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Adaptation, discretion, and the application of EU animal welfare legislation

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Adaptation, Discretion, and the Application of EU Animal Welfare Legislation

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CHAPTER 1

INTRODUCTION

Democratic societies are societies of law. Laws enable the peaceful coexistence of citizens under criminal codes, promote the well-being of economic activity by safeguarding property and exchanges, and ensure the proper functioning of governments through constitutions and administrative law. In addition, regulations help societies achieve environmental, ethical, and other objectives that are not easy to attain without their codification into law. In order for laws to maintain a healthy society, however, they must be successfully applied and respected by those whose behavior they limit or compel. For some laws, the state shares this responsibility, not only by respecting the procedural and constitutional laws that limit its authority, but also by putting in place monitoring and enforcement systems to ensure the correct application of laws by others. Entire administrative apparatuses are developed for this purpose.

The need for effective law application is no less important in the multilevel EU, where decisions made at the highest level in Brussels must be respected and applied by national legislatures, administrative authorities, subnational administrators (in many cases), economic actors, and citizens alike in 28 different countries each with their own political, administrative, and legal systems. Internal market policies ensure intra-EU trade on fair terms by harmonizing standards and removing technical barriers to trade. Environmental, health, and consumer protection policies similarly promote the achievement of non-market objectives without distorting competition. Other policies in the fields of justice and employment, for example, protect citizens' rights and liberties. EU policies touch on many aspects of life in 28 countries, but their application and proper functioning depends on a complex and interdependent chain of implementation activities that only begins with the enactment of legislation. Policy outcomes (whether those intended or not) occur only after EU legislation is transposed into national law and that law is applied by national administrations and non-state actors alike.

Difficulties can and do arise at any moment in the implementation process, leading to a different application of law than what is unintended by policymakers. Starting with the transposition of directives, states often fail to enact transposing measures before their statutory deadlines. Although by November of 2012 less than 1% of the nearly 1500 internal market were not transposed in one or more states, transposition delays have climbed to almost ten months (European Commission, 2013). These aggregate figures mask significant internal variation and four states have failed to meet the 1% target. Additionally, transposition

measures may be incomplete or incorrect and thus fail to meet all the directive's requirements. Countries may achieve timely transposition by enacting incomplete or incorrect transposing measures, as in Italy, which has reduced its transposition deficit from 2.4% to 0.8% but which has transposed 2.1% of directives incorrectly.

Complete and correct transposition is only a necessary first condition for the full application of EU laws. Following this stage, member states must successfully apply national laws so that their behavior, or that of economic actors, is in line with EU requirements. The 2013 Internal Market Scoreboard indicates that about 50% of ongoing infringement proceedings concern the misapplication of EU laws.[1] Whereas transposition has clear, identifiable outputs that can be assessed with relative ease (though assessing the conformity of measures presents some challenges), practical application in the Member States does not always have such easily observable compliant or non-compliant behavior. Most inspection and enforcement systems devised by Member States to ensure the compliance of economic actors with EU law are necessarily imperfect. From this imperfection arises the possibility that a large amount of devious behavior goes undetected. The European Commission itself lacks the resources to oversee and coordinate national administrations and to directly monitor firms' behavior. Monitoring and inspection of national administration by the Commission takes place by regulatory authorities in some policy sectors, but like Member State systems, this too is imperfect. For some unmonitored policies, correct application relies only on empowering citizens and firms to take legal action within national or EU courts to secure their rights. For others, incorrect application is brought to the attention of the member state or the Commission only through complaints by harmed or otherwise interested parties. These difficulties apply to regulations as much as to directives. Although no transposition takes place in the former, implementing them often requires monitoring and enforcement carried out by Member States.

Because many EU policy objectives, like ensuring the fairness of competition and guaranteeing the equality of all citizens and economic actors before the law, depend in part on the uniform application of laws across the EU, this differential application threatens the legitimacy and effectiveness of the entire institution. This is particularly so for market regulation given that economic integration is a core element of European integration. Transposition and application processes in the Member States together can lead to diverging policy outputs and outcomes. While much has been learned about both these phases separately, few studies

[1] http://ec.europa.eu/internal_market/score/docs/score26_en.pdf

have examined the interactions and dependencies between the two. Such an investigation could uncover the ways in which both phases together account for differences in implementation success across the EU. This thesis makes such an attempt through a cross-national comparison across 27 countries of the transposition and application of EU animal welfare legislation.

Scope of the project

Though the EU generates a considerable amount of distributive and redistributive policies, the bulk of its legislative efforts are directed towards regulation. While all policies involve implementation, studying regulatory implementation separate from the implementation of other kinds of policies is justified given their very different characteristics. Unlike distributive policies such as agricultural subsidies, the awarding of scientific research grants, or regional development programs, regulatory policies achieve their aims without allocating or reallocating resources (Lowi, 1964). The distribution of resources within or across sectors may change as a result of regulatory policy, but redistribution is not the policy instrument used. Instead, regulations compel their subjects (firms, farmers, members of a certain profession, etc.) to perform certain activities or prohibit them from engaging in others, and as such impose costs directly on regulated entities. The need for regulation suggests that subjects will not always willingly change their behavior and may instead attempt to avoid the costs of regulation through non-compliance. In order to reduce this non-compliance, states develop monitoring and enforcement systems and consequently share the direct costs of regulation with regulated entities. In addition to requirements for regulated entities, EU legislation may contain requirements for member states with respect to monitoring and enforcement. Nevertheless, regulatory enforcement traditions vary from one country to another. Because the costs of regulation are born by state and non-state actors alike, a study of regulatory implementation beyond legal transposition must consider both the activities of regulated entities in meeting requirements as well as those of the state to induce compliance.

In studying regulation in the EU, an important clarification of terms is necessary. Article 288 of the Treaty of the European Union (TEU) specifies the legal instruments that the EU can promulgate: regulations, directives, decisions, recommendations

and opinions. The latter two (recommendations and opinions) are not binding, and decisions are binding only for those to whom they are addressed and as such are not used for generally applicable policies. The most important categories of legislation are regulations and directives. Regulations apply directly while directives are binding on Member States only with respect to their objectives. Application of directives requires transposition (the adoption of appropriate legal measures) into national law in each Member State. Although only one of these two types is called "regulations", both can be regulatory policy. In the case of directives, Member States themselves adopt the necessary regulations or statutes to meet policy objectives. Hence studying regulation in the EU is not confined to studying EU regulations only.

The substantive aims of regulation cover a diverse set of economic activities but are typically justified for a limited number of reasons. In changing the behavior of market actors, regulations attempt to correct market failures by ensuring the supply of public goods, managing common pool resources, and internalizing externalities, among others. Regardless of the kind of market failure to be corrected, many are justified for protecting human health and safety from the harmful unintended side effects of production and consumption. Workplace safety regulations protect laborers from unsafe equipment and dangerous substances. Pharmaceutical regulations prevent the sale of drugs with harmful or unknown side effects. Environmental policy protects people from unsafe levels of pollution in the air, water, and land as well as the adverse effects of global climate change. Consumer protection legislation requires the provision of information to consumers about the potentially harmful effects of products.

Not all regulations exist to protect people from harm, however. Others seek to advance the values of a society by ensuring that economic activity is carried out in ways that do not conflict with these values. Employment policies promote equality in the workplace. Animal welfare regulation, the subject of this thesis, promotes the ethical treatment of animals in food production processes and other economic activities. Ensuring animal welfare can have indirect effects on human health through promoting the rearing of healthy animals, but the primary objectives of such policies are not anthropocentric. Although the aims of regulations are diverse, they all share some basic characteristics (namely the modification of behavior and need for enforcement mechanisms) that make the insights generated in one regulatory policy area potentially applicable to

regulation in other areas.

Animal welfare policy is a particularly interesting case for a cross-national study of the implementation of EU regulatory policy. The requirements impinge on the activities of a heterogeneous set of market actors: small farmers, "big agribusiness", transporters, and slaughterhouse operators. The impacts of regulation on each of these actors depend in part on national situations. EU animal welfare legislation varies from one policy to another in terms of the amount of flexibility member states are given to adapt the requirements to their national contexts. The existence of flexibility in this legislation may in part reflect the controversy it generates during EU decision-making, with different coalitions of member states promoting more or less stringent animal welfare standards (Franchino, 2004). Despite this controversy, providing an adequate level of animal welfare during food production is an important issue for the majority of the EU's citizens, though this salience varies from country to country. The study of animal welfare policy in the EU is also a topical one. With the Netherlands voting in 2011 to ban halal and kosher slaughtering in response to the demands of animal rights campaigners and an EU-wide ban on battery cages for laying hens coming into effect in the beginning of January 2012, now is an appropriate time to take stock of the achievements (or lack thereof) in this area.

Conceptualizing implementation

The public policy process is generally conceived as and reduced to a series of stages, one following the other (see e.g. Anderson, 2011). Problems are identified, the policymaking agenda is set from among these problems, the agenda is formulated into policy proposals, and decision-making turns proposals into legislation. Once legislation is adopted, implementation begins as civil servants put in place and operate the administrative systems required by new legislation. While some policies are implemented through the courts as legal guarantees and protections for firms and individuals, many require active participation by administrative actors. In implementing policies, these actors make day-to-day "routine" decisions about individual cases: issuing permits, dispersing payments, investigating crimes, inspecting industrial processes, and issuing fines for violations. In the case of regulatory policy, the inspection of regulated entities and the enforcement of requirements through sanctions or cooperative problem-

solving are important components of implementation. Implementation is then followed by policy evaluation, which in turn feeds back into policy reform or another cycle of the policy process.

The policy process in the EU follows the same basic outline with several important differences relevant for implementation. In the case of directives, an additional step between policy adoption and the "routine" activities of administrative actors occurs. Because directives do not directly apply, each member state must adopt their own national legislation (primary legislation involving the whole legislature or regulations decided by unelected bureaucrats) to meet requirements. This process is known as transposition, and most EU scholars consider it the first part of the implementation of EU policies. Member states then implement these transposing laws just as they do other domestic policies, but in doing so they are accountable not only to national law, but to EU law as well. Scholars refer to this post-transposition phase of implementation as application. Hence following this terminology, transposition and application are sequential sub-stages in the implementation phase of the policy process. Although EU regulations do not require transposition to be applicable, they are often applied by the same administrative actors responsible for applying domestic legislation that transposes directives.

The extent to which member states transpose directives on time and the degree to which they satisfactorily apply both directives and regulations are together referred to as compliance. If both the deadlines and requirements of an EU law are met, then a country is in compliance with that law. The EU has mechanisms to improve member state compliance: from soft tools like information sharing and collective problem-solving to more coercive measures like infringement proceedings that can eventually lead to court cases and fines. The study of compliance *per se* is largely concerned with enforcement activities by the European Commission to ensure compliance. I will generally refer to these activities as "compliance-related" to avoid confusion with the domestic enforcement of EU policies that forms an important part of the implementation process studied here.

Research puzzle

The EU's ambitious policy objectives in the field of animal welfare have been

met with variable success across the Member States.[2] Directives adopted for the protection of animal welfare on the farm, in slaughterhouses and during transport have slowly been transposed over the last twenty years. In seven major directives in this field, correct transposition was achieved on average 1.5 years after their statutory deadlines, but delays of 4-6 years are not uncommon. Some directives remain incorrectly transposed in both new member states and old, and infringement proceedings have been launched against some countries for disrespecting deadlines and recommendations for correct application. On the other hand, timely transposition occurred in 40% of cases, and four countries (all new member states[3]) transposed all directives on time. Because correct transposition is a necessary first condition for satisfactory application, variation in timely transposition sets a minimum level of variability in successful application and this variation in turn prevents the harmonization of requirements across the EU.

The major research puzzle here is the large variability in policy application that exists (to the extent that it is observable) across many policy fields and countries. Because of the difficulty of collecting data about this phase of the policy process, any investigation necessarily must limit itself to a small number of cases. As with timely transposition, a large degree of variation in application exists across the EU with regard to animal welfare policy. Each year the Food and Veterinary Office (the unit within the Commission's DG Health and Consumers responsible for overseeing the implementation of EU animal welfare policy, among others) audits a selection of Member States for their compliance with animal welfare legislation (both directives and regulations) and discovers problems of application in nearly every country it visits. Some – like inadequately maintained facilities and equipment for slaughter going undetected or unpunished – cause significant hardships and suffering for farm animals in these countries. At the same time, these countries avoid the relatively higher costs of ensuring animal welfare and can thus pass on these savings to consumers, resulting in market distortions. The FVO issues recommendations to the Member States to fix the problems, but sometimes these recommendations are not quickly taken and significant welfare problems persist. In some cases the Commission initiates infringement proceedings for incorrect application. On the other hand, some directives are implemented with relative

[2] The EU's newest member, Croatia, is not included within the scope of this project.
[3] "New member states" refer to the countries that acceded to the EU in 2004 and 2007. These are Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia and Slovenia.

ease by one or more member states. This variability in application is the core puzzle addressed in this thesis.

