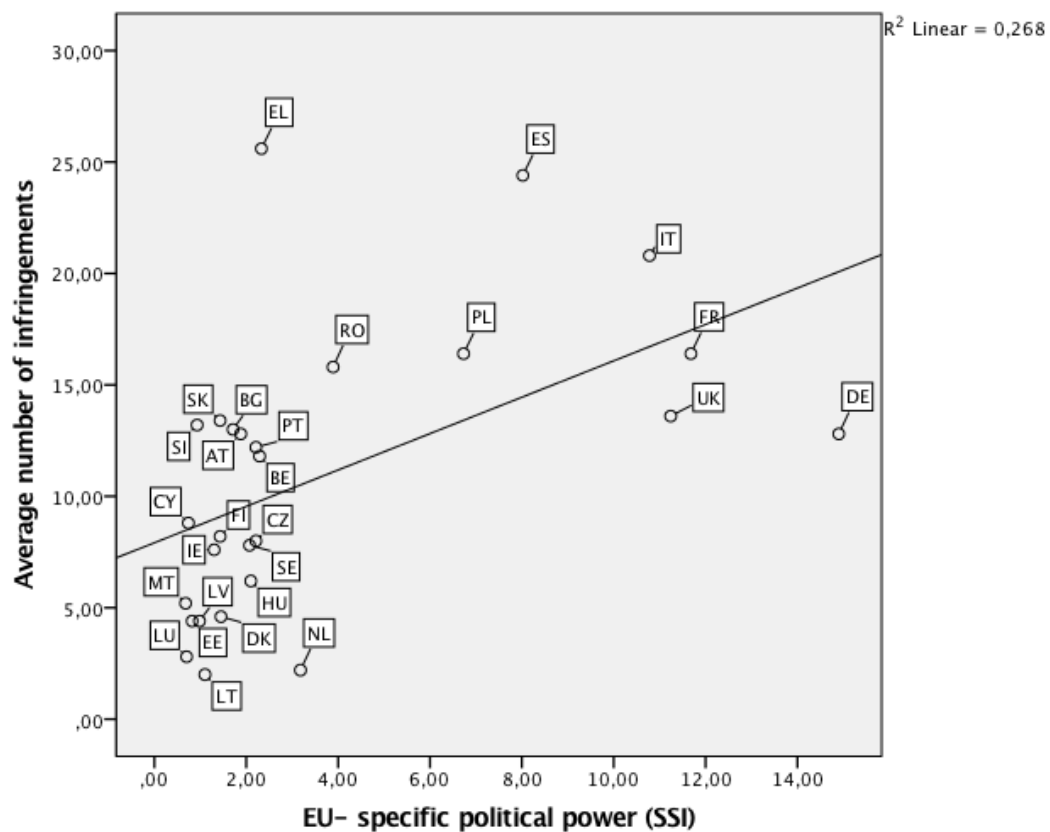
As one can see from the chart, the political power in the Council is, unsurprisingly, not evenly distributed among the member states. Germany, France, the United Kingdom,

Italy and Spain together comprise over 50 per cent of the total amount of political power in the Council. On the other side of the spectrum, the smallest member states – Cyprus, Estonia, Latvia, Luxembourg and Slovenia – do not even comprise five per cent of the amount of the power.

Also in this case, I have categorized the member states into groups to simplify comparison. Group number one contains the less politically powerful member states with a SSI score of **less than 3,5** and group number two consists of the comparatively more powerful member state with a SSI score of **more than 3,5**.

After having collected data and assigned a value on the independent variable for each member state, the dependent variable is introduced once again to establish the relationship between the variables. Yet again, I have constructed a scatter plot with the dependent variable on the Y-axis, and the independent variable on the X-axis.

Figure 6. Scatterplot of EU-specific power and the average number of infringement proceedings



Source: Author's own compilation from EC, 2017e and Antonakakis et al 2014.

The scatter plot provides some interesting findings: It would appear that there is a positive correlation between infringements and political power. This means that the more powerful a member state is, the more it tends to breach EU environmental law. Considering the coefficient of determination of 0,268 – meaning that 28,6 per cent of the variance in infringements could be explained by member states political power – this variable seems to carry certain explanatory weight.

5.2.1 Group 1 (less politically powerful)

Interestingly, this group contains all the best compliers with EU environmental law and almost all member states that are complying to a medium degree. This suggests that in general, the politically weaker member states are rather successful in complying with EU environmental law. However, as can be seen in the scatter plot, there are also states that breach EU environmental law more than the average 10,5 times per year, namely Slovenia, Slovakia, Austria, Bulgaria, Portugal and Belgium. Moreover, there is one clear outlier also in this case – Greece. Greece has a SSI score of 2,33, which is approximately the same as the Czech Republic, but in contrast to the Czech Republic's 8 infringements per year, it has an average of 25,6 infringements per year which makes it the worst laggard state. This stands in contrast to what the theory stipulates, which could possibly be explained by what is commonly called the “Mediterranean syndrome”. This means that even though Greece with its weak political power would have the political will to comply, it fails due to its expected low level of socio-economic development, and lack of administrative capacity to effectively implement environmental policies (Börzel, 2003: 30). This is tested in section 5.4.

The analysis of the first group thus suggests that political power seems to carry certain explanatory weight, even though it cannot explain the full range of the cross-national differences with regards to non-compliance.

5.2.2 Group 2 (more politically powerful)

The second group comprises the more powerful member states, with a SSI score of more than 3,5. These states are, in a hierarchal order from the least to the most politically powerful: Romania, Poland, Spain, Italy, the United Kingdom, France and Germany. All of these member states breach EU environmental law more than the average 10,5 times per year. In fact, this group contains four out of the five worst laggard states, which gives further evidence to the hypothesis that member states' political power in the Council affects the level of compliance with EU environmental law. However, one should note that even though Germany and the United Kingdom have plenty of political power, they are complying approximately to the same degree as the worst performers in group number one, which arguably blurs the picture somewhat.

5.2.3 Bivariate (Pearson) correlation

The bivariate correlation test confirms the positive correlation found in the scatter plot. The test shows that there is a correlation of 0,529 between member states' political power and compliance record, which in this context could be considered as a rather strong result. More importantly however, the test shows that the relation found is significant on a 0,01 level, meaning that the correlation is not likely to be the result of chance.