Research question

Given the above empirical puzzle, the central research question of this thesis is: why do some EU Member States successfully implement regulatory policies while others do not? Because implementation only begins with transposition, a number of interesting sub-questions emerge when the different phases of implementation are considered. Firstly, a set of questions can be posed with respect to transposition. Why do some Member States adopt correct transposition measures in a timely manner while others delay?

Answers to this first set of questions will be discussed in the next chapter which reviews the transposition and implementation literatures. Many such answers have been proposed and tested in other contexts and may provide partial answers to a second set of questions concerned with the post-transposition life of EU legislation in the Member States. Rather than attempting to answer this first set of questions, the crux of this dissertation will be to apply the lessons learned from the transposition phase in order to answer questions about post-transposition application. Why are some Member States more successful than others in applying transposed regulations? Why do some pieces of legislation present difficulties for Member States while others do not? What is the relationship between variability in transposition (in terms of timeliness, correctness, and exercised discretionary authority) and variability in application?

Approach, theory, and research design

To answer these questions, this study engages in a cross-national comparison of the implementation of animal welfare policies across 27 EU member states. Three EU animal welfare policies (welfare on the farm, during transport, and at slaughter) covering the life cycle of farm animals and comprising the most important EU legislation in this field will be investigated over a ten year period. Some policies can be further divided by topic (laying hens, calves, or pigs) or by time (pre- and post-reform). Thus although on the surface this appears as a case study of a single policy field, it is in fact a set of three or even six policy case studies.

Because each policy is implemented in multiple countries and evolves over time, the basic unit of analysis is lower and more numerous than either the number of policies or the number of countries.

From the transposition and implementation literatures I narrow my theoretical approach to a small set of factors and derive a set of hypotheses about post-transposition application. First, the transposition literature focuses on the role of "policy misfit" or "adaptation pressure" in delaying transposition (e.g. Knill & Lenschow, 2001). Policies that require significant adaptations will face greater delays as a result of differences between national policies in place (or a lack thereof) and the EU policy to be implemented. These pressures are likely to make application itself more difficult as well, and I reconceptualize adaptation pressure as a dynamic concept. As part of this reconceptualization, I consider several important top-down sources of dynamic adaptation pressure. Second, I draw on the veto player approach (e.g. Tsebelis, 1995) to posit that institutional factors (and the degree of centralization within national administrations in particular) influence implementation quality. Finally, I draw inspiration from the growing literature on the importance of discretionary authority to hypothesize that the presence of such authority enables countries to better cope with the adaptation pressures introduced by EU requirements (Franchino, 2000).

To test these hypotheses, I follow a mixed methods research design. The advantages of this approach are threefold. First, the case studies enable a robustness check on the measurement of the dependent variable – the quality of implementation. Chapter 5 describes the measurement strategy for this variable and it is observed in greater detail for a set of cases in the case study chapters (Chapters 6-8). Second, the case studies work as plausibility probes for the hypotheses and the mechanisms that underlie them. The plausibility probes work in conjunction with the formal hypothesis tests of the quantitative analyses chapters (Chapters 9-10): demonstrating the plausibility of a hypothesis using closely observed qualitative evidence helps to distinguish statistical artifact from a valid statistical test. Finally, the quantitative analyses test the hypotheses in a way that the case studies cannot, and demonstrate the generalizability of the mechanisms across many observations. Namely, they test each hypothesis while simultaneously controlling for confounding factors. Statistical control is much more difficult to achieve in case studies alone.

Scientific relevance

The policy-making process of the EU receives considerable attention by social scientists (political scientists, sociologists, and public administration scholars alike), but scholarly attention trails off as policies move from adoption through implementation and evaluation. Following the decision-making stage at the EU level, a large and growing literature has examined the legal transposition of EU Directives, in some cases relying on vast datasets to make general statements about this process as it occurs across policy areas, member states, and through time. These studies have greatly advanced our understanding of the functioning of EU policies once they leave Brussels, but most close their eyes to the policy process that occurs after a member state notifies the Commission that implementing legislation has been adopted. Whether this legislation faithfully adapts EU requirements to national law and further whether such legislation is successfully applied and enforced remains largely outside their focus.

In parallel to the transposition literature, a large number of qualitative case studies of single policies implemented in a handful of member states have provided valuable insights into the later stages of the policy process. Rich in contextual detail, implementation studies uncover key causal mechanisms that operate as national administrations interpret their European mandates. Given their attention to the specific features of individual policies and member states, these studies necessarily have limited generalizability. Aside from the tremendous time and resources required for implementation studies conducted across many policies, generalizations are not revealed (and often not even sought) because these works take as their starting point the goals of obtaining a deep understanding and full explanation of cases of successful (but more commonly unsuccessful) implementation.

One approach to advancing our knowledge on this topic is to integrate the transposition and implementation literatures by applying general theories derived from the former to the processes of concern to the latter. Theories that seek to explain transposition have implications for implementation from which testable hypotheses can be derived. Moreover, because of the sequential nature of the policy process, activities in one stage are likely to affect subsequent stages. Hence the duration and outcomes of transposition will influence implementation in predictable ways. Although the transposition literature can bring us partway to generalizable knowledge about implementation, the immense possibility for

variation in member state application of EU law means that additional explanatory factors will be necessary. One key element largely missing from the literature on both implementation and transposition (though found as one dependent variable in the decision-making literature) is the discretionary authority granted to member states and their administrations to adapt EU policy to their own national circumstances. The size of discretionary authority granted and the way in which it is exercised by member states during transposition may affect application and hence link the two literatures that this thesis addresses. A second key element is the organization of administration. While demonstrated to have some impact on transposition, the organization of the administration of regulation likely has more direct and greater influence on the variability of post-transposition application. Both of these elements will form part of the theoretical core of this thesis.

Societal relevance

The analysis presented here has relevance beyond its potential contributions to social science. The industrial farming that has arisen in the latter half of the twentieth century has produced significant backlash among some segments of the population. Citizens have become increasingly concerned that the intensive raising of animals for food has many potentially negative implications for human health. Additionally, a growing part of the population questions the ethics of rearing animals in production systems in which these animals experience considerable suffering. The growing availability of and demand for "free-range" eggs and meat is one indication of this trend. Calls for "animal friendly" products labeling have been voiced (though unanswered). Although the EU has responded to demands for increased welfare standards, these standards have limited value if they are not respected in the member states. Revealing the cross-national variation in implementation success and failure will allow concerned citizens or their representatives to pressure their governments to reach further compliance. With product origin labeling and cross-national information about animal welfare implementation, concerned citizens can make more informed decisions about what they put on their plates. As a result of these pressures, farm animals may live more comfortable lives.

The relevance of this study is not restricted to animal welfare alone. Because the analysis is ultimately concerned with understanding regulatory policy

implementation in the EU, such an in-depth investigation in one policy area may provide policy recommendations that are applicable to others. Given the range of potential explanations that will be tested, recommendations could be made with respect to improving both the design of regulatory policies at the EU level and their administration in the member states.

Plan of the book

The plan of the book is as follows. The second chapter surveys and critiques EU implementation literature generally, focusing in particular on the broad transposition literature. The third chapter presents the theories to be tested and from which hypotheses will be derived. A fourth chapter provides an overview of animal welfare policy in the EU and describes in greater detail the individual policies that are the subject of this book. The fifth chapter introduces the methodology for the case studies that follow as well as the strategy for measuring the adequacy of implementation in both empirical parts of the thesis. Chapters six through eight consider animal welfare on the farm, during transport, and at slaughter separately in a series of qualitative case studies. Chapters nine and ten present quantitative analyses of the variability in application observed both across policies and countries. The final chapter summarizes the gathered insights and offers conclusions for the study of implementation in the EU generally.

CHAPTER 2

Literature review

Implementation became a phenomenon worthy of investigation by social scientists beginning in the US in the latter half of the twentieth century. Classic works on implementation searched for explanations as to why seemingly well-formulated and well-intentioned policies failed to achieve their goals or had other undesired effects (Bardach, 1977; Pressman & Wildavsky, 1973). The story that emerged was one of complexity in which policies are delayed and altered as each of the many actors involved in their administration play out their parts. From these foundational studies, a myriad of approaches to studying implementation have emerged. Some attempt to develop theories to explain implementation generally, while others restrict themselves to particular geographic or policy areas. A whole range of implementation studies within fields as diverse as welfare distribution and environmental regulation have been undertaken. Rather than trying to understand implementation as a phenomenon in its own right, these policy studies often have as their aim the improvement of particular policies.

The literature review presented in this chapter focuses on developments (empirically and theoretically) in the study of EU transposition and post-transposition application. Theoretical advances in the broader field of implementation research inspire some of the work discussed below, but the majority of the works discussed are in dialogue with each other rather than the more general literature. I review the selected literature to inform the theoretical approach taken in the next chapter and to derive hypotheses that are appropriate for the empirical content while attempting to be a part of this conversation. For background in the more general developments (that are not examined in the EU context), a number of critical reviews and textbooks are available (e.g., Hill & Hupe, 2008; O'Toole, 2000; Saetren, 2005; Winter, 2003). While I review several single case studies of implementation and a subset of the qualitative empirical work (primarily by examining the insights generated in these studies), the majority of the empirical material is rooted in quantitative studies aimed at testing one or more hypotheses. Examining the plethora of single case studies of implementation generated in academic research as well as those conducted by NGOs, think tanks, government agencies, and other actors lies outside the scope of this review.

EU implementation research

Research into the implementation of and compliance with EU policy began

with unconnected studies comprising what one reviewer of this literature calls an "eclectic start" (Mastenbroek, 2005). These studies considered a variety of factors, including issues of political and administrative culture, characteristics of policies to be implemented and political opposition. Together they offered few wide-ranging conclusions about implementation or compliance, but instead served as inspiration for much of the work that followed by supplying a number of testable hypotheses and interesting ideas. With the publication of Siedentopf and Ziller's two volume comparison of seventeen directives covering a large number of sectors and countries, EU implementation research firmly entered the political science research agenda (1988).

In discussing the EU implementation literature, it is important to keep in mind that many related concepts (transposition, application, compliance, etc.) sometimes appear in the same study and that different conceptualizations of implementation appear across different studies. The particular nature of the policy process in the EU (described briefly in the previous chapter) is partly responsible for this complexity, but some of the responsibility lies in inadequate conceptual clarity on the part of scholars. Thus some studies consider implementation generally or transposition in particular as their principal focus but use observations on compliance as their sole source of evidence (see Knill & Tosun, 2009; Lampinen & Uusikylä, 1998 for this critique). While most agree that transposition is an integral (though by no means exclusive) part of implementation, another perspective cautions against seeing implementation as anything other than law in action or application (Versluis, 2007).

While the concept of transposition is generally unambiguous, a variety of operationalizations of "transposition success" exist in the literature. Much of the work focuses on transposition delays, or the time between a directive's transposition deadline and a country's notification of implementation measures (Berglund, Gange, & van Waarden, 2006; Mastenbroek, 2003). The actual operationalization may be the number of days or some categorization of "on time", "short delay", or "long delay" (Kaeding, 2008; König & Luetgert, 2009). Recognizing that the first measure that a country adopts to transpose a directive may not be the correct and final one, at least one study considers the "correctness" of transposition by assessing the time it takes a country to reach "essentially" and subsequently "complete" correct transposition (Falkner, Hartlapp, & Treib, 2007). Another approach to the content of transposition measures looks at whether a

country literally transposes a directive or makes adaptations (Steunenberg, 2007).

Studies of application have an even greater array of possibilities for conceptualization. Given the particular characteristics of any given policy, it is as if no two analyses can study this phase of implementation the same way. Even within the same policy, differing emphases in scope are possible. Within all these possibilities, two distinctions can be made. First, while most focus on policy outputs (the implementation activities of state and non-state actors), some focus on policy outcomes (Bailey, 2002). The latter approach is possible in those limited cases where outcomes can be easily observed (though never perfectly). Second, when considering activities and outcomes alike, some choose to evaluate implementation with strict reference to the stated objectives of legislation. Others, on the other hand, take a broader view that includes intended and unintended (negative and positive) policy effects.

The variety of approaches to studying both transposition and implementation, although sometimes indicative of a lack of conceptual clarity and theoretical focus, is more generally a testament to the many interesting research puzzles that scholars have attempted to solve in the subfield and the many tools (theoretical and methodological) employed in this pursuit. At times developing in parallel, these studies have nevertheless coalesced into a small number of theoretical approaches, sometimes in dialogue with one another and at other times talking past each other. Several of these approaches (and their interrelationships), which will inform the theoretical chapter that follows, will be considered in the remainder of this chapter.

Goodness-of-fit

Beginning in the late 1990s a focused research agenda emerged as several studies developed, expanded, and tested a particular kind of explanation for the differences in implementation among Member States and policies (Duina, 1997; Knill, 1998; Knill & Lenschow, 1998). The explanation focused attention on the degree to which new EU policies to be implemented fit with existing domestic policies. Such a "goodness-of-fit", "mismatch" or "adaptation pressure" explanation of EU policy implementation begins with the basic assumption that implementation of European policies requires some degree of adaptation by the Member States. In the simplest and most underspecified statement of this explanation, the more

difficult the required adaptations are (e.g., the greater the "mismatch" or the lower the "fit"), the lower the chances of successful implementation, but variations, qualifications, and specifications of the dimensions of adaptation pressure have all been proposed as improvements to this basic argument. The idea has its origins in Héritier's "uploading" theory of EU policymaking, in which Member States, in order to lower the costs of adapting to EU policy, attempt to "upload" their own policy approaches and styles to the European level (1995). These adaptation costs then become the key independent variable for "goodness-of-fit" explanations.

Expanding on the original ideas of Héritier, theorizing along these lines focused initially on administrative arrangements in the member states, particularly the interactions among administrative actors, interested non-state actors, and the differences between existing regulatory forms and those required by new European policies (Duina, 1997; Knill, 1998; Knill & Lenschow, 1998). One early set of applications of the "goodness-of-fit" concept considered only the institutional structures and their likelihood of creating mismatch (Duina, 1997; Duina & Blithe, 1999). Their "cost hypothesis" posited that directives which may transform the organization of interests in a particular policy field or which may threaten the policy legacy (the existing legal and administrative traditions) incur high costs and are thus difficult to implement. The characteristics of these institutions in each country and policy field are historically determined, following the insights of historical institutionalism (Steinmo, Thelen, & Longstreth, 1992). Policy actors exist only to the extent that their distribution and organization in part define these structures. The absence of any explanatory power attributable to individuals and the assumed fixed nature of the key institutions (a criticism of many applications of historical institutionalism) both lead to a static conceptualization of misfit and a country's response to it. Such a static notion fails to account for cases in which implementation succeeds despite some misfit.

In part remedying the shortcomings of this "actor-less" static approach, a second set of scholars developed a dynamic theory of implementation that combines adaptation pressure, political and administrative actors with agency, and change (Knill, 1998; Knill & Lenschow, 1998, 2001). When new policies threaten to change the "core" of the administrative and political tradition for a policy field within a country, or those elements of existing policies that are institutionally "embedded", then adaptation pressure is too great, and implementation suffers. The concepts of institutional embeddedness and policy "core" come from the

"logic of appropriateness" and other constructivist concepts and mechanisms that have their roots in sociological and historical institutionalisms (DiMaggio & Powell, 1983; March & Olsen, 1989; Powell & DiMaggio, 1991; Thelen, 1999). The demands of new policies are seen only in the light of existing frames of reference, rules, and procedures. In contrast, policies that bring fewer changes are easily implemented (low adaptation pressure), but the success of policies exerting moderate adaptation pressure is contingent upon the policy context, here understood as the number of actors with the ability to block reforms (veto points, following Immergut, 1992). The more numerous the veto points, the lower the chances of successful implementation under conditions of moderate adaptation pressure.

In this approach, no consideration is given here to the preferences of actors, but this "modified actor-centered institutionalist model for domestic adaptation" (Knill & Lenschow, 2001; modifying Mayntz & Scharpf, 1995) is one of the clearest, most falsifiable statement of the "goodness-of-fit" hypothesis. Other well-developed theories of "goodness-of-fit" include Héritier's "differential impact" of Europeanization on domestic change (which combines adaptation pressure, political support, and administrative capacity as individually necessary and jointly sufficient conditions for domestic change of the kind leading to successful implementation) and Börzel's "push-and-pull" model (in which domestic supporters of policy change pull from below and the Commission pushes from above with the threat of infringement proceedings) (Börzel, 2001; Héritier et al., 2001). A later adaptation sees different implementation outcomes occurring, depending on the degree of misfit and the existence of facilitating factors (either formal institutions if rationalist institutionalist logic is correct, or informal "policy entrepreneurs" if sociological institutionalist logic is correct) (Börzel & Risse, 2003). In a similar vein, a study of Norwegian adaptation to internal market requirements describes the process of adaptation in cases of low policy fit, whereby actors, given institutional constraints, reevaluate their interests and reformulate their approaches to policy problem-solving (Claes, 2002). Later studies, with some exceptions, took the idea only at its most basic and subjected it to a variety of empirical tests (see below).

A "goodness-of-fit", "mismatch", or "adaptation pressure" explanation requires some definition of the key elements of existing policy that may be incompatible with new policy in order to be analytically tractable. Knill (1998) offers a well-

defined, if broad conceptualization of the administrative arrangements that face adaptation pressures: regulatory style (modes of state intervention and interest intermediation) and regulatory structure (centralization vs. decentralization and concentration vs. fragmentation of authority). The sources of adaptation pressure can be so numerous (and in some cases so ill-defined) as to strip the concept of any explanatory leverage. Thus scholars looking to explain implementation patterns by way of "goodness-of-fit" have a whole arsenal of static political, legal and administrative institutions that may or may not match with EU policies, as well as adaptation pressures produced by policymakers, administrators, and interest groups (Bursens, 2002).

More recently, others have pared down aspects of mismatch to a few key elements and offer well-theorized mechanisms underlying their operation in influencing implementation patterns. Drawing from international relations theory, Dimitrova and Rhinard outline a "norm-based explanatory framework for studying the transposition of European directives" (2005). Distancing themselves from "fit-based" explanations, their approach focuses on the compatibility of new EU norms with existing domestic norms that themselves can change as a result of their interaction. These norms exist within a hierarchy, and their pliability depends on their location in that hierarchy. The plausibility of this approach is demonstrated by process-tracing case studies of Slovakian transposition of two non-discrimination directives, but the framework has thus far faced no additional empirical scrutiny.

A related revitalization of the "fit" explanation (though again distinguishing itself from that approach by singling out one component from the otherwise entangled semantic field) takes a directive's misfit with a country's existing legal order as an obstacle to its transposition (Steunenberg & Toshkov, 2009). The focus is again on legal norms and the centrality of those incompatible norms to a country's legal architecture. The norm hierarchy and norm centrality concepts of these two works have their parallels with the "institutional embeddedness" of earlier "goodness-of-fit" explanations (Knill & Lenschow, 1998), but here they direct attention to those elements of EU legislation and their corresponding preexisting domestic policies, elements that are more suitable for a one-to-one comparison and incompatibility test. Incompatible norms are easier to detect than a misfit of EU policy with existing domestic institutions more generally conceived, thus overcoming the underspecification problem of previous fit

theories.

Another recent recast of the "goodness-of-fit" explanation considers "frame misfit" where frames consist of "common sets of beliefs and ideas" (Di Lucia & Kronsell, 2010). Although valuable for introducing framing effects to the implementation literature, the study provides little guidance for identifying the relevant empirical content of a policy frame. In the qualitative comparative analysis (QCA) methodology employed, the authors do not describe in a transparent and replicable way how they code individual cases for "frame misfit".

As with many explanations proposed for implementation patterns, the empirical record for "goodness-of-fit" is mixed. The mixed results can largely be explained by the variety of cases subject to testing and the ways in which "goodness-of-fit" is operationalized. The initial case study tests were carried out on a selection of environmental directives (Duina & Blithe, 1999; Knill & Lenschow, 1998). Although the case study approach allowed the testing of more nuanced versions of the theory, it made replication and generalizability difficult (though see Haverland, 2000). Scholars determined the degree of misfit without clear reproducible criteria. Recognizing this shortcoming, a later qualitative approach classified countries' misfit with particular directives by identifying and scoring its three components (Falkner, Treib, Hartlapp, & Leiber, 2005). Thus they scored legal misfit by comparing existing member state legislation with EU directives, politico-administrative misfit by considering the differences between new and old public-private interactions and administrative routines, and the costs of new legislation by interviewing key policy actors. Such an approach has high validity but is too costly to apply on a scale large enough to test its generalizability.

The quantitative turn in implementation research tested the "goodness-of-fit" approach (often alongside several other alternative explanations) with rougher measures and simpler theoretical specifications. Much of the transposition literature assumed that where countries modify existing domestic legislation, the degree of fit is higher than when entirely new legislation is needed (Kaeding, 2006; Linos, 2007; Mastenbroek, 2003; Thomson, 2007). Other specifications regarded the complexity of a directive for a country (as measured by the number of measures needed for its transposition) as an indicator of its misfit (König & Luetgert, 2009) or some combination of legislative novelty, number of implementing measures, and their order (legislation vs. administrative act) (Steunenberg & Toshkov, 2009). Although these measures are easily generated

and replicated, some challenges pose a threat to their validity. The choice between legislation and administrative acts is sensitive to national legal order and political factors (which should be regarded as independent of fit). Modifications of existing legislation can be major enough to represent a high degree of misfit, and in many cases the creation of what seems like entirely new legislation at first glance is actually a recast and replacement of existing legislation with only minor modifications. In ten quantitative studies of implementation utilizing some aspect of misfit or adaptation pressure, these factors had a significant effect in the expected direction in only half (Toshkov, 2010, n. d.).

Institutions and implementation

Inspired in part by the indeterminate results of the "goodness-of-fit" approach but also developing independently, another strand of EU implementation literature examines the politics underlying adaptation to EU requirements and the influence of institutions on these politics. Two distinct though sometimes overlapping sets of explanations and analyses explore the politics of implementation. One focuses on the influences of the politics of EU policymaking on its later application, and the other considers the politics of domestic policymaking or adaptation. In the discussion that follows I consider both these sub-literatures, which are grounded in a diverse set of theoretical antecedents, including historical institutionalism, international relations theories, and the institutional tradition of Lijphart (1984), as a body of literature apart from the more formal work that considers the politics of implementation from a rational choice institutionalism perspective. I discuss this literature later in this chapter.

Following a typical pattern in the study of EU implementation, the theoretical insights in this body of literature emerge from a set of case studies (too often selected from the environmental policy sector) and are later subjected to empirical testing over a large number of cases. In a very theoretically rigorous application of historical institutionalism and its path dependency theory in particular, a case study of the implementation of the Bathing Water Directive reveals how institutions locked in at one point in time to solve policy problems in the water sector constrain political actors and their scope for decisions later (Jordan, 1999). This institutional "lock in" makes flexibility and adaptation to new EU requirements and new policy problems difficult. Scholars using a historical institutionalist

approach tend to stress the negative aspects of "lock in" and thereby focus on implementation failure, but it is not a foregone conclusion that such a mechanism always works against successful implementation. Applying path dependency to understand a particular case of implementation failure, while helping to establish the empirical plausibility of a concept central to historical institutionalism, does not exhaust the possible ways that politics influence implementation.

A more generalizable approach to understanding the politics of implementation by way of political institutions looks at how institutions shape decision making by providing actors with opportunities to shape decisions that affect both transposition and application. In a direct reaction to the "goodness-of-fit" theory of Knill and Lenschow, Haverland counters that the presence of institutional veto points explains implementation success and failure regardless of "fit" (Haverland, 2000). Institutional veto points here refer to particular stages in the policy process where "agreement is legally required for a policy change" (Haverland, 2000, p. 85) and harkens back to the "decision points" of classic implementation research (Pressman & Wildavsky, 1973). Together these veto points define the "institutional opportunity structure" and can endow administrative, political, and societal actors with the power to block decisions (adapting Kitschelt, 1986). According to him, adaptation pressure as understood by Knill and Lenschow can activate domestic opposition but this opposition has no effect on implementation without the opportunity provided by a veto point. He then demonstrates this explanation using the same cases as Knill and Lenschow. Bailey criticizes his falsification for adopting a narrow conceptualization of policy implementation (2002). By leaving out post-transposition application, Haverland (according to Bailey), underestimates the importance of policy misfit (and overestimates the significance of veto points) for shaping the implementation of the Packaging Waste Directive, which ultimately aimed to improve environmental conditions in the member states.

The institutional veto point approach requires policy- and country-specific context in order to identify those decision points where vetoes can be exercised. An approach that employs institutional characteristics without the need to identify all possible decision stages (and again without reference to actors' preferences) relies on the shortcut of institutional types developed and used widely in comparative politics (Lijphart, 1984, 1999). These define the general decision-making traditions and styles in a country as embodied in their policymaking institutions. The major distinction is between majoritarian

institutions (such as "first-past-the-post" voting rules) that concentrate decision-making authority in a few actors and consensual institutions (such as proportional representation systems) in which authority is more widely spread. Consensual institutions better incorporate the full range of interests affected by a policy into decision-making and implementation, thereby making policies more favorable to all those affected.

The availability of cross-national time series datasets that score countries' institutions on a majoritarian-consensual dimension allows for a straightforward application of this explanation in quantitative analyses of implementation. Thus in an analysis of the implementation of the *acquis communitaire* by new member states, Hille and Knill found strong support for this kind of institutional effect (Hille & Knill, 2006). Similarly, a study of transposition by 15 Member States of directives between 1986 and 2002 showed that both pluralist and federalist (the federal-unitary institutional dimension comes from the same tradition, Lijphart, 1999) institutions delayed transposition (König & Luetgert, 2009). Support for this notion comes also from a mixed method comparison of Greece and Spain (Linos, 2007) in which actors' preferences were considered but found not to matter once institutional characteristics were controlled for. On the other hand, the validity of the underlying mechanism is challenged by a study revealing that mechanisms for implementation oversight that include diverse interest groups actually hinder success relative to oversight mechanisms that concentrate authority (Jensen, 2007).