Correlations

		Infringement proceedings	EU- specific political power (SSI)
Infringement proceedings	Pearson Correlation	1	,529**
	Sig. (2-tailed)		,005
	N	27	27

** . Correlation is significant at the 0.01 level (2-tailed).

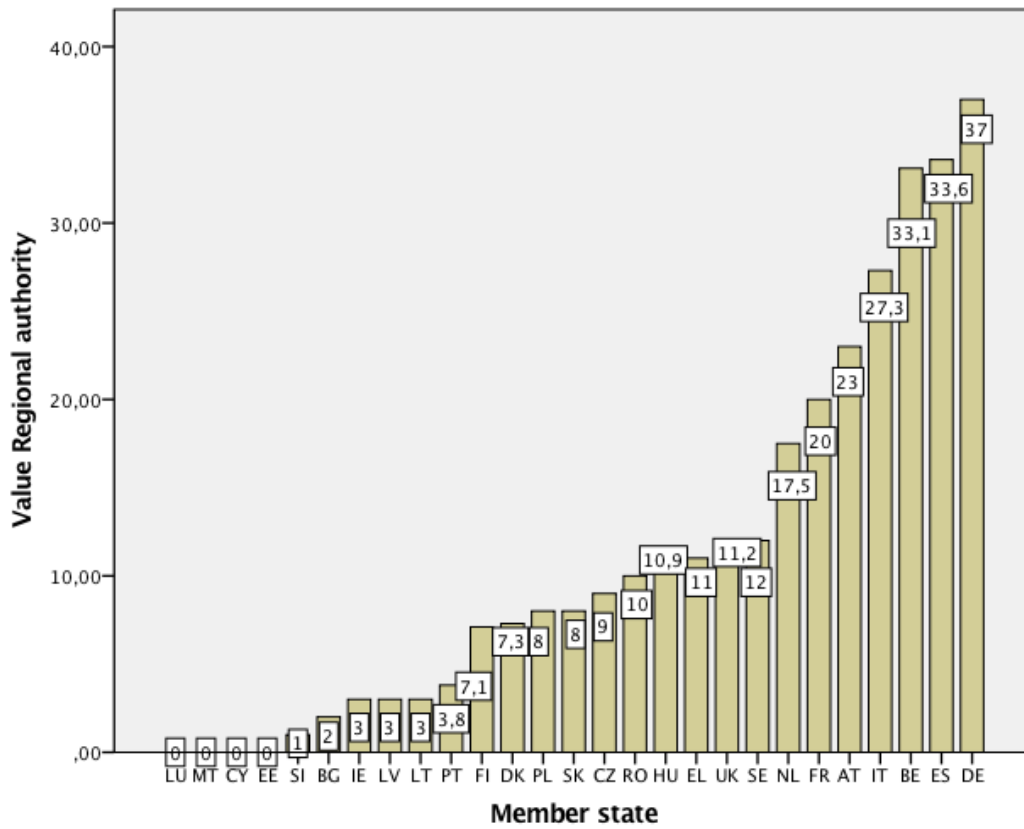
From the findings of this variable one can conclude that it seems to be able to explain some of the variance on the dependent variable, given that the member states in group one in general uphold a better compliance record than the member states in the second group. However, there are exceptions to the rule, most notably Greece. Hence, I have found certain support to the hypothesis that member states' political weight translates into indifference, or even resistance vis-à-vis external pressure from the Commission and other member states. Even though political power alone does not seem to explain the full picture of non-compliance, this analysis has demonstrated that it is possible to reject the assumption that politically powerful member states are complying to a higher degree due to their success in the legislative process.

5.3 Government autonomy

As stated in section 3.3.3, some member states are dependent on their relatively autonomous regions for the implementation of European policies, which complicates the process. Hence, it is assumed that these countries breach EU law more often than member states with a high level of government autonomy.

Below I have created a bar chart based on the Regional Authority Index (RAI). Not surprisingly, the federal state of Germany has the highest RAI score, followed by Spain which is not officially a federal state, but is still highly dependent on its regions (Börzel, 2003: 29). On the other end one finds the smaller member states such as Luxembourg, Malta, Cyprus and Estonia, where one can assume that their small size makes a high degree of regional authority unfeasible.

Figure 7. Member states' degree of regional authority (RAI)

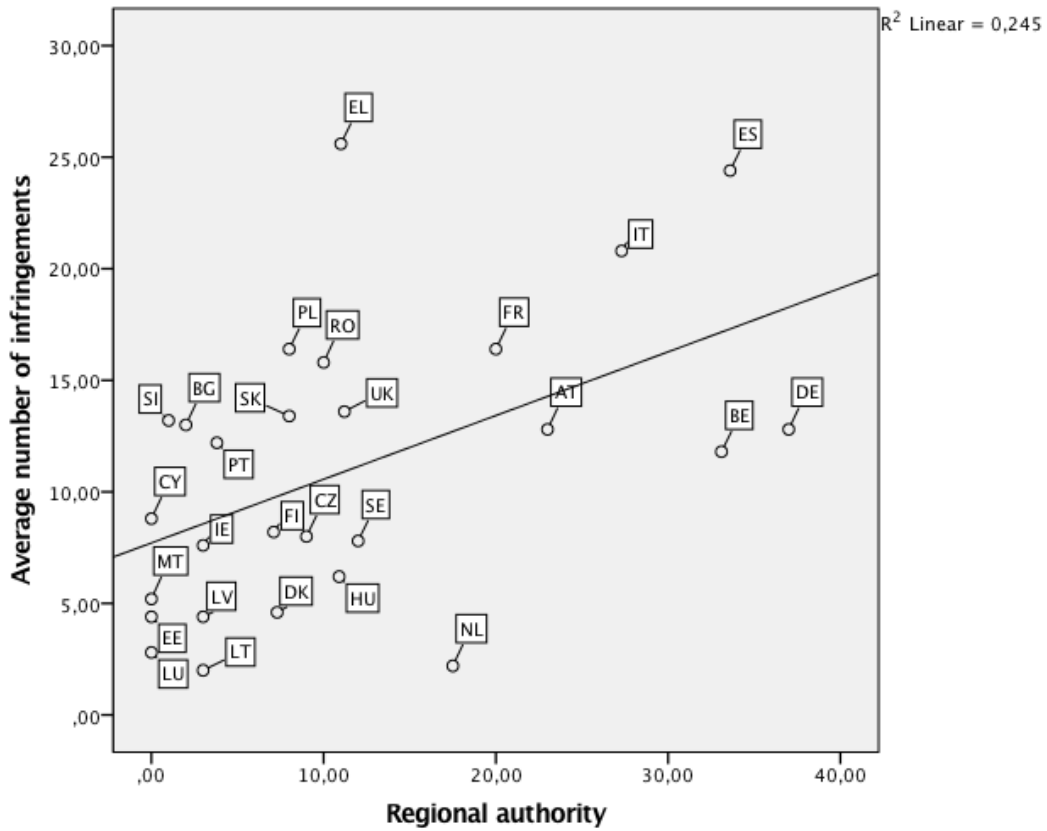


Source: Author's own compilation from Hooghe et al, 2016.

Once again, the member states can be split into three groups based on their RAI score to simplify comparison. The first group contains the member states with a low degree of regional authority, with a score from **one to six**. The second group contains the member states with a medium degree of regional authority, with a score from **seven to 12**. The third and last group comprises the federal and semi-federal states, with a score of **more than 12**.

The dependent variable is again introduced using a scatter plot:

Figure 8. Scatterplot of the degree of regional authority (RAI) and the average number of infringement proceedings



Source: Author's own compilation from EC, 2017e and Hoogbe et al, 2016.

As can be seen from the scatter plot there is a positive relationship between regional authority and infringements, that is, the more regional authority a member state has, the more it tends to breach EU environmental law. Contrariwise, the more government autonomy a member state has, the less it tends to breach EU environmental law. The member states are rather neatly organized around the regression line with some exceptions, and the coefficient of determination of 0, 245 indicates that there is a decent correlation between the two variables.