The mere presence or number of institutional veto points in the implementation phase, or macro-institutional factors, however, cannot fully explain implementation success or failure without reference to the preferences of actors who exercise veto power or make decisions within these institutional frameworks. After all, veto points only admit the possibility of opposition to policies. If all actors generally support a policy, then veto points or concentrated decision-making will not present obstacles for policy application. To address this shortcoming, the concept of "institutional veto points" has been superseded by preference-endowed "veto players" (Tsebelis, 1995), a concept developed first within a rational choice institutional framework, subsequently more generally applied to implementation analysis.

One early application of veto players to EU implementation research is a formal model that centers on the preferences of national policy actors who act as

"informal" veto players during transposition (Dimitrova & Steunenberg, 2000). Veto players are those actors (such as the government, the opposition, interest groups, and subnational authorities) whose cooperation is needed for successful transposition and implementation, and their veto player status is institutionally determined. Each has an ideal point representing their preferences with respect to a particular policy, and the ideal points together define the preference configuration. The shape of this preference configuration, together with the possibility of enforcement action by the Commission should transposition stray too far from EU requirements, determines the range of "veto-proof" proposals for transposing the policy. Exercising an "informal" veto can lead to partial implementation (as opposed to full implementation), provided this partial implementation will not elicit an enforcement response from the Commission.

Another coordination-based formal model of transposition considers the preference configuration among "higher" political (formal) veto players and "lower" administrative (formal) veto players (Steunenberg, 2006). A third model shows transposition as a process that can lead to either literal transposition or non-literal adaptation depending on the preferences of domestic policy-specific veto players (Steunenberg, 2007). The choice of policy instrument to transpose EU law is a political one, as hypothesized earlier (Dimitrakopoulos, 2001b). In each of these models, the actual preference configuration of veto players needs to be determined *a priori* in order for the model to generate testable hypotheses. As a result, each model has been applied to only a small number of cases.

Applying the veto player concept outside its formal model roots has allowed tests of the generalizability of the explanatory approach but has sacrificed some of its theoretical sophistication. In parallel to the macro-institutional factors discussed above, datasets have been developed in comparative politics to measure the number of veto players present in a country at a particular time (such as Schmidt, 1996). The general approach taken is then to hypothesize that additional veto players slow the transposition process by blocking unfavorable transposing measures and this in turn hinders compliance and implementation (though implementation outside of timely transposition and lack of infringement proceedings is not generally considered). Even attempts to shift our attention towards the congruence of veto players' preferences and their internal cohesion rely on the same simple veto player numbers game (Hille & Knill, 2006). The results are mixed: the number of veto players seems to have little effect on infringements

(Jensen, 2007; Mbaye, 2001) but their effect on transposition timeliness is sensitive to the countries, time period, or policy sectors considered (Kaeding, 2006; Linos, 2007; Toshkov, 2007b).

Although veto players other than legislative actors can influence implementation, these datasets (and hence any applications that use them) rely almost exclusively on partisan veto players. Administrative veto players are overlooked and the actual preferences of veto players are largely ignored. One exception to the exclusive reliance on partisan veto players is a study that considers the effect of interministerial coordination problems (measured imperfectly as the number of ministries involved in transposition) on timely transposition and finds some evidence for such an effect (Mastenbroek, 2003). Another exception employs a "procedural veto player index" that emphasizes the extent to which veto players across ministries and other relevant actors (and specific to a particular transposition process in a country and policy area) may impede successful transposition (Steunenberg & Rhinard, 2010). An additional improvement (though still relying exclusively on partisan veto players) incorporates actors preferences from party manifestos data (König & Luetgert, 2009). The presence of parties with diverging preferences with respect to some sector hinders transposition in that sector, according to their analysis. This approach comes closer to testing the preference-based explanations derived from formal models but is still oversimplifying.

Explanations for EU implementation that rely on the veto players of domestic politics are not the only kind to have originated in rational choice institutionalism and formal models before shaking loose these foundations. Viewing EU policymaking as a problem of interstate bargaining, some have seen a failure to implement policies as a deliberate decision by countries following unfavorable negotiations, an insight derived from formal models in international relations (Fearon, 1998). By this reasoning, states with lower bargaining power (as measured, for example, by a country's number of votes in the Council) during policy formation should have poorer implementation records, because states with lower bargaining power are less able to achieve their policy goals during decision making. An early analysis of compliance revealed some support for this notion (Mbaye, 2001), but a later compliance analysis found no effect (Sverdrup, 2004).

Those explanations that seek a link between states' bargaining power and compliance patterns may find inconclusive evidence because less ability to

influence decision-making outcomes is only indirectly related to achieving goals during policy formulation. Recent attempts have been made to link Member States' preferences during policymaking to transposition outcomes. One approach measures for each directive a states'"preference-based incentive to deviate" as the distance between a states' desired policy outcome for that directive and the adopted legislative text (Thomson, Torenvlied, & Arregui, 2007). The larger the distance, the poorer the implementation performance, though this effect is stronger when directives grant states little discretion to adapt policies to national circumstances. Discretion itself may be determined through conflict during policymaking (see e.g. Franchino, 2007) so that the degree of conflict during decision-making may speed up transposition (Zhelyazkova & Torenvlied, 2009). States' preferences are determined through expert interviews. A later modification of the explanation incorporates the ability of the Commission to shape implementation through enforcement (Thomson, 2010).

A second perspective on the effects of Member State opposition to a policy on its implementation considers only the preferences of the government in power. In contrast to an approach relying on preference-endowed veto players, this perspective treats Member States as unitary actors with the same preferences as the governments who rule. Among a laundry list of factors thought to affect transposition, one author includes a country's opposition to the policy being implemented, and then demonstrates this with the case of Greece being reluctant to transpose and apply certain elements of its Treaty of Accession, namely the public procurement policies viewed unfavorably by the Socialist government (Dimitrakopoulos, 2001a, 2001b). One quantitative analysis finds no empirical support for the hypothesis that government preferences along a left-right continuum (as determined by manifestos data) have an effect on successful transposition of social policy directives (the policy sector most relevant for this well-established ideological dimension) in new member states (Toshkov, 2007b). On the other hand, some support is found for a positive relationship between a governments' support for European integration and the timeliness of its transposition in the same countries though across a broader policy spectrum (Toshkov, 2008). Another study of transposition timeliness in all Member States finds no support for either of these hypotheses (Linos, 2007). Although each of these analyses controls for the number of veto players, they do not include interaction terms to test what is really an interactive effect between veto players

and government preferences.

Administrative capacity

In contrast to the literature that sees late transposition and incorrect application as a deliberate choice, another set of explanations see EU implementation failure as a result of low administrative capacity. Often referred to as the "management" approach, these explanations are derived from international relations theories that see the world differently from those that produce the "deliberate" non-compliance accounts above (Chayes & Chayes, 1993). Budgetary resources, personnel, and expertise are some of the resources that comprise administrative or organizational capacity. Administrative capacity is assumed to have a direct effect on implementation, but a more nuanced explanation posits that administrative capacity leads to successful implementation only when combined with a favorable political climate (though this interactive effect is inadequately tested) (Lampinen & Uusikylä, 1998). Largely using aggregate measures of "governmental effectiveness", several studies have found support for this argument (Berglund, et al., 2006; Linos, 2007; Mbaye, 2001). Administrative capabilities may be particularly important for the new member states (Toshkov, 2007b, 2008). Separating government effectiveness from resources, another study of implementation in candidate countries supports this argument (Hille & Knill, 2006).

Some criticism has been leveled against the use of aggregate measures of organizational effectiveness, however (Jensen, 2007). On the one hand, these aggregate measures offer little guidance for policymakers without being separated into their constituent components. On the other hand, because aggregate measures rely on expert opinion, they probably suffer from endogeneity problems. Experts who observe poor implementation performance are likely to identify that as part and parcel of low government capacity. Thus some studies eschew these aggregate measures of capacity (or lack thereof) in favor of variables that capture more specific mechanisms. One finds that corruption negatively impacts transposition, though the mere existence of corruption is an inadequate test of the actual explanatory mechanism proposed (Kaeding, 2006). Others look closely at bureaucratic capacity that is specific to transposition, relying on independent assessments of a country's coordination capacity for EU issues

(Dimitrova & Toshkov, 2009) or the years of experience an agency has in transposing EU legislation (Steunenberg & Kaeding, 2009), and generally find support for this argument in a selected number of directives or a single policy sector.

Culture of compliance

One of the most influential works on EU implementation research in the last ten years proposed a novel political cultural explanation for cross-national variation in implementation patterns (Falkner, et al., 2005). Testing many of the alternative explanations described in the rest of this review through in-depth case studies of the transposition of six social policy directives in all EU-15 countries (and also observing, though less systematically, their compliance and application), the authors found support for very few of these explanations. What they saw instead was the division of the EU into three different "compliance cultures" or "worlds of compliance": a world of law observance, a world of domestic politics, and a world of neglect. The Nordic countries comprise the world of law observance in which compliance as a goal overrides other concerns and implementation is generally successful. In the world of neglect (Greece, Portugal, Italy, Ireland, France, and Luxembourg), a lack of both political and administrative will or capacity leads to frequent implementation failures. Domestic political interests dominate the world of domestic politics so that successful implementation occurs provided major political actors support it or it is in national self-interest to do so. A later replication of the analysis in Poland suggests that no separate "world of compliance East" exists for the new member states (Leiber, 2007).

Cultural explanations are not entirely new to the EU implementation literature. Some of the earliest work suggested the existence of a "southern problem" in which Portugal, Italy, Greece, and Spain have poor compliance records as a result of the underdevelopment of civil society in these countries and its effects on public goods provisioning (Lampinen & Uusikylä, 1998). On the other hand, performance in these countries could reflect a high degree of misfit and low level of political mobilization for change (Börzel, 2001). Three of these countries fall into the "world of neglect", but the presence of Spain in the world of "domestic politics" suggests that the Southern states should not be viewed so homogenously and that "goodness-of-fit" explanations do not explain this heterogeneity as well as the cultural explanation offered in the "worlds of compliance" (Hartlapp &

Leiber, 2010). In a similar cultural vein, one study found that the more consensual decision-making style of the Nordic states (as opposed to the more confrontational style in Anglo-Saxon countries) explains their relatively high implementation performance (Sverdrup, 2004). This finding of "Nordic exceptionalism" is largely in line with the "world of compliance" typology that places three of these countries into the "world of law observance".

One problem with such cultural explanations, and with cultural explanations more generally, is that the precise mechanisms linking a country's "compliance culture" with implementation patterns are not clearly specified. Another problem is that objective criteria do not exist for placing each country into one or another "world". The placement arose from the original study inductively but no effort was made to identify precisely those factors that define culture. The level of "law abidingness" (respect for laws) among the citizenry might in part determine or at least be some indication of compliance culture, but studies linking this variable with transposition find little support for such a relationship (Berglund, et al., 2006; Toshkov, 2007a). In an attempt to unravel the determinants of compliance culture through an investigation of mass political attitudes, one study finds that the level of trust in EU institutions, law abidingness, rule-following, and law observance do not adequately distinguish countries according to this typology, but the level of social trust in general does (Toshkov, 2007b). Even if a correlation can be found between mass attitudes and an aggregate concept like national culture it still begs the question as to what links mass attitudes to elite behavior. No attempts have been made as yet to link elite attitudes with variation in compliance culture. Another problem with cultural explanations is that culture is generally seen as a fixed attribute that varies only cross-nationally, while many implementation outcomes vary within countries (across different policies) and across time as countries adapt to the demands of EU legislation.

Subsequent quantitative analyses have found at best mixed evidence for the "worlds of compliance" approach. A quantitative analysis of transposition delay in the new member states found that these "worlds" provided little explanatory power when considering transposition over a large number of directives and even when looking specifically at the directives used in the original study (Toshkov, 2007b). Contrary to expectations, non-transposition rates were no more variable in countries of the "world of domestic politics" than in the other two worlds. Another analysis examining the same six directives as the original study came to

the same conclusion once controlling for a different set of variables (Thomson, et al., 2007). They found significant effects for variables (such as policy misfit) that Falkner et al. regarded as inconsequential, arguing that the bivariate tests used in the original study were inadequate to test competing hypotheses.

Top-down policy approaches

Several studies have found support for the effects of top-down features of policies on their implementation. Some have their roots directly in the decision-making process that produced a piece of legislation while others are influenced by the content of the legislation. With regard to the former, a few scholars have highlighted the importance of the decision-making procedure (Kaeding, 2006; König & Luetgert, 2009; Zhelyazkova & Torenvlied, 2009). The procedure used determines the relative bargaining power of states and this in turn influences their implementation (in line with the bargaining power-based explanations considered earlier).