5.3.1 Group 1 (high government autonomy)

Group number one comprises the member states with a RAI score from zero to six, and subsequently the member states with the highest government autonomy. This group gives certain support to the hypothesis since it includes many of the best compliers, including the Baltic states, Luxembourg, Malta, Ireland and Cyprus. Although the member states in this group arguably comply substantially in general, an explanation solely based on government autonomy fails to provide a full explanation since it also includes member states which breach EU law more than average, namely Portugal, Bulgaria and Slovenia.

5.3.2 Group 2 (moderate government autonomy)

The second group includes the member states with a RAI score of seven to 12, that is, the member states with moderate government autonomy. This group also gives certain support to the hypothesis, since it seems as if the member states in this group in general comply to a lesser extent than the ones in the first group. However, the picture is not clear-cut since the group includes both member states that breach EU law less than average and more than average. Greece is an outlier once again, and the theory fails to explain why it has such a high degree of non-compliance, given that it has roughly the same government autonomy as Hungary, but with a substantially higher number of infringements.

5.3.3 Group 3 (low government autonomy)

Group number three gives a rather mixed picture. It contains two of the worst compliers – Spain and Italy – which gives certain support to the hypothesis. Moreover, France, Germany, Belgium and Austria breach EU environmental law more than average. However, they are doing better in terms of compliance compared to many of the member states in group number two, which makes it difficult to draw any far-reaching conclusions. This could possibly be explained by these member states' higher level of government effectiveness (see section 5.4). Interestingly, there is one clear outlier in this case, namely the Netherlands. The Netherlands has a fairly low degree of government autonomy, yet it manages to sustain a high degree of compliance. If this variable alone was to explain compliance, this would not have been the result. This indicates that other variables might affect member states' compliance records.

5.3.4 Bivariate (Pearson) Correlation

As can be seen from the correlation test, there is a positive correlation between regional authority and infringements, with a Pearson's r of 0,518, which indicates a rather strong correlation. This is in line with the theory, since I assume that regional authority and government autonomy are each other's opposites. Hence, there is a negative correlation between government autonomy and infringements. It is important to note the correlation is significantly different from zero at the 0,01 level, meaning that the correlation found is not the result of chance.

Correlations

		Infringement proceedings	Regional authority
Infringement proceedings	Pearson Correlation	1	,518**
	Sig. (2-tailed)		,006
	N	27	27

** . Correlation is significant at the 0.01 level (2-tailed).

To conclude, it seems as if there is a relation between member states' degree of government autonomy and non-compliance with EU environmental law. The analysis shows that member states which are relatively more dependent on their regions in general have a more difficult time complying with EU environmental law, compared to the member states with a high degree of government autonomy. Previous research on the EU-12 and EU-15 compliance with EU law within other policy areas have come to similar conclusions, that regionalization and federalism contribute to transposition and compliance problems (cf. Mbaye, 2001; Haverland & Romeijn, 2007; Borghetto & Franchino, 2010).

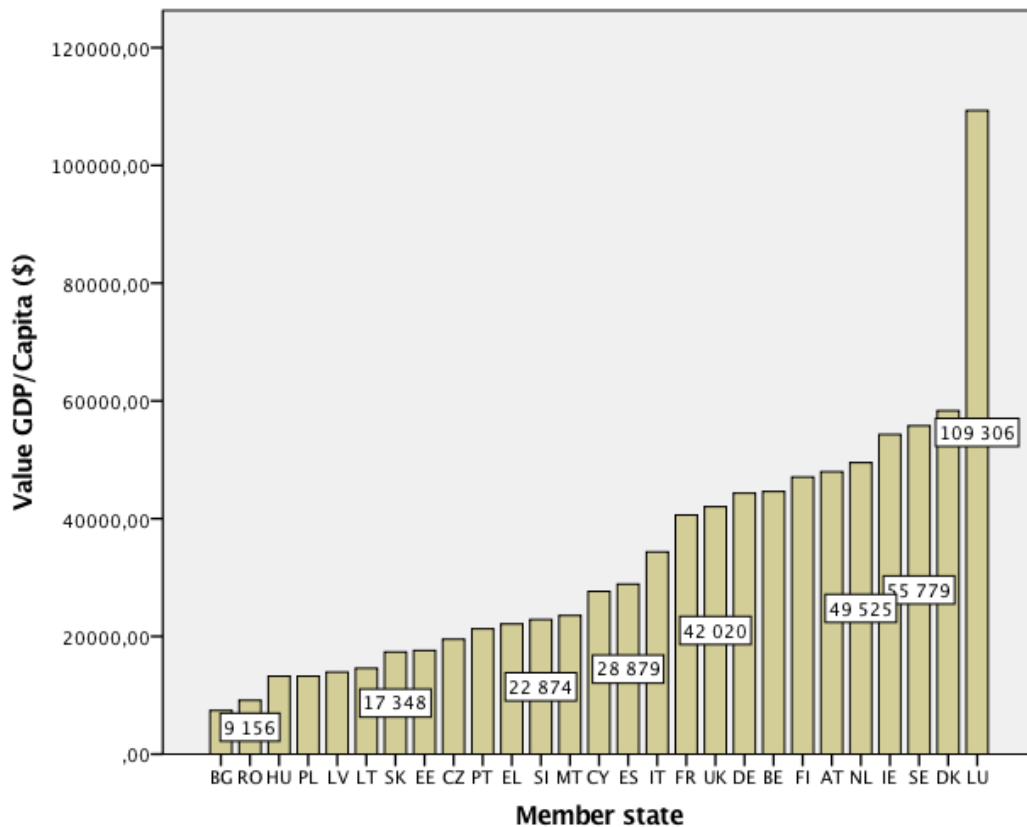
5.4 Administrative efficiency

As mentioned in section 4.3.4, administrative efficiency is measured via two indicators – GDP per capita and government effectiveness. The former is a general measure for the financial resources on which member states can draw to ensure compliance, whereas the latter one is a measure on a state's capacity to pool and coordinate these resources

5.4.1 GDP per capita

The data for the GDP per capita in current US dollars is retrieved from the World Bank's "World Development Indicators", and an average has been calculated from 2010 - 2016 in order to capture a possible time lag between GDP per capita and compliance with EU environmental law. As one can see from the bar chart below, the GDP per capita differs significantly between the different member states, with the poorest member state being Bulgaria with an average GDP per capita of \$ 7415 and the richest state being Luxembourg as a clear outlier with \$ 109 306, which is almost twice as much as the second richest member state, Denmark.

Figure 9. Member states' average GDP per capita (\$)

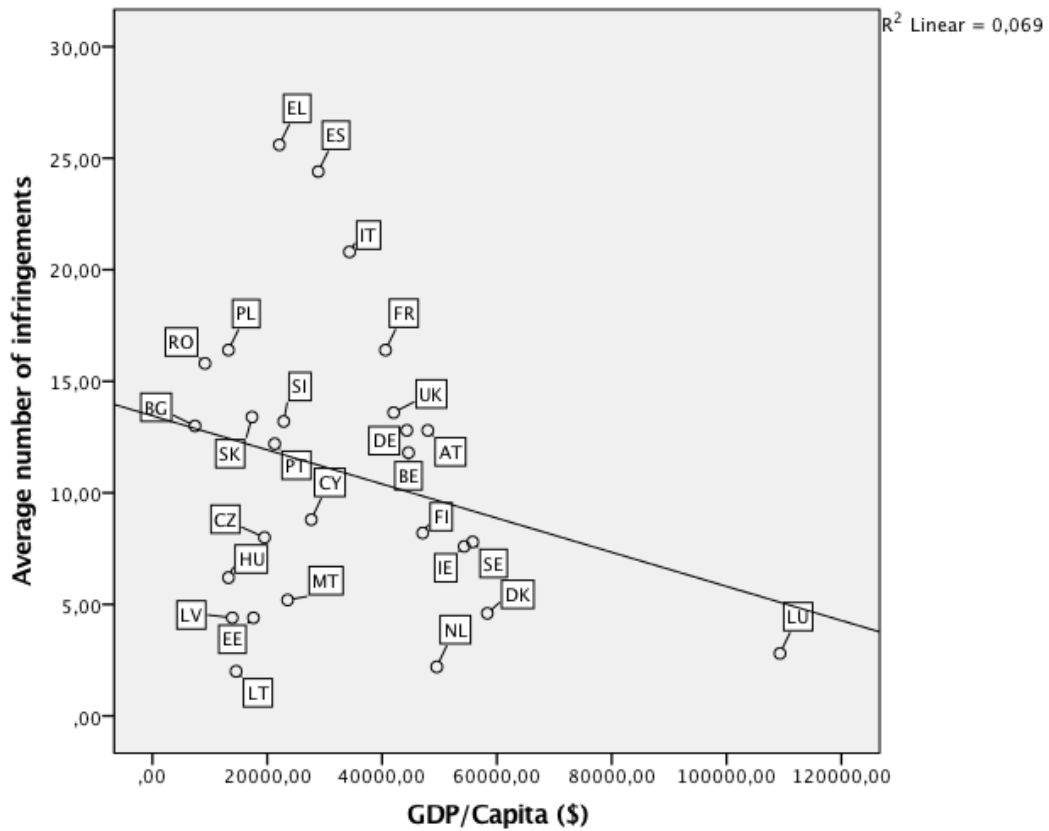


Source: Author's own compilation from World Bank, 2017.

To simplify comparison one can roughly divide the member states into three groups on the basis of their GDP per capita. Group number one comprises the poorer member states which have a GDP per capita of **0 to \$ 20 000** (from Bulgaria to the Czech Republic). Group number two includes the member states with a GDP per capita of **\$ 20 000 and \$ 40 000** (from Portugal to Italy) and the last group consists of the member states with a GDP per capita of **\$ 40 000 or more** (from France to Luxembourg).

After having retrieved data for each member state, I shall now introduce the dependent variables once again through a scatter plot, with the dependent variable on the X-axis and the independent on the Y-axis.

Figure 10. Scatterplot of the average GDP per capita (\$) and average number of infringement proceedings



Source: Author's own compilation from EC, 2017e and World Bank, 2017.

As can be seen from the scatter plot, there seems to be a slight negative correlation between GDP per capita and the average number of infringements. However, the result is far from clear and it is difficult to identify a pattern. This mixed picture is somewhat confirmed by the low coefficient of determination (R^2) of 0,069.

5.4.2 Group 1 (low GDP per capita)

The first group includes the poorer member states with an average GDP per capita of 0 to \$ 20 000. This group includes member states such as Poland, Romania, Bulgaria and Slovakia which are breaching EU environmental law more than average. However, it also includes three of the best compliers – Latvia, Lithuania and Estonia – which makes it difficult to draw any conclusions about the relationship between the variables. All in all, little evidence is found in this group to support the hypothesis that poorer member states are complying to a lesser degree than richer ones.

5.4.3 Group 2 (moderate GDP per capita)

The second group includes the moderately wealthy member states, with a GDP per capita between \$ 20 000 and \$ 40 000. In theory, these member states would comply to a higher degree than the first group. However, that is not the case since this group comprises three of the worst compliers, namely Greece, Spain and Italy, which have about the same GDP per capita as Malta, which is doing considerably better. Hence, neither this group supports the hypothesis since the member states in this group are complying to the same extent, or even less, than the poorer member states in group number one.

5.4.4 Group 3 (high GDP per capita)

The last group contains the richest member states, which have a GDP per capita of more than \$ 40 000. This group does not give further support to the hypothesis either, since it includes the complying Nordic states, the Netherlands, Ireland and Luxembourg, but also states that are breaching EU law more than the average 10,5 times per year, such as France, the United Kingdom, Germany, Austria and Belgium, which in all likelihood have the sufficient financial resources to comply with EU environmental law. I can thus conclude that the picture is at best mixed and there is no clear-cut pattern.

5.4.5 Bivariate (Pearson) correlation

The correlation test shows that there is a weak negative correlation of $-0,245$. However, as can also be seen from the test, the correlation is not statistically significant at the five per cent level, which is expected given the mixed picture in the three previously described groups.

Correlations

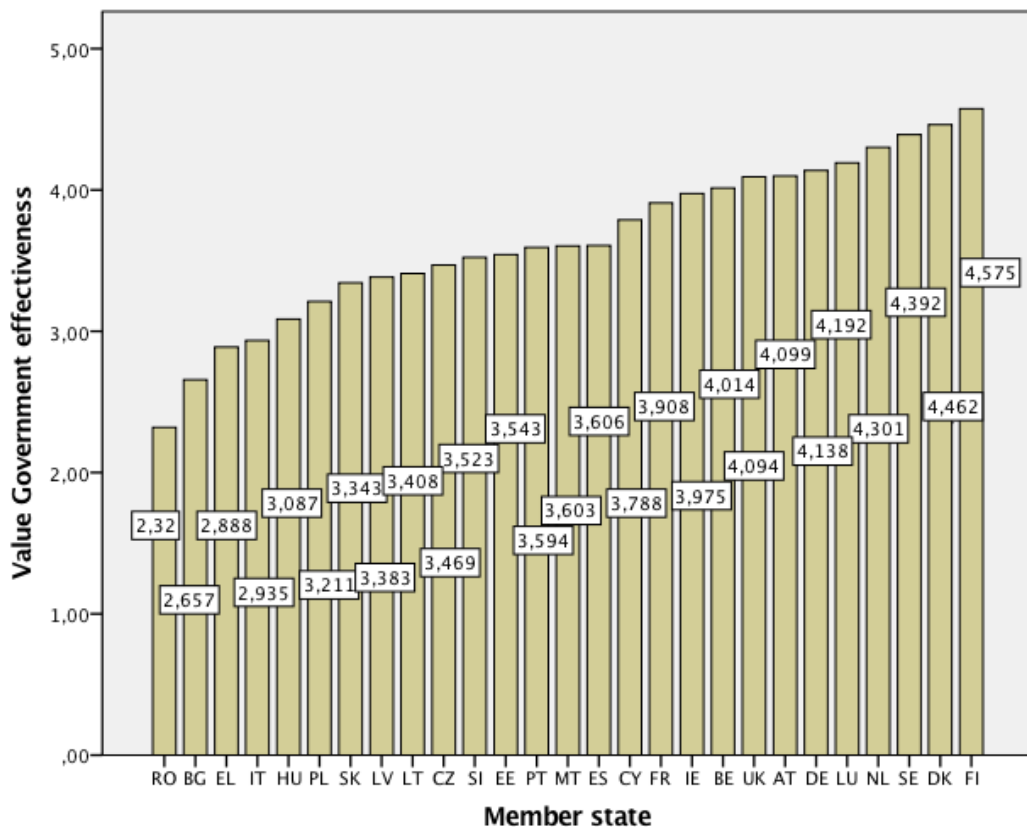
		Infringement proceedings	GDP/Capita (\$)
Infringement proceedings	Pearson Correlation	1	-,245
	Sig. (2-tailed)		,217
	N	27	27