More common are explanations that rely on characteristics of the policy or legislation as a basis for mechanisms that influence implementation. Many of these characteristics, it is argued, are in part determined by politics and procedures during the EU decision-making phase. Thus among the many possible factors he suggests as relevant, Dimatrakopolous points towards the vague content of directives that results from political compromises during policy formulation (Dimitrakopoulos, 2001b). Following developments in the American literature, some have indeed found evidence for a link between decision-making features and the degree of ambiguity (or more favorably, the amount of discretion granted to member states for implementation) in directives (Franchino, 2007). With respect to the influences of discretion, some have found that the discretion in directives enhances the timeliness of transposition (Kaeding, 2008; Steunenberg & Toshkov, 2009; Thomson, 2007). Taking it one step further, one study finds that the interaction of member states' preferences (the degree of disagreement with a directive) and discretion is significant, but that discretion delays transposition (Thomson, et al., 2007).

Additional features of a policy appear in other studies. The complexity of a directive is thought to lead to delays in transposition and problems in implementation (König & Luetgert, 2009). Some studies use the number of legal

instruments required for transposition as an indicator of complexity. Another study uses the presence of annexes as a measure of technical complexity (Steunenberg & Kaeding, 2009). Similarly, the "detail" of a directive (as measured by the number recitals appearing at the beginning) is believed to influence implementation (Kaeding, 2006). In one study, recitals are also used to measure the extent to which an attempt is made to placate opposing interests (Steunenberg & Kaeding, 2009). The use of recitals as indicator for both these very different concepts suggests the difficulty inherent in obtaining reliable measures for policy characteristics that are easily observed across many pieces of legislation. Still other features of legislation: new vs. amending, number of articles, time given for transposition, etc. have been applied with mixed success (Haverland, Steunenberg, & Van Waarden, 2011; Kaeding, 2006).

Conclusion

From its early eclectic beginnings, research into the implementation of EU policy has developed into a focused research agenda with several alternative explanations but few well-supported generalizations. Explanations have made use of a variety of political, administrative, national contextual, and policy characteristics to explain implementation successes and failures. In the last ten years, quantitative analyses of transposition have come to dominate the subfield. Ever-improving datasets and increasingly complex model specifications have been applied and a whole range of factors have been considered. Despite the plethora of transposition analyses, few have taken on post-transposition application as a relevant topic and even fewer connect transposition to application. Post-transposition implementation studies were present in the beginning of EU implementation research but have nearly always been limited to a small number of policy fields (particularly environmental and social policies) and have relied primarily on qualitative information. This work on application is largely divorced from the expansive transposition literature that has mostly replaced it. Hence this study attempts to bridge the two literatures by offering an analysis of implementation that analyzes both transposition and application using qualitative and quantitative data in a largely overlooked policy area, that of animal welfare.

CHAPTER 3

Theorizing post-transposition application

From the literature reviewed in the previous chapter, it is clear that a wide variety of factors have been used more or less successfully in attempts to explain differences in transposition and application across policies and Member States of the EU. While some of the insights gained from qualitative case studies of post-transposition application have been used to inform the transposition literature, which is predominantly quantitative in nature, little effort has been made to apply the insights from the study of transposition to the subsequent stages of implementation. Using the literature reviewed in the prior chapter as a starting point, the current chapter adapts several of the major theoretical approaches from the study of transposition in order to derive testable hypotheses to explain differences in the post-transposition application of EU regulatory policies. Thus I will derive hypotheses related to adaptation pressure, legislative discretion, implementing institutions, and transposition delay. Evidence for these hypotheses will be illuminated in the three case study chapters that follow, and later chapters will subject them to quantitative analysis. These analyses will also include control variables that draw on established hypotheses from the transposition and implementation literatures, but I will discuss these as they appear in the analyses.

Interrelated perspectives on implementation in the EU

The literature review of the preceding chapter identified five major approaches that scholars have used to explain success and failure in transposition and post-transposition application of policy in the EU: goodness-of-fit, implementing institutions (including veto players, with and without formal models), administrative capacity, cultural approaches, and the importance of top-down factors (such as characteristics of the decision-making process that gave rise to the policy to be implemented, policy complexity, and the discretion available to national decision-makers and implementing actors). While in some cases scholars have pitted their pet theory against the others, the majority of the works reviewed within each of these frameworks acknowledges the contributions that each approach makes towards a fuller understanding of this phenomenon. The approach taken here follows along in this spirit by incorporating the most illuminating elements from several of these frameworks, making innovations in these that are suitable to the particular puzzle at hand, and leaving aside others that are less useful for this study.

From the literature review, it is clear that the goodness-of-fit and institutional approaches offer the clearest set of causal mechanisms and intuitively compelling hypotheses. Although the empirical record is mixed for both (as it is nearly everywhere in implementation research), some of this variability in empirical success can be attributed to different approaches to conceptualization and operationalization. The approaches (as the word "approach" in place of "theory" suggests) lend themselves to a diversity of hypotheses that still fall within the framework. Many of these differences were described in the last chapter; what is at stake here is the choice of these approaches for this study in place of others.

The goodness-of-fit approach (which I recast as an "adaptation pressure" explanation of implementation) is particularly appropriate in the EU context (for which it has been developed), where a policy is imposed from above onto the many diverse member states. Viewing the implementation of EU policy as the set of national responses to achieve some kind of international uniformity in policy objectives almost instinctively leads the viewer to consider the differences between the national context and the policy to which it must adapt. This instinctive response may explain why this consideration emerged very early in the study of EU implementation and why it remains (in spite of its detractors) important in the literature. As such, it forms an integral part of the approach taken here. At the same time, several conceptual and methodological aspects of "goodness-of-fit" explanations of implementation in the EU (discussed below) have hindered its application in existing studies and must be addressed in order to apply the approach to a large-n analysis of post-transposition application. The same case can be made for institutional explanations, the second major component of the theoretical approach taken here: although it has substantially illuminated the subfield, it must be adapted to the reality of large-n analysis of post-transposition application.

While the "goodness-of-fit" approach has enriched the study of EU implementation, scholars who use the approach tend to see the "misfit" between national context and the demands of EU policy as the sole source of implementation failure. One exception discussed in the literature review is the interaction between "misfit" and institutional characteristics of the member states (including veto players). These institutional characteristics do not exhaust the possible factors upon which the influence of "misfit" may be conditional. Drawing on the top-down approaches identified in the literature (which, although often also viewed

in isolation of other factors do in fact lend themselves to conditional effects), the theoretical approach taken here examines the interaction between the "goodness-of-fit" approach and one variant of the top-down approach that stresses the importance of policy discretion in shaping member states' responses to adaptation pressure. The other major top-down factors identified in the literature (policy complexity and the character of the decision-making process that shaped EU policy) are relatively constant within farm animal welfare policy and so will not be considered here.

The final element of the theoretical approach considers the role of transposition delay in influencing post-transposition application. This factor has so far been left out of the study of implementation in the EU. In the relevant section below, I argue why this factor may improve our understanding of the phenomenon. This thesis, which takes as its starting point the potential for the transposition literature to help understand post-transposition application is a natural arena for examining this factor.

Two approaches discussed in the literature review will not be part of the theoretical approach laid out below. The administrative capacity approach is straightforward enough that it offers no new insights into the study of post-transposition application, although it may still be an important part of the puzzle. As such it will be included in the later analyses as a control variable and will be considered alongside other theoretical factors in the case study chapters. The culture of compliance approach, on the other hand, is deliberately excluded. The approach cannot account for the within-country variation in implementation quality across policies and time that this thesis seeks to explain.

Adaptation pressure

In the previous chapter, the review of the "goodness-of-fit" literature concluded that the existence of a wide variety of approaches identifying themselves with this kind of explanation has led in part to a stretching and thus weakening of its theoretical usefulness. Nevertheless, the success that the approach has had empirically, combined with its seeming intuitive appeal, makes it difficult to ignore when attempting to explain variability in the implementation of EU regulatory policy. Instead of viewing this kind of explanation as a single theory to be disproven or not in each round of empirical testing, it may prove fruitful to extract a set of propositions based on its collected wisdom that are applicable to

the empirical question at hand. Because not all dimensions of "misfit" may be applicable within a single sector like animal welfare regulation, some aspects of adaptation pressure will be dismissed as irrelevant. Many aspects are likely immeasurable.

With some exceptions, the several variants of the "goodness-of-fit" or "adaptation pressure" explanations for implementation success or failure adopt a static conceptualization of "misfit" that manifests itself at the national level. There is nothing inherent in the approach itself that requires a static conceptualization. Instead, the cross-sectional manner in which the concept is applied in existing research leads scholars to this static conceptualization. Although encompassing several possible dimensions (institutional, legal, political, etc.), the extent of misfit is a function of the difference between the incoming EU policy and the existing national policy (or lack thereof) that it modifies, replaces, or fills in. Such an approach that compares two snapshots in time treats the difference between them (the concept of interest) as a constant. Even for those that use "observed" adaptation pressure (by counting the number of national implementing measures needed to transpose a directive and by considering their novelty or position in the legal hierarchy), the outcome that is observed is still a function of that static difference, but only the end state is observed.

The concept is inherently multilevel, even if the scope of analysis does not always permit recognition of this fact. If several policies are observed across several member states, then the size of this difference may vary across countries, as countries vary in their preexisting policies. These cross-national differences may be smaller in a policy field already heavily influenced or determined by EU legislation. The size of the difference also varies across policies for this reason and others. Besides cross-policy differences in the extent of preexisting policy harmonization, adaptation pressures may be greater for policies that are more technically complex than others, impose more costs on a larger number of private actors, or require more changes to public actors' routines and standard operating procedures.

For some of its variants, a static conception of adaptation pressure for use in analyses of transposition timeliness is acceptable on theoretical grounds and may also serve to simplify things methodologically. Although some time exists between the promulgation of a directive and the moment at which a country must have national laws in place to implement it, the factors regarded as creating

misfit, like a country's legal order, its preexisting policy, the constellation of interests affected, or the administrative and political institutions that may facilitate or hinder transposition, are unlikely to change before the deadline. The methodological simplicity afforded by a static conception was mentioned above – scholars need only assess misfit immediately prior to the introduction of new policy. Although not without their challenges, assessing the changes brought about by new EU policies relative to existing national ones or, even simpler, observing the actions taken to adapt is easier than monitoring the ways in which adaptation pressures change over time. The former requires only two snapshots, the latter requires a longer exposure.

This same static conception of adaptation pressure is also compelling for understanding post-transposition application. The "misfit" hypothesis in fact emerged from and was further refined in a set of qualitative implementation case studies. Although later variants of the "misfit" hypothesis added a dynamic component when seeking to explain implementation, the dynamic component referred not to continuing or newly emerging sources of adaptation pressure but to the evolution of a country's response to the same static "misfit" (Knill & Lenschow, 2001). The qualitative approach to understanding the impact of "misfit" in these case studies allowed rich descriptions of adaptation pressures mainly stemming from cross-national differences in existing policies and regulatory styles. Although they are important for understanding the bigger picture, many of these country-level differences have already disappeared in a policy sector like farm animal welfare, which had already matured by the 2000s. The administrative structures necessary for veterinary inspection were put in place in most member states decades earlier, even in the New Member States. As discussed in the policy history chapter, specific animal welfare regulations were promulgated at national and EU levels before the period under investigation in this book. Thus the major sources of adaptation pressure considered here will be those that emerge from the policy level as the policy evolves over time.

Preexisting national policies cannot be completely ignored, however, because there is at least the potential that changes to EU legislation do not mean changes for some member states. This could be the case whether these changes involve additional transposition or not. On the one hand, new or modified requirements may not be applicable to some member states. For example, the requirements for long journey transport of animals by sea introduced in Council Regulation (EC) No

1/2005 do not create adaptation pressure for landlocked member states. On the other hand, requirements may already exist in some member states in advance of their appearance at the EU level. By the time the battery cage ban for laying hens went into effect throughout the EU, they had already been banned in several countries, including Germany, Austria, and Sweden. These instances represent departures from the norm, and rather than developing a separate hypothesis for this kind of "absence" of adaptation pressure, I will take them into account when interpreting the case studies and quantitative analyses that follow.

While the static component of misfit remains important for understanding why implementation is smoother in some countries than in others, particularly in the months or years immediately after transposition, a dynamic conception of adaptation pressure becomes more important when we seek to understand implementation over a longer period and in relatively mature policy sectors. The importance arises from the fact that while the process of transposition largely stops once national implementing measures are agreed and in force, post-transposition application involves continuous action by member states' administrations, and adaptation continues. National legislation may need to be amended as EU legislation is modified, but analyses of transposition treat these modifications as new transposition "events" to which the same static conception of adaptation pressure could be applied. That is, the transposition of original and amended EU legislation are independent observations in these studies, subject to the same set of explanatory factors. With respect to application, these modifications feed into the ongoing process and represent new sources of adaptation pressure.

Adaptation pressures at the policy level that exert their influence on member state application of EU regulatory policy over time come from one of three sources: amendments, specifications, and phased-in requirements. Amendments to EU legislation introduce new or modify existing requirements in a policy sector in which member states are already applying EU requirements. For directives, these amendments must be transposed into national legislation by a certain deadline and for regulations they apply directly from the entry into force date of the regulation. Amended EU legislation will alter some requirements but leave others unchanged. The amendments to the welfare of farmed pigs directive[4] introduced and modified both the general requirements for keeping pigs and the specific

[4] Council Directive 91/630/EEC laying down minimum standards for the protection of pigs, as amended by Council Directive 2001/88/EC amending Directive 91/630/EEC laying down minimum standards for the protection of pigs and Commission Directive 2001/93/EC amending Directive 91/630/EEC laying down minimum standards for the protection of pigs

requirements for pig holdings, but it left unchanged the requirements regarding inspections and the provision of instructions and training to pig handlers.