To summarize the analysis of this variable; the financial resources on which member states can draw to ensure compliance does not have a substantial effect on compliance with EU environmental law. This is in line with previous studies on the EU-12 and EU-15, which have equally found that the command of resources appears to be less an issue in the EU (cf. Mbaye, 2001; Börzel et al, 2007; Steuneberg, 2006).

5.4.6 Government effectiveness

Having the theory in mind, I expect a negative relationship between government effectiveness and non-compliance. Below, a bar chart is created based on the member states' government effectiveness. The scoring is based on the Worldwide Governance Indicators (WGI) for the years 2010 - 2016. Interestingly, but perhaps not surprisingly, the top 10 member states in terms of government efficiency are situated in the north - western Europe, whilst the southern (Italy and Greece) and eastern member states (Romania, Bulgaria and Hungary) seem to perform comparatively worse.

Figure 11. Member states' average degree of government effectiveness



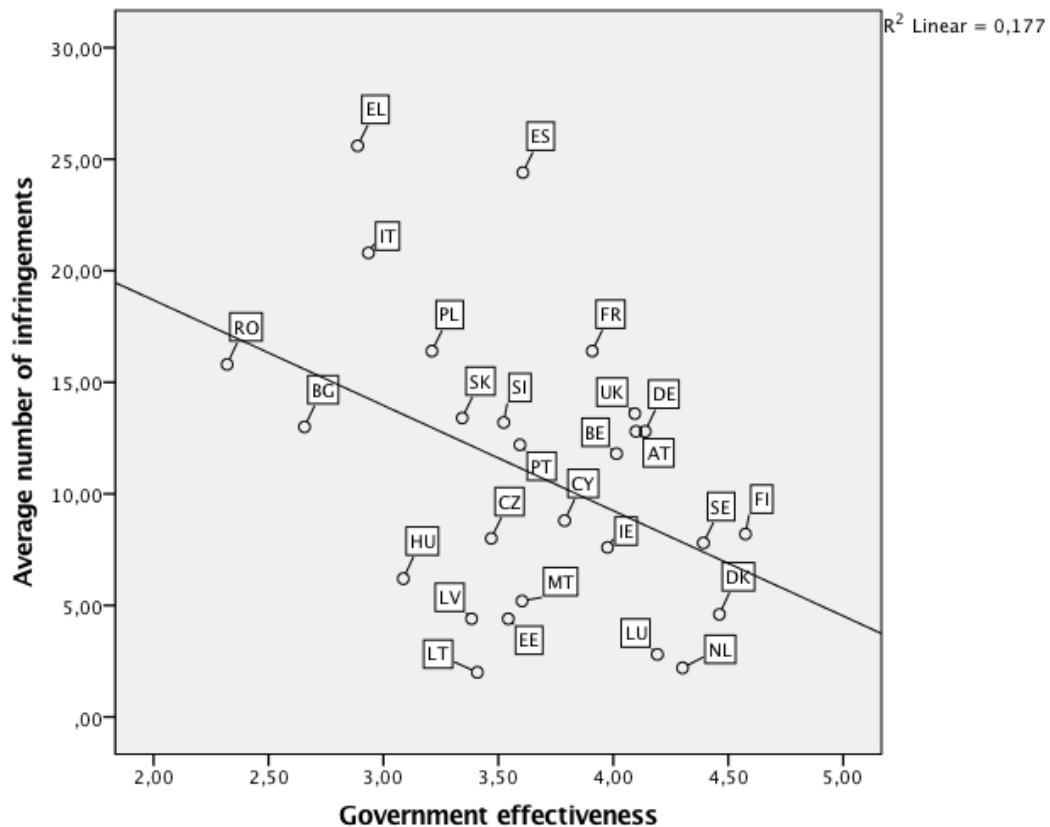
Source:

Author's own compilation from WGI, 2017a.

Also in this case, the member states can roughly be divided into three groups. The first group contains the member states with the weakest governance performance, with a score between **two and three**. The second group comprises the member states with a score between **three and four**, and the third group contains the member states with the strongest governance performance, with a score between **four and five**.

Below, I have created a scatter plot to establish the relationship between government effectiveness and non-compliance with EU environmental law.

Figure 12. Scatterplot of the average degree of government effectiveness and the average number of infringement proceedings



Source: Author's own compilation from EC, 2017e and WGI, 2017a.

The scatter plot indicates that there is a negative relationship between infringements and government effectiveness, meaning that the stronger governance performance, the higher degree of compliance with EU environmental law. This relationship is in line with the hypothesis. The coefficient of determination of 0,177 indicates that the variable seems to account for at least some variance on the dependent variable.

5.4.7 Group 1 (low government effectiveness)

The results from group one is interesting. As can be seen from the scatter plot above, this group contains two of the three worst laggards – Greece and Italy. Hence, this could explain why Greece, with its limited political power and moderate level of government autonomy, is not complying to the same degree as the other politically weaker member states. One could thus theorize that they have the political will to comply, but lack the sufficient administrative machinery.

Moreover, group number one also includes Romania and Bulgaria, both which have a weak governance performance and are breaching EU environmental law more than the average 10,5 times per year. One could thus claim that group number one provides certain support for the hypothesis.

5.4.8 Group 2 (moderate government effectiveness)

Group two consists of the member state with a score between three and four. In general, the member states in this group seem to perform better than the ones in the first group. However, mainly Spain, but also France and Poland blur the picture somewhat. Spain is an interesting case as it seems to do moderately well in terms of governance performance – better than for instance the Baltic states – yet it breaches EU law on average 25 times per year. Hence, this group shows that government effectiveness alone cannot account for all the variance on the dependent variable, given that the Baltic states have a lower governance performance score than Spain and France, but they still comply to a higher degree. Latvia is another interesting case since it is ranked 19th of the 27 member states in terms of government efficiency, yet it outperforms all others in terms of compliance. Hence, theory fails to explain the behavior of the outliers, that is, why most notably the Baltic states have such a high degree of compliance, and Spain and France have such a high degree of non-compliance given their moderate levels of government effectiveness.