For regulatory policies such as these, modifications of requirements increase the likelihood of deficient implementation in two ways. First, the private actors whose behavior is being regulated must make changes to their equipment and practices, and these changes may be costly and hence resisted. New equipment, like larger cages for hens, may need to be purchased. Second, state actors must inform the regulated actors about these new requirements and must in turn adapt their inspection procedures to ensure that the required changes are being made. Some amendments may impose changes directly on public actors alone by forcing specific approaches to carrying out inspections or imposing penalties for non-compliance. During the 2000s, most requirements for the welfare of animals during transport were amended, few on farm welfare requirements were amended, and no amendments to welfare during slaughter or killing were made.

The second source of policy-level adaptation processes refers to the further specification of existing requirements through additional EU legislation. The eventual creation of such specifications is usually anticipated in the original Directive or Regulation. For example, Article 7 of the laying hens directive specifies that "Member States shall ensure that the establishments covered by the scope of this directive are registered by the competent authority and given a distinguishing number…The arrangements for implementing this Article shall be determined before 1 January 2002…"[5] Although missing this deadline, "Commission Directive 2002/4/EC of 30 January 2002 on the registration of establishments keeping laying hens, covered by Council Directive 1999/74/EC" laid down the means for a uniform egg identification system for registered laying hen holdings in the Member States. Under the original Directive (1999/74/EC), the Member States had to establish a registration system for laying hen holdings by 1 January 2002, but by 31 March 2003, this system had to reflect the requirements in Commission Directive 2002/4/EC. Another example of a legislative specification in the farm animal welfare sector is the detailed requirements for inspection contained in the official controls regulation that are meant to further specify how Member States are to carry out the inspection requirements in several of the other directives. Unlike amendments, these specifications do not represent major modifications and are primarily limited to modifying the behavior of state actors. Nevertheless,

[5] Council Directive 1999/74/EC laying down minimum standards for the protection of laying hens

they represent an additional source of adaptation pressure with which Member States must cope and therefore increase the likelihood of difficulties in implementation.

The final source of dynamic adaptation pressures originating from EU legislation are those requirements that are phased in over time. Anticipating that particular requirements will be costly or otherwise difficult for member states to implement in the short term, EU legislation often stipulates that such requirements will not apply until a certain date after the rest of the requirements become effective. The animal welfare subfield contains many such phased in requirements. The phasing out of battery cages dictated in the 1999 laying hens directive that was not effective until 1 January 2012 is one of the most well-known of all EU animal welfare policies. Although by their nature these phased-in requirements are known to regulated entities in advance, they nevertheless represent a third source of adaptation pressure. The need for an extended deadline suggests that these requirements are particularly difficult to implement and are hence more likely to lead to implementation deficiency. Moreover, while some countries will take proactive measures to ensure that regulated actors comply by the time the requirement applies, others may take a "hands-off" or "wait-and-see" approach that leaves some actors scrambling to make the necessary changes in the final hour. Inspectors in turn must step up their enforcement activities to ensure that these changes are being implemented and the necessary capacity may be lacking. As a result of these tendencies, phased-in requirements may be a significant source of adaptation pressure.

Though hardly trivial, a hypothesis with respect to the effect of adaptation pressure on implementation can be advanced as follows:

> *H1: Each additional source of adaptation pressure (regardless of its origins in amendments, specifications, or phased-in requirements) increases the likelihood of implementation difficulty.*

Discretion

Beyond the extent to which EU policies require difficult and costly changes by the member states, the content of EU legislation may also shape implementation depending on the amount of discretion it grants them. Although the effects of legislative discretion on implementation have often been speculated about, most

empirical analyses of their effects have been restricted to the transposition phase (Steunenberg & Toshkov, 2009; Thomson, 2007; Thomson, et al., 2007). Different studies of transposition timeliness that include legislative discretion as an independent variable have come to different conclusions about its effects. On the one hand, it may complicate transposition by providing more issues that can be fought over during agreement of national implementing measures. On the other, it may ease the transposition by giving the flexibility that allows these measures to more closely match domestic needs and preferences, thereby quickening decision-making. The empirical record is mixed with some studies finding significant results for either direction.

With respect to the application of legislation after it has been transposed, the direct effects of discretion (e.g., other than the possibility that discretion delays transposition and this in turn leads to difficulties in application) may be equally ambiguous. In reducing problems during application, national legislation has already ironed out the details and thus resolved any disagreements over how that discretion should be exercised. Political or administrative actors who were unable to obtain their preferences during this resolution may still complicate application by withholding resources or shifting administrative priorities, but these efforts may be applied equally to issues they initially opposed, for which there had been no room for maneuvering in EU legislation. In the event that disagreement remains unresolved, there is some chance that the discretion in EU legislation is retained in national legislation and thereby passed to administrative actors, but the end result will still be the same. By its very nature, the presence of discretion means that several alternative policies are consistent with the requirements of the directive. Implementation difficulties are fewer because there are more routes to implementation success. Moreover, member states may make careful use of this discretion in order to fit policies to their own circumstances and preexisting policies, thereby lowering adaptation pressures. To give an example of legislative discretion designed explicitly for the tailoring of requirements to national circumstances, the pigs directive requires that provisions are made so that farmed pigs have access to appropriate lighting "allowing for the different climatic conditions in the Member States."

There is at least one way that legislative discretion may lead to problems during post-transposition implementation. By giving member states the flexibility to choose their own way as long as the objectives of the policy are achieved, some

member states may take the path of least resistance and focus on minimizing the cost of policy adaptation while ignoring or paying only lip service to attaining the required objectives. The presence of ambiguously worded or difficult to measure objectives makes such an approach even more compelling. In the field of farm animal welfare, for example, member states have flexibility with respect to the kinds and sizes of penalties they impose on non-compliant actors as long as these are sufficiently dissuasive. For a penalty to be dissuasive it must influence the regulated actor's calculus of compliance so that, facing a higher probability of larger fines, they are more likely to comply. The regulated actors' calculus of compliance can never be observed, while the observable rates of compliance across the whole sector are determined not only by the dissuasiveness of fines. As a result, achieving the objective of dissuasive penalties is difficult to verify. Knowing this, some member states may make only minimal efforts to ensure dissuasive penalties. It is also worth mentioning that while the pathways to compliance are greater when legislation grants members discretionary authority, the number of possible routes to non-compliance still remain very large in comparison.

This variety of pathways between legislative discretion and final application suggest a conditional effect for the discretion hypothesis that relates the effect of discretion on implementation to the extent of adaptation pressure. Note that such an interactive effect may be expressed in two ways that are semantically different (and different in their emphasis) but are substantially identical:

> *H2A: As the amount of adaptation pressure increases, discretion decreases the likelihood of implementation difficulty.*
>
> *H2B: In the absence of discretion, adaptation pressure increases the likelihood of implementation difficulty.*

Institutions

Moving from legislative factors, I consider next the national institutional characteristics that are likely to influence implementation success and failure. In the transposition literature, much of the focus has been on political veto players and their preferences. As summarized in the literature review, the preference-less approach to veto players predicted that as the number of veto players increases, the likelihood or length of transposition delay increases as well. Because more

actors have the ability to block the adoption of legislation unless they are satisfied, then all things equal, agreements on implementation measures are more difficult. A preference-based account controls for these actors' preferences so that actors with similar preferences over the shape of policy will not be equally likely to slow transposition. The logic behind both these approaches operates through the negotiation of the content and form of implementation measures and as such focuses almost exclusively on partisan veto players. The influence of partisan veto players on application is less clear and at most an indirect one.

Others working in a similar vein point out the importance of ministerial veto players and interministerial coordination during transposition (Mastenbroek, 2003; Steunenberg & Toshkov, 2009). As above, the more ministries involved in transposition, the greater the length and likelihood of delay. Because these actors play a major role in post-transposition implementation, it is reasonable to expect that the number of such actors involved during transposition may also have an effect at this stage. On the one hand, the inclusion of several ministries during transposition may result in balanced national legislation that takes into account the preferences and priorities of several disparate actors. Including multiple actors at this stage is particularly important if all share in the responsibility for implementation. Otherwise, authorities may have little motivation or face difficulties when implementing legislation forced upon them without their input. Yet on the other hand, disagreement among transposing ministries may result in ambiguous national implementing measures that are difficult to apply. The inability to resolve some contentious issues during transposition may lead to vaguely worded legislation that grants significant discretionary authority to actors directly responsible for implementation. Without clear legal guidelines, a broader range of implementation outcomes can be expected, with deficient outcomes among them. Including multiple actors during transposition may also increase the legal complexity of implementing legislation, creating the possibility for self-contradictions and unworkable provisions. Compromises during the planning stage may not be realistic for civil servants to apply. The inability to compromise might favor a literal approach to transposition, copying nearly word for word the text of EU legislation into national measures, preventing adaptation to national circumstances that would otherwise reduce adaptation pressures. This leads to my first institutional hypothesis:

H3A: As the number of actors responsible for transposition increases, the likelihood of implementation difficulty increases.

While the ministries participating in transposition have the potential to shape implementation through the legislation they create, the division of authority among actors responsible for application should have a more direct effect. There are two dimensions to this division of authority: horizontal and vertical. The horizontal division of authority refers to the sharing of responsibility for post-transposition implementation among different ministries or authorities. In the field of animal welfare policy, as in other policy sectors where the EU has competency, EU legislation requires that member states designate one competent authority to serve as a contact point for implementation. For most member states, the competent authority is the ministry, agency, or authority that plays the most significant role during application. The competent authority selected for farm animal welfare is usually the agricultural ministry or a state veterinary service within it or veterinary service existing independently. Depending on the nature of the policy and institutional characteristics of the member state, however, additional authorities may play some role. In some cases, ministries of justice have responsibility for administering penalties in the event of non-compliance. Customs inspectors or agents from the transport ministry may play an important role in enforcing animal welfare during transport legislation. Inspectors from the state veterinary service may share competence for slaughterhouse inspections with inspectors from a food safety authority. In several cases, there is no single national authority responsible for implementation and these tasks are divided among independent and coequally responsible subnational authorities, as in Spain.

The need for sharing responsibility among different authorities in a member state reflects national legal and institutional characteristics as well as the particularities of the policy being implemented. With more actors involved and no hierarchical relationships among them, problems of coordination and cooperation may lead to implementation deficiencies. Although each actor may have a well-defined role in implementing a particular policy, not all may carry out their role adequately. If responsibility is equally divided among several subnational authorities, then a diseconomy of scale creates problems. Not all regions will be equally endowed with resources for proper training, equipment, and personnel,

and some may lack the political will to implement policies conferred upon them by a distant government in Brussels. Coordination problems are no less important when responsibility is shared among equal national authorities. A state veterinary service generally possesses personnel with adequate training and skill to verify whether animal welfare requirements are being met. For inspectors within such an authority, this kind of work is one of their core competencies and veterinarians generally self-select into the profession and employment in a public agency because of their interest in the wellbeing of animals. Police or inspectors from a transportation ministry may not share the same value or possess adequate training to carry out such tasks. Moreover, their core tasks may take priority over enforcing animal welfare legislation. In a more basic way, the smooth operation of a policy implemented by several authorities may be more complicated as the number of authorities increases because extra effort is needed on the part of all to effectively communicate and coordinate their activities. The need for effective coordination among implementation authorities is underscored by the fact that among its operational criteria for competent authorities, the official controls regulation actually requires effective and efficient coordination between authorities involved (Article 4(3)). This leads to my second institutional hypothesis:

> *H3B: As the number of actors horizontally coordinating implementation increases, the likelihood of implementation difficulty increases.*

The vertical dimension of the division of implementation authority is likely to affect implementation in a similar way. By vertical dimension, I mean the division of responsibility for application within a single competent authority among regional offices, or the degree of centralization. Two things matter: the number of regional offices and the relative degree of autonomy that the regional offices possess. The size of a country (both in land area and population) as well as the geographic distribution of the regulated activity (e.g., animal farming, transportation, and slaughter) determine the number of regional divisions within the competent authority. As with the horizontal dimension, a larger number of regional offices strains the ability of the central competent authority to carry out effective controls uniformly across the entire territory. The importance of this too is anticipated in the official controls regulation, which requires that competent authorities "ensure the impartiality, quality and consistency of official controls at all levels" (Article 4(4)) and that "when, within a competent authority, more than

one unit is competent to carry out official controls, efficient and effective coordination and cooperation shall be ensured between the different units" (Article 4(5)). This leads to my third institutional hypothesis:

> *H3C: As the number of geographic divisions within the central competent authority increases, the likelihood of implementation difficulty increases.*