5.4.9 Group 3 (high government effectiveness)

Finally, group three comprises the best member states in terms of government efficiency, with a score of more than four. This group includes four countries which breach EU environmental law more than average, namely United Kingdom, Germany, Austria and Belgium, but also several member states that breach EU environmental law less than average. These member states are the Nordic states, Luxembourg and the Netherlands. In general, this group seem to perform better than the other two groups as there are no big outliers in terms of non-compliance. While this group does not support the hypothesis, it does not reject it either.

5.4.10 Bivariate (Pearson) correlation

The bivariate correlation test shows that there indeed is a negative correlation between the average number of infringements and government effectiveness. The coefficient of determination of -0,418 indicates that it is a decent correlation, which is also statistically significant.

Correlations

		Infringement proceedings	Government effectiveness
Infringement proceedings	Pearson Correlation	1	-,418*
	Sig. (2-tailed)		,030
	N	27	27

*. Correlation is significant at the 0.05 level (2-tailed).

To summarize this analysis, there seems to be some support in group number one for the hypothesis, since it shows that weak or moderate government effectiveness is a similar trait in the worst complier states. However, the member states in group number two, and to a certain degree group number three complicate the picture somewhat. One could thus conclude that this variable seems to bear some explanatory weight for compliance with EU environmental law. Judging from these findings, compliance appears to depend more on member states' capacity to pool and mobilize existing resources than on their GDP per capita.

These findings are in line with much of the earlier research, even though the operationalization of the variable have differed throughout the literature (cf. Mbaye, 2001; Börzel et al, 2007; Spendzharova and Versluis, 2013).

One should note that compared to the Western member states with relatively low government effectiveness (Greece, Italy, Spain), the Central Eastern European Countries (CEEC) with similar government effectiveness score (Czech Republic, Hungary, Poland, Slovenia, Slovak Republic and the Baltic states) are still faster in transposing and complying with EU environmental law. This puzzling phenomenon could possibly be explained by the particular skills which the CEECs' were granted during the pre-accession period when they had to transpose vast amounts of EU rules into national law, rather than the general administrative capabilities measured here (Börzel & Sedelmeier, 2017; Zhelyazkova et al, 2017).

5.5 The variables' combined weight

After having investigated the relationship between the dependent variable – infringement proceedings – and the independent variables, it seems as if the selected variables separately cannot explain the full picture of macro-compliance, even if certain support for three of the hypothesis can be found across the population of states. The findings of this study suggest going further and combining the management and enforcement approach in order to maximize the explanatory weight of the variables. However, before doing that, a summary of the analysis is provided.

Regarding the first variable – issue salience – it does not hold up well under empirical testing. The big discrepancies with regards to non-compliance in group number one, comprising the member states where environmental issues have low salience, and the fact that the correlation is not statistically significant underlines the notion that this variable does not bear any significant explanatory weight – at least under the current circumstances.

Regarding the second variable – EU-specific political power – there is a positive relationship between member states' political power and non-compliance. In general, it seems as if the more politically powerful member states tend to breach EU environmental law more often than the weaker ones, which according to theory is because their political power has translated into obstinacy and indifference vis-à-vis external rules. Greece, which belongs to the politically weaker member states, is one

notable exception which theory fails to explain, given its high degree of non-compliance.

Concerning government autonomy, some support can be found that it has an effect on member states' compliance record. It seems as if the member states with a low RAI score and consequently a high degree of government autonomy tend to comply with EU environmental law to a higher degree than the member states with a low degree of government autonomy. However, there are exceptions also in this case, most notably the Netherlands, which is complying to a higher degree than expected given its low government autonomy, and Greece which I would have expected to comply to a higher degree given its moderate level of government autonomy.

The fourth and last variable – administrative efficiency – was measured through two indicators: GDP per capita and government effectiveness. The GDP per capita does not seem to matter for member states' compliance with EU environmental law. A pattern is difficult to find, and the correlation is not statistically significant. In contrast, government effectiveness appears to have certain effect on member states' compliance records. In general, member states with higher government effectiveness tend to breach EU environmental law more seldom. This argument is supported by the fact that the worst laggard states all have a low or moderate level of government effectiveness. However, government effectiveness does not explain the full picture of non-compliance, since many of the member states with a high score do not perform significantly better than the ones with lower scores. Most notably the Baltic states perform better than expected, given their moderate levels of government effectiveness.

As mentioned above, a few interesting patterns can be identified if one combines the variables. First, it seems as if the politically most powerful member states, which also have a low to moderate level of government effectiveness, are the ones that breach EU environmental law to the biggest extent. These member states are Spain and Italy. Hence, it seems as if the combination of low government effectiveness and great political power results in an inability to comply, and the necessary political weight to be obstinate. Also at lower level of political power, Greece and Romania are much more obstinate than for instance the Netherlands, which features higher government effectiveness. The other politically powerful member states – France, Germany and the United Kingdom – also breach EU environmental law more often than average, but not to the same degree as Spain and Italy, which could be explained by their comparatively higher levels of government effectiveness. Hence, one could theorize that even though France, Germany and the United Kingdom have similar power of obstinacy levels as Spain and Italy, their higher levels of government effectiveness make the non-compliance promoting effects less pronounced. Admittedly, Poland challenges this notion since it has considerable political power and moderate government effectiveness, yet it has the exact same number of infringements as France, which enjoys higher levels of government effectiveness. Poland could thus be the exception that proves the rule. It could also be the case that the ministries in Poland gained particular skills during its accession to the EU when they had to transpose a vast amount of EU law into national law, which is not shown in the general administrative capacities measured in this thesis (cf. Zhelyazkova et al, 2017).

The argument made above is supported by the fact that the best compliers appear to be the politically weaker member states with moderate to high levels of government

effectiveness. These states are for instance Luxembourg, Malta and Denmark, the Baltic states, Hungary and Malta. These states' high degree of compliance could thus be explained by their low obstinacy levels, their sensitivity towards pressure from the Commission and other member states, and the fact that they have the necessary administrative capacity to transpose and comply with EU environmental law. Moreover, by promoting certain values, including environmental issues, through benchmarking, meaning by "practicing what is preached", the smaller member states can gain influence and power in the EU, despite their lack of GDP and military strength. (Howard Grøn & Wivel, 2011:534f). Greece is identified as an outlier, given its low political power and high degree of non-compliance. However, that could possibly be explained by its very low government effectiveness.

As stated above, lower degrees of government autonomy seem to result in higher numbers of infringements. The analysis shows, *inter alia*, that the best compliers are the member states with a high degree of government autonomy, whereas the worst (Italy and Spain) have a low degree of government autonomy. However, theory fails to explain why Austria, Belgium and Germany do not have the same degree of non-compliance as Italy, France and Spain, given their similar RAI score. If one combines government autonomy with government effectiveness one could however find one possible explanation to this pattern, since Austria, Belgium and Germany all enjoy strong government effectiveness, while Italy, France and Spain have low or moderate levels. Hence, one could theorize that government effectiveness mitigates the negative effects that follows from low government autonomy.