The effect that the number of regional offices has on implementation may be mediated by the distribution of authority among them, but it is uncertain whether this leads to greater problems for implementation. On the one hand, if regional offices possess more autonomy, then problems of coordination will likely increase. Extra effort will be required to ensure that each office correctly applies the provisions of EU policy. On the other hand, granting more autonomy to regional offices allows the personnel to use their expert local knowledge in order to tailor policies to the circumstances of their area. The degree to which regional authorities possess autonomy for carrying out animal welfare inspections varies. In some cases, the choice of inspection targets (inspection intensity) and the actual selection of farms or operators to be inspected are carried out at the central level. More autonomous regional offices select who they will inspect and in some cases the number of inspections they will carry out each year. Despite the theoretical uncertainty, it seems reasonable to suspect that the effect that the number of regional offices has on implementation depends in part on the degree of autonomy that these offices possess. This leads to my fourth and final institutional hypothesis:

> *H3D: The decentralization of implementation authority from the central office to regional offices increases the likelihood of implementation difficulty.*

Transposition delay

The final major factor for explaining variation in the implementation of EU regulatory policy that I will consider here is the direct effect that transposition delay may have. Although some of the factors considered above may contribute independently to problems during transposition and application, problems during transposition may themselves complicate later implementation. Most importantly, transposition delay prevents member states from implementing EU policies when others have already begun to do so. Countries that transpose EU

legislation on time have a head start over those that do not, allowing more time to adapt to new policies and help regulated actors prepare for upcoming deadlines. Thus my final hypothesis:

> *H4: The greater the delay in transposing EU legislation, the greater the likelihood of implementation difficulty.*

Summary

This chapter presents a set of complementary hypotheses for explaining cross-national and cross-policy variation in the successfulness of regulatory implementation. These have been drawn from the transposition literature discussed in the previous chapter. The transposition literature serves as a starting point for deriving hypotheses for post-application implementation for two reasons. First, the transposition literature, perhaps given the narrow range of outcomes that it has attempted to explain, is both more concentrated and cumulative than the general implementation literature or work that considers post-transposition implementation in the EU specifically. Thus relying on this literature as a stepping stone helps focus attention to a small number of potentially interesting explanatory factors. Some of the works discussed in the previous chapter, though dealing with transposition, draw on more general implementation scholarship. Second, and following the spirit of cumulative social scientific research, I have argued that the transposition literature can generate insights beyond its narrow concerns with explaining variation in transposition rates and delays. Although the domain of activity to be explained is different, several of the mechanisms can be reasonably applied from the study of transposition to understanding post-transposition application. The purpose of this chapter has been to draw out those factors that can be applied in both domains.

These factors are the degree of adaptation pressure, the amount of discretionary authority delegated to the member states, and the institutional characteristics influencing implementation. To these three factors I have also added the effect of transposition itself on post-transposition application. The hypotheses derived from these factors are complementary in the sense that each can have an effect on implementation that is independent from the other. Nevertheless, several of these factors might influence implementation in conjunction with one another. The empirical analyses that follow, in addition to separately testing the hypotheses

advanced above will explore the possibility of interactions between these factors in those cases that seem most likely to exhibit interaction effects.

CHAPTER 4

Farm Animal Welfare Policy in the EU

In order to set the stage for the analyses that follow, this chapter briefly outlines the history of animal welfare policy in Europe. Parallel developments in member states, the Council of Europe (an international institution comprised of European countries, some of which are EU member states and others that are not), and the European Economic Community (later the EU) will be traced. Because the primary purpose of this book is to explain cross-national and cross-policy variation in the implementation of farm animal welfare policies, the current chapter does not attempt to explain or interpret the evolution of these policies. Instead the main historical currents in policy formation and development are described and traced to give the reader context for the subsequent empirical chapters. These developments are traced from early national laws prohibiting cruelty to animals to the harmonization of major aspects of farm animal welfare in three sectors (on farm, during transport, and at slaughter or killing) provided by EU law. Providing such context will allow the reader to better appreciate the implementation difficulties that arise from an evolving farm animal welfare policy and that will be analyzed in the following chapters.

Animal welfare on the public policy agenda

Humans have long seen animals as a commodity to be exploited for their own survival (Kalof, 2007). The earliest religious texts enshrine a human-animal relationship in which humans are the masters of other animals and in fact all life on Earth. It would take several millennia for these ideas to be challenged. Although ideas about the dominance of humans over other animals persist today, Enlightenment thought in the 17th and 18th centuries led to some rethinking of this relationship. The utilitarian philosopher Jeremy Bentham, hailed by some as patron saint of the animal rights movement, speculated in 1789 that "[t]he day may come, when the rest of the animal creation may acquire those rights which never could have been withholden from them but by the hand of tyranny…The question is not, Can [animals] reason? nor, Can they talk? But, Can they suffer?" (quoted in Benthall, 2007).

Less than fifty years later, the world's first national legislation providing for the protection of animals was enacted in the United Kingdom. The 1822 "Act to Prevent the Cruel and Improper Treatment of Cattle" made it a criminal offence for any person "who shall wantonly and cruelly beat, abuse or ill-treat any Horse,

Mare, Gelding, Mule, Ass, Ox, Cow, Heifer, Steer, Sheep, or other Cattle" (Great Britain, 1822). Two years later the Society for the Prevention of Cruelty to All Animals (now the SPCA) was formed and the modern animal rights and welfare movements began in earnest, spreading to other countries in Europe and overseas and covering a wide range of issues, including vivisection and performing animals. Branches of the SPCA were founded in most European countries in the 19th century alongside homegrown organizations and others campaigning for particular animal protections. Prohibitions on cruel treatment of animals entered the legal code in Germany in 1838 (the Kingdom of Saxony), France in 1850, and the Netherlands in 1886 (to cite a few examples).

During the same period that saw the rise of the animal rights movement, the technological advances and changing demographic patterns of the industrial revolution led to the intensification of agriculture in the UK and elsewhere in Europe and North America, leading to a doubling of global agricultural production between 1820 and 1920 (Scully, 2003). This intensification persisted into the next century to feed armies during two world wars so that production doubled again in just thirty years from 1920 to 1950. Improved chemical fertilizers and mechanized farming techniques led to increased crop production, while increasingly confined quarters for chicken and livestock led to greater animal production on the same amount of land. Later, antibiotics and growth hormones increased meat production per animal.

The intensification of food animal production lowered prices and allowed European and North American middle class families to eat meat more frequently than they had both during and before the wars. The nature of production systems (with more animals kept indoors and out of public view) and a drop in the size of the agricultural labor force in most Western European countries together meant people enjoyed increased meat consumption without being aware of the potential harmful effects on animals' well-being, the environment, or even human health. With little public concern at the time, intensive animal rearing also remained outside the public policy agenda. This changed in 1964 with the publication of Ruth Harrison's *Animal Machines* (1964), which helped to launch modern animal welfare policy in the UK, from where it would spread across the continent and the world. Like Upton Sinclair's *The Jungle* sixty years before, which brought public attention in the US to the poor worker and food safety conditions, leading to major regulation of this industry, and Rachel Carson's *Silent Spring* from

1962 which called attention to the effects of pesticides on bird populations and in turn launched the modern environmental movement and led to significant environmental regulations, the book raised the salience of the issue for the general public and led to government inquiries (van de Weerd & Sandilands, 2008). The farm animal welfare movement, particularly in the UK, received a new impetus.

Soon after the book's publication, the British government launched an investigation into the various farm rearing systems and their consequences for animal health and welfare. The committee reported its findings in the 1966 "Brambell report" (named for the leader of the investigation Professor Roger Brambell) and contained the guidelines that animals be allowed "to stand up, lie down, turn around, groom themselves and stretch their limbs" (Her Majesty's Stationery Office, 1965). The report spurred the creation of the Farm Animal Advisory Committee in 1967 to provide technical policy advice to the UK government for drafting of new legislation to ensure the adequate farm animal welfare (Farm Animal Welfare Council, 2009). This committee, comprised of veterinarians, academic, industry, and NGO scientists, economists, and other experts, and now called the Farm Animal Welfare Council, has continued to shape animal welfare policy in the UK and abroad. It helped with the passage of major amendments to the 1911 Protection of Animals Act: the Agriculture (Miscellaneous Provisions) Act 1968 which contained direct references to avoiding unnecessary pain or distress for livestock. More important than this initial legislative push, however, was the elaboration of the Brambell report's guidelines (quoted above) into the "five freedoms" (first mentioned in a 1979 FAAC press release) which together form the conceptual basis for most animal welfare policy of the last thirty years.

On the European agenda

Policy changes at this time were not limited to the United Kingdom. The first European[6] farm animal welfare policy was created in 1968 with the Council of Europe's adoption of the European Convention for the Protection of Animals During International Transport (revised in 2003). Under discussion since 1957, this

[6] That it was "European" refers to its origins in an international institution situated at the European level. Policy developed within the Council of Europe, although very influential for later European Economic Community (and hence EU) policy in the area, should be seen as separate and distinct.

convention specified requirements for the international transport of domestic mammals (including farm animals and pets), birds, and cold-blooded animals. Requirements included those relating to an animals' fitness for transport, the adequacy of the means of transport (sufficient space and appropriate materials), and provisions for adequate food, water, and rest. The Convention entered into force in 1971 and was eventually ratified by 15 of the current 47 member states of the Council of Europe, including members from both the West (e.g., all then-EEC members plus Iceland, Norway, Austria, etc.) and the East (USSR, Bulgaria, and Romania). This convention was followed by the European Conventions for the Protection of Animals Kept for Farming Purposes (1976, amended 1992), for the Protection of Animals for Slaughter (1979), for the Protection of Vertebrate Animals used for Experimental and Other Scientific Purposes (1986, amended 1998), and for the Protection of Pet animals (1987)

During this period, other countries in Europe were modernizing their national animal welfare policies. West Germany introduced a progressive act in 1972 (the "Tierschutzgesetz" or Animal Protection Act) and France updated its Code Rural in 1976 with more specific requirements for animal welfare (on farms and elsewhere). While national legislation and Council of Europe Conventions to ensure animal welfare went ahead, some members of the EEC voiced their desires for other international, but more binding and comprehensive, animal welfare policies to be developed within the EEC. When negotiating the European Convention for the Protection of Animals During International Transport (CETS No.: 193), the Belgian delegation declared that the issue should be "dealt with as a whole by the technical working parties of the European Economic Community" (Council of Europe, 1963).

Animal welfare policy in the EEC

While agreements in the Council of Europe continued ahead in the 1970s, limited efforts were initiated within the EEC. The first EEC animal welfare legislation, Council Directive 74/577/EEC on stunning of animals before slaughter, was to be fully transposed into Member State legislation by 1 July 1975. A much shorter directive than the more comprehensive one that was to follow on this subject nearly twenty years later, this directive required only that killing occurs quickly after stunning and that appropriate stunning equipment is properly maintained and operated by competent individuals. It provided derogations for emergency

slaughter, slaughter for personal consumption by farmers, and special slaughter methods practiced for religious reasons ("ritual slaughter"). Three years later, Council Directive 77/489/EEC on the protection of animals during international transport (with a transposition deadline of 1 August 1978) made the European Convention of the same name a part of EEC law. Although most EEC members were already party to the European Convention, its presence in EEC law meant greater enforceability through the courts of the EEC. When the EEC itself became a party to the European Convention for the Protection of Animals Kept for Farming Purposes in 1978, it launched a coordinated scientific research program into the welfare of farm animals as part of the its second coordinated agricultural research programme (1979-83). Its goal was "to provide scientific and technical knowledge necessary to secure the well-being of farm animals throughout the Community without eroding the competitiveness of the animal production industries" (Commission of the European Communities, 1984, p. iv). With this, an epistemic community was created to supply expert knowledge to EEC decision-makers.

In its first three years, it coordinated a variety of research projects on equipment, rearing systems, and the behavioral needs for the major farm animal species. Its entire common research program focused on the rearing of laying hens, reflecting the higher priority given to this sector. Knowledge derived from projects with titles like "The effect of group size and density (social space) on egg layers in deep and shallow cages" or "The effect of rearing conditions on the behavior and productivity of laying hens" directly informed a draft directive on laying hens. This draft Directive would not become law until 1988 as Council Directive 88/166/EEC. In addition to codifying into law a set of best practices to ensure the well-being of laying hens kept in battery cage systems, the law most notably set minimum space and equipment requirements for these cage systems to be applicable to all newly constructed systems and eventually to all systems (from 1995).

Other major EEC legislation followed soon after in the three animal welfare policy subsectors – on farm, during transport, and at slaughter or killing. Thus Directives 91/629/EEC and 91/630/EEC laid down minimum standards for the protection of calves and pigs, respectively. Like the Directive on hens, these Directives set requirements regarding the space, equipment, and behavioral needs for calves and pigs. Both contained requirements to be phased in over several years. In addition to specifying requirements to be respected by individual

farmers, these directives stipulated first that member states must put in place a system of inspections and penalties in order to ensure farmers' compliance and second that Commission officials must periodically monitor these inspection systems so that the requirements are uniformly applied within the EEC. The Office of Veterinary and Phytosanitary Inspection and Control (established in 1991 within the DG for Agriculture) would be responsible for monitoring Member State compliance. The directives also anticipated future reforms of the rules by demanding the Commission to submit a report on the experiences gained in order to adapt the legislation based on these experiences and on any new scientific advances in the understanding of farm animal welfare.

In the field of welfare during transport, Directive 91/628/EEC introduced more stringent and encompassing welfare requirements for the transport of animals within the EU than had existed under the European Convention. It introduced a harmonized system of route plans so that member states could verify whether animals being transported within their territories (originating there or elsewhere) met its requirements. Finally, Directive 93/119/EC went beyond the corresponding European Convention for welfare at slaughter or killing. Its annexes contain the only slaughter methods to be permitted within the EEC and prescribe in some detail the methods to be followed in the restraint, stunning, and slaughter or killing of farm animals of all kinds (including animals farmed for fur, despite their rearing in only a small number of Member States). Like the Directives dealing with on-farm welfare, these two Directives required both Member State inspection systems and the monitoring of these inspections by the Commission. Together these Directives and their subsequent amendments form the most significant part of the EU's farm animal welfare legislation. They have been adapted and added to periodically since the 1990s, but their core features took shape at this time.

A major food crisis in the mid-1990s and the ensuing political fallout had profound consequences for the regulation of the food supply chain in the EEC (Krapohl, 2008). Although animal welfare policy is less directly concerned with food supply chain safety, the general lack of confidence in EEC governance of veterinary and food safety issues spread to animal welfare policy as well, reshaping the European-level regulatory and monitoring system. Although the public salience of the problem would not explode until 1996, the issue had earlier origins. In 1985, cattle began dropping dead in England after suffering head tremors that

would earn this newly discovered disease the name "mad cow disease." Known also by its scientific name (bovine spongiform encephalopathy or BSE), it was first believed that it could not spread to humans, a position defended by the UK in order to protect its beef exports, which under the principal of mutual recognition, could not be discriminated against unless a threat to human health could be established.

The lack of evidence for human health consequences of BSE meant that the UK and the Commission continued to view the issue as a trade issue. Inaction at the EEC level led France and Germany to threaten unilateral bans on the import of British beef, which both the UK and the Commission viewed as unlawful. The situation changed in March of 1996 when the UK government admitted that the transmission of BSE from cattle to humans "could not be ruled out" (Krapohl, 2008, p. 129). Action at the European level quickened and within the same month the export of cattle, beef, and beef products from the UK was prohibited by the Commission (while the Scientific Veterinary Committee maintained its reluctance to change course).

Political and judicial efforts by the UK proceeded to challenge and attempted to overturn the ban, which was gradually done two years later. More important for the discussion here is the backlash faced by the Commission for its mishandling of the crisis during its period of inaction. First, Italian farmers attempted to sue the Commission, alleging that its mismanagement led to the collapse of the European beef market. They lost their case, but the European Parliament took up their challenge to the Commission. They launched an inquiry into the Commission's response to the BSE crisis and concluded that a lack of transparency on the part of all actors within the Commission involved with the crisis had aggravated the situation. Facing the threat of censure by the EP, the Commission in turn responded with plans to introduce major reforms into foodstuffs regulation (Vincent, 2004). Scientific, legislative, and control bodies would be separated, transparency of decision-making would be improved, resources for control would be increased, and bodies responsible for food safety regulation (including animal welfare policy) would be moved from the DG for Agriculture to the DG for Consumer Policy and Health Protection.

Among the changes, the Office of Veterinary and Phytosanitary Inspection and Control (located in Grange, Ireland) was moved and renamed the Food and Veterinary Office (FVO). With its mandate strengthened and its resources increased,

it now became the major organization within the European Commission tasked with monitoring the compliance of Member States with a large and expanding set of food safety and veterinary legislation. Its mission is "to monitor, report on and assist in the enforcement of Community legislation on food safety, animal health, plant health and animal welfare systems by Member States and by third countries exporting food, plants or animals to the EU" which it achieves through inspections of control systems in Member States and third countries (European Commission, 2001c, p. 3). The organization's restructuring to reflect its new mandate was completed in October of 1998, and the number of staff doubled between 1997 and 1999 to 154 staff members including 87 inspectors to reflect these reforms (European Commission, 2004k).

The Food and Veterinary Office

Before completing the discussion of the development of animal welfare legislation in the European Union, I will briefly describe the activities of the Food and Veterinary Office (FVO, located in Grange, Ireland). The FVO is the most important actor at the EU level for overseeing the implementation of EU food and veterinary policy (including farm animal welfare policy) in the member states. Although the analyses that follow focus on the actions taken (or not taken) by the Member States in order to implement EU animal welfare legislation, and the states are thus viewed as the central actors, the primary sources of information about these actions are the FVO reports following their inspection missions concerning EU animal welfare legislation. The principal activity of the FVO is the inspection of control systems in place for EU food and veterinary legislation and it carries out 200-250 inspection missions per year in Member States and third countries. The legal basis for these inspections lies within the individual Directives or Regulations whose requirements are to be inspected. By 2010, animal welfare counted as one of the twelve types of control systems (see Table 1) that the FVO monitors in the Member States and third countries (some systems) which can be grouped into one of four major areas: food safety (the largest share of inspections), animal health, animal welfare, and plant health (these last three of relatively similar importance). Individual inspections may examine aspects of multiple sectors (for example, some missions to assess the safety of food of animal origin have addressed limited aspects of animal welfare at slaughter or killing, largely because

these missions include visits to slaughterhouses), but otherwise inspections fall into one category.

Table 1: Control systems monitored by the FVO

Sector	Control system
Animal health	Animal health (live animals; semen, ova, and embryos; products of animal origin)
Food safety	Food of animal origin
	Imports of animals and food of animal origin
	Feedingstuffs and animal nutrition
	Transmissible Spongiform Encephalopathies (TSEs)
	Animal by-products (ABPs)
	Veterinary medicines and residues
	Foodstuffs and food hygiene
	Imports of food of plant origin
	Plant protection products
Animal welfare	Animal welfare (on farm, during transport, at slaughter or killing)
Plant health	Plant health (Genetically Modified Organisms, pesticides, seed and propagation material, plant health and biosecurity, plant property rights)

Given the political fallout from the BSE crisis and the continued urgency of that problem at the start of the FVO's new mandate, much of the work in the early years focused on inspections to ensure that adequate control systems were in place to respond to BSE outbreaks. Since then the annual mission program has changed to reflect the diversity of the areas covered (so that all types of control systems are inspected in all member states periodically), priorities that arise from legislative reform or the phasing in of new requirements, EU enlargement, and follow-up missions for serious problems identified during previous missions or through complaints. As an example of planned missions to reflect priorities, a series of inspections was undertaken from 2002 to 2004 to verify compliance with laying hen welfare requirements that entered into force in 2002 (European Commission, 2005h). The FVO also carried out missions between 2001 and 2004 prior to the big EU enlargement of 2004 to assess the readiness of control systems in the acceding countries. With respect to missions carried out in response to major problems, the FVO sent two inspection missions to Greece concerning

welfare during transport and at slaughter in quick succession following an initial mission in 2003 that identified major shortcomings in both the control system and the actual application of welfare requirements by transporters and slaughterhouse operators (European Commission, 2003a, 2003c, 2004i).

I describe here the format of these missions, the results of which are the key source of information for the case studies and quantitative analyses that follow. During a mission, two or three inspectors from the FVO, accompanied by representatives from the competent authority (the agency or ministry responsible for implementation) of the Member State, visit a small number of establishments in order to directly observe the application of EU legislation. An inspection dealing with farm animal welfare will visit farms with laying hens, pigs, or calves, for example, while one dealing with welfare during slaughter will visit slaughterhouses. Assembly centers, staging points (places where animals stop temporarily during transport for food, water, and rest), markets, and slaughterhouses will be visited during inspection missions concerned with welfare during transport. FVO inspectors watch Member State officials carry out their inspections to ensure that all requirements contained in EU legislation are adequately assessed and that proper action is taken when non-compliance is detected. In addition to this direct observation, the documents used by inspectors (checklists and guidelines) are checked to see whether they are adequate to ensure correct application. Visits to the central competent authority (e.g., the central office of implementing agency or ministry) are made in order to audit inspections records to verify that the intensity of inspections is sufficient and that penalty systems in place on paper are carried out to the extent necessary to improve compliance. Finally, the FVO examines Member States' transposing legislation to ensure its correctness (though it does not engage in a thorough legal analysis of Member State laws).

After extensively discussing the findings of an inspection mission with representatives of the Member State, the observations are published as an inspection report. This serves to address the Commission's commitment to transparency in food safety policymaking and control following the BSE crisis. Member States' comments to the observations made are included in the published reports as footnotes. From these observations a set of recommendations are made to the Member State in order to improve compliance. The Member State in turn must supply the FVO with an action plan that sets out how it intends to address these recommendations. Table 2 gives some examples of recommendations

given to Member States by the FVO and the actions intended by the Member State to remedy the situation. Until the early 2000s reports also sometimes included recommendations to the Commission itself either to amend legislation, clarify requirements, produce additional guidelines or to initiate infringement proceedings against a Member State for failure to respect the Directives.

Table 2: Sample FVO recommendations and member state responses

Subsector	Country	FVO Recommendation	Member State Response
At slaughter or killing	Czech Republic	"Ducks and rabbits are spared any avoidable excitement during lairaging in slaughterhouses (Article 3 of Directive 93/119/EC)." (European Commission, 2006f, p. 17)	"In relation to 3, 4 and 5, the regions concerned will perform checks aiming to ensure that the conditions of slaughtering of ducks, rabbits and turkeys will be improved." (European Commission, 2006f, p. 17)
Transport	Belgium	"Procedures for the authorisation of transporters include the documentation required by Articles 10 and 11 of Regulation (EC) No 1/2005." (European Commission, 2008d, p. 17)	"This documentation is not asked beforehand, but is checked on the spot. Possibilities to change the procedure will be looked at." (European Commission, 2008d, p. A1)
On farm	Poland	"Actions are taken so that laying hen farms comply with the requirements of Article 5 of Directive 1999/74/EC and Directive 98/58/EC, and those which are operating under derogations until 31.12.2009 meet this deadline." (European Commission, 2008f, p. 14)	"In letters GIWz.400/AW-I 13/08 of 1 December 2008 and GIWz.400/AW-113-1/09 of 9 February 2009, the Chief Veterinary Officer reminded the Voivodship Veterinary Officers that the transitional period granted in the Treaty of Accession for 44 farms keeping laying hens in the territory of Poland will end on 31 December 2009…" (European Commission, 2008f, p. A3)

Horizontal	Sweden	"The CCA should take measures to ensure that audits are implemented in relation to official controls on animal welfare as required by Article 4(6) of Regulation (EC) No 882/2004, and as recommended in the previous FVO report." (European Commission, 2010f, p. 30)	"The Ministry of Agriculture has given an independent investigator an assignment to suggest organization and responsibilities for audits according to Article4(6), Regulation 882/2004. Necessary changes in legal basis will also be suggested. The investigation was finished in March 2011." (European Commission, 2010f, p. A6)

These missions to inspect particular control systems have, since the mid-2000s, been complemented by two more general means with which the FVO monitors compliance. First, in 2003 a unit was created within the FVO to continuously monitor Member States' follow-up actions (European Commission, 2004k). Second, beginning in 2005 the FVO introduced general review missions to its regular mission program (European Commission, 2006l). These were introduced partly to monitor Member States' compliance with "Regulation (EC) No 882/2004 on official controls performed to ensure the verification of compliance with feed and food law, animal health and animal welfare rules" (a horizontal regulation specifying general requirements for Member State competent authorities in the entire sector covered by FVO inspections, see below) and also to monitor follow-up to recommendations given in general reports. The results of general review missions are also published as mission reports containing recommendations of a horizontal nature and eventually these reports all followed the same format by addressing (nearly all) the requirements in Regulation (EC) No 882/2004 article by article generally and for each of the control systems.

Additionally, beginning in 2005 the FVO started developing country profiles for each Member State. These profiles consist of two parts. The first describes the overall structure of the competent authority for food safety and veterinary policy and that of each of the eleven control systems covered by the FVO (those listed in Table 1). All ministries, agencies, and other authorities responsible for implementation are described in terms of their various responsibilities, the distribution of authority among them, and the vertical and horizontal structure within each. The second part of the country profile lists all the recommendations given to the Member States in the individual inspection missions, separated into the same twelve control systems plus horizontal recommendations given during

general missions. Beside each recommendation the report describes the latest findings related to the follow-up of that recommendation as well as a brief assessment of its current state: "action taken", "in progress", or "action still required". In the latter case an indication may be made that "The Commission has initiated specific follow up measures in the case of this recommendation". An annex to the report also includes a description of the number of staff within each authority, but the information here is neither standardized nor updated adequately enough to enable comparisons across the Member States in these terms. The country profiles are updated following general missions, but the recommendations may be followed up again in subsequent specific missions. Prior to the introduction of general review missions and country profiles, recommendations were followed up in subsequent specific missions dealing with the same subject