To summarize the analysis, the current structure of this study, the included variables, and the current operationalization of these, fail to provide a full explanation of the member states' different degrees of compliance. If they did, the results would have looked very different. Thus, it seems as if additional variables are needed in order to nuance the picture and to provide a better and more comprehensive explanation for the patterns of compliance. Moreover, it could be the case that other variables than the ones included in this thesis are better at capturing the full picture of compliance.

However, I can conclude that member states' EU-specific political power, government autonomy and government effectiveness carry more explanatory weight compared to issue salience and GDP per capita. From the analysis made in this thesis, I cannot conclude with certainty, however, which of these variables carries the most explanatory weight or if there are other, intervening variables, that affect the relationship. Admittedly, this makes it difficult to establishing strong causal links. The former of these variables alone, and even more so combined have, however, been proven to be rather successful in accounting for the compliance record of several of the member states. Hence, this study has added one more piece to the already sizable puzzle of member states' differing degrees of compliance with EU law.

If I were to reiterate what was said in section 3.1, there is a discussion within academia about whether transposition and compliance with EU law should be seen as a political or administrative exercise. The results of this study indicate that the management and enforcement approach should not be seen as mutually exclusive or as competing explanations. Instead, there are benefits of combining the two approaches, since they together provide a more nuanced explanation to member states' non-compliance with EU environmental law. In essence, they appear to reinforce each

other, and one can thus conclude that both political will and capacities seem to matter for member states' non-compliance with EU environmental law. This also answers the question asked in the title of this thesis: many of the laggard states are both inefficient and obstinate!

6 Concluding remarks: Factors affecting compliance

Several conclusions can be drawn from this study, both regarding the methodology, results and future research.

This thesis started with a simple question, namely “Why did the degree of non-compliance with EU environmental law differ between member states in the period 2012 to 2016?” In this study, I have demonstrated that issue salience and GDP per capita, in the current operationalization, did not have any significant effect on member states’ compliance with EU environmental law. EU-specific political power, government autonomy and government effectiveness on the other hand - which is also the answer to the research question – all appeared to carry certain explanatory weight, both alone but even more so combined. Consequently, this study has demonstrated that the management approach and the enforcement approach should not be treated as separate approaches or as competing explanations. Instead, there are benefits of combining these.

EU-specific political power had a negative effect on member states compliance with EU law, which according to theory is because their power has translated into indifference against external rules. By combining this variable with government effectiveness one could see that politically stronger member states, with lower degrees of government effectiveness constituted the worst compliers. Contrariwise, the best compliers were the politically weaker member states with moderate to high levels of government effectiveness. Moreover, member states with low degrees of government autonomy had in general higher degrees of non-compliance. However, also in this case it seemed as if government effectiveness mitigated the negative effects that stem from a low degree of government autonomy.

Arguably, even when the variables are combined, they fail to explain the full picture of compliance. Although this study has identified important patterns of compliance, a significant amount of variation on the dependent variable still remains to be explained. This in turn indicates that there are other variables at play that should be included, or that the current indicators should be recalibrated to construct a better and more comprehensive model of explanation.

King and colleagues (1994: 33) argue that researchers always should approach the issue of causal inferences with skepticism and alternative hypothesis in mind. This study has found that politically more powerful member states are more likely to infringe EU environmental law, due to their high levels of obstinacy. Admittedly, there could be other explanations to why politically mightier member states tend to breach EU environmental law more than the weaker ones. One could for instance theorize that the politically stronger member states have more and bigger ministries which in turn causes inefficiency, longer transposition times or even incorrect implementation. Moreover, one could assume that the politically powerful member states have larger

economies, bigger industries and thus more potential veto players and bigger incentives not to comply with EU environmental law. Accordingly, it is possible that EU-specific political power in fact functions as an underlying variable. If a future study is to be conducted on compliance, using the same population, it would thus be recommendable to try to deconstruct the EU-specific political power variable further, to identify the causal mechanisms leading to non-compliance.

Further, good science tries to go beyond particular events to more general knowledge by seeking generalizations (King et al, 1994: 35). So what does this study teach us about non-compliance in international organizations? One should always be careful to generalize findings on the EU to other international organizations, since the EU is considered a system *sui generis*, meaning that it is neither a state nor an “ordinary” international organization (Peterson & Shackleton, 2012: 2). However, this should not deter scholars from discussing generalizations since all organizations are unique in their own way – one just needs to climb up the ladder of abstraction. The EU is arguably unique in many ways, and it is the most legalized system in the world. However, its institutionalized compliance mechanisms can also be found elsewhere (Börzel et al, 2007: 23). Hence, this thesis has made a couple of contributions that go beyond this study. The findings of this study show that politically powerful states with low administrative capacities, and especially those with a low degree of government autonomy, tend to be unsuccessful in complying with international environmental rules.

This leads to this study’s proposals for future research. A first proposal for future research is to actually compare the findings of this study with other international organizations to investigate if they hold true also in other multilateral fora. By looking at how states comply with rules in other international organization such as the World Trade Organization (WTO), which has similar institutionalized compliance mechanisms as the EU, a more nuanced understanding could be gained of the underlying motives for compliance, and what promotes rule-abidance. That would add greatly to the compliance literature, especially since the members of the WTO are much more heterogeneous than the EU member states in terms of administrative capacity, political power and regional autonomy.

Secondly, since the included variables did not manage to explain the full picture of compliance, future studies could greatly benefit from not only including data on state characteristics, but also policy-related explanations. This would most likely be a fruitful way to account for the variation in non-compliance between the member states.

Thirdly, even though it was stated in section 4.1 that there are no indications of a prosecution bias on the part of the Commission, the best thing to shed more light on the effect of the included variables on compliance would be to conduct a similar study, using another measurement of the dependent variable. This could be done by for instance controlling for the Commission’s preferences or using transposition data (cf. Trieb, 2014: 21). That would arguably strengthen the findings of this thesis.

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8 Annex

8.1 Infringement proceedings 2012 – 2016

Member state	2012	2013	2014	2015	2016
Austria	11	16	12	11	14
Belgium	6	10	23	7	13
Bulgaria	9	17	15	12	12
Cyprus	6	14	9	8	7
The Czech Republic	3	7	9	11	10
Denmark	2	8	4	4	5
Estonia	6	9	2	3	2
Finland	6	14	6	7	8
France	8	19	19	18	18
Germany	9	12	13	15	15
Greece	16	25	36	27	24
Hungary	9	7	4	3	8
Ireland	3	8	7	13	7
Italy	26	25	18	20	15
Latvia	7	5	6	3	1
Lithuania	1	3	1	2	3
Luxembourg	2	5	2	3	2
Malta	9	5	5	2	5
The Netherlands	2	4	2	1	2
Poland	11	20	20	15	16
Portugal	21	13	10	8	9
Romania	9	13	30	15	12
Slovakia	14	17	14	11	11
Slovenia	9	18	12	14	13
Spain	9	29	30	28	26
Sweden	5	11	9	8	6
The United Kingdom	9	18	16	13	12

8.2 Issue salience (%)

Member state	2012 a	2012 b	2013 a	2013 b	2014a	2014b	2015a	2015 b	2016a	2016b
Austria	7	7	7	6	12	10	9	5	7	8
Belgium	12	9	3	12	12	11	8	9	10	10
Bulgaria	4	9	3	2	3	4	3	3	2	3
Cyprus	4	2	1	2	1	1	1	1	2	1
The Czech Republic	3	3	3	5	6	5	6	6	5	4
Denmark	9	11	9	11	11	13	9	12	10	9
Estonia	2	3	3	2	4	3	3	3	2	3
Finland	13	14	6	13	13	13	13	10	13	17
France	5	6	4	6	8	8	8	7	9	10
Germany	10	11	10	11	9	10	7	6	6	7
Greece	1	0	1	1	2	4	1	1	0	1
Hungary	3	3	2	3	4	3	3	3	2	3
Ireland	3	2	1	2	4	4	3	5	7	6
Italy	3	3	1	4	4	4	3	3	3	5
Latvia	1	1	0	1	1	3	1	1	1	1
Lithuania	1	3	3	1	3	2	1	1	1	1
Luxembourg	7	8	4	9	8	7	7	9	12	13
Malta	14	15	22	16	13	16	17	16	12	15
The Netherlands	9	7	6	10	12	11	14	14	15	21
Poland	1	1	1	2	2	3	2	3	3	4
Portugal	1	0	0	0	0	2	1	1	2	2
Romania	2	3	1	3	2	4	4	3	4	4
Slovakia	4	5	0	4	5	5	3	4	5	5
Slovenia	5	6	1	3	4	4	3	4	4	5
Spain	1	1	0	1	2	2	1	3	3	3
Sweden	17	25	19	24	31	27	25	22	22	24
The United Kingdom	6	7	4	9	7	7	5	5	5	6

8.3 GDP per capita

Member state	2010	2011	2012	2013	2014	2015	2016
Belgium	44380,23741	47702,77415	44740,5717	46510,38647	47439,39684	40356,875	41096,1573
Austria	46657,0629	51126,74139	48333,57273	50504,71532	51322,63997	43665,00947	44176,51522
Bulgaria	6843,263289	7813,803499	7378,025539	7674,860559	7853,335191	6993,47736	7350,795801
Cyprus	30818,46396	32233,83942	28951,15556	27907,96736	27340,88382	23075,1127	23324,20174
Denmark	58041,41122	61753,66007	58507,50021	61191,19263	62425,5392	53014,64416	53417,66428
Czech Republic	19764,01554	21717,45794	19729,87051	19916,01939	19744,55861	17556,9243	18266,54969
Estonia	14638,60482	17454,84342	17421,89022	19029,7746	19941,45532	17074,92091	17574,68736
Finland	46202,41516	50790,72415	47415,55987	49638,07713	49914,61864	42405,39744	43090,24751
France	40703,34279	43810,20088	40838,02444	42554,12205	42955,24287	36526,77011	36854,96828
Germany	41785,55691	46810,32796	44065,24891	46530,91143	47902,65288	41176,88158	41936,05858
Greece	26917,75898	25916,29353	22242,68193	21874,8195	21673,78107	18007,78991	18103,96932
Hungary	13025,53379	14048,87958	12834,32349	13613,60147	14117,97668	12365,62603	12664,84744
Ireland	48538,58776	52567,52568	49231,36254	52034,76736	55503,32623	60664,1044	61606,48294
Italy	35849,37364	38334,68477	34814,12436	35370,27441	35396,66517	30049,14755	30527,2682
Latvia	11326,21947	13702,68947	13822,80559	15032,22924	15725,01374	13666,58336	14118,06391
Lithuania	11984,86857	14357,73679	14341,08306	15712,82376	16554,97139	14252,42853	14879,6803
Malta	21087,79469	22821,8407	21930,80836	23930,18808	26180,92599	23819,4636	25058,17061
Netherlands	50338,25483	53540,60536	49474,70561	51574,48942	52157,40687	44292,88473	45294,78
Portugal	22538,65408	23196,18375	20577,40264	21618,73534	22077,53613	19220,00681	19813,30825
Poland	12599,52486	13893,18768	13145,10484	13780,54911	14341,6705	12565,9876	12372,41706
Romania	8297,483621	9200,277825	8558,397606	9585,266593	10020,27733	8958,788593	9474,130604
Slovak Republic	16600,61359	18187,15744	17274,6423	18191,61279	18595,15111	16089,74846	16495,98768
Slovenia	23437,47202	24985,24827	22486,47167	23150,31799	24020,67286	20729,86383	21304,57016
Spain	30736,00228	31834,21816	28562,29324	29210,09342	29600,47225	25683,84565	26528,49179
Sweden	52076,25591	59593,28711	57134,07707	60283,24522	59180,19898	50585,25847	51599,86887
United Kingdom	38709,91166	41240,42486	41538,30726	42407,37101	46412,11727	43929,69081	39899,38839
Luxembourg	104965,3061	115761,5077	106749,0136	113751,8005	119172,7418	101909,8223	102831,3215

8.4 Government effectiveness

Member state	2010	2011	2012	2013	2014	2015	2016
Austria	1,84	1,62	1,58	1,59	1,57	1,48	1,51
Belgium	1,58	1,66	1,60	1,61	1,38	1,44	1,33
Bulgaria	0,11	0,11	0,14	0,16	0,08	0,21	0,29
Cyprus	1,53	1,56	1,39	1,37	1,14	1,05	0,98
The Czech Republic	0,91	0,93	0,93	0,89	1,02	1,05	1,06
Denmark	2,1	2,1	1,98	1,99	1,82	1,85	1,89
Estonia	1,09	1,08	0,95	0,97	1,02	1,07	1,12
Finland	2,23	2,24	2,22	2,17	2,00	1,81	1,85
France	1,43	1,36	1,34	1,48	1,40	1,44	1,41
Germany	1,57	1,55	1,59	1,54	1,73	1,74	1,74
Greece	0,56	0,51	0,32	0,46	0,40	0,26	0,21
Hungary	0,67	0,67	0,63	0,65	0,53	0,50	0,45
Ireland	1,35	1,46	1,55	1,49	1,60	1,53	1,35
Italy	0,44	0,38	0,42	0,46	0,37	0,45	0,52
Latvia	0,71	0,7	0,84	0,89	0,96	1,09	1,00
Lithuania	0,74	0,7	0,83	0,83	0,98	1,19	1,09
Luxembourg	1,72	1,75	1,67	1,63	1,65	1,72	1,69
Malta	1,19	1,2	1,25	1,26	1,03	0,85	0,95
The Netherlands	1,73	1,79	1,81	1,78	1,82	1,83	1,84
Poland	0,64	0,62	0,68	0,72	0,83	0,80	0,69
Portugal	1,01	0,95	1,04	1,23	0,99	1,22	1,22
Romania	-0,27	-0,33	-0,31	-0,07	-0,07	-0,06	-0,17
Slovakia	0,84	0,83	0,84	0,79	0,88	0,84	0,89
Slovenia	1,03	0,99	1,03	1,01	1,01	0,97	1,12
Spain	0,99	1,03	1,12	1,15	1,16	1,17	1,12
Sweden	2	1,97	1,96	1,91	1,80	1,82	1,79
The United Kingdom	1,57	1,56	1,55	1,50	1,63	1,74	1,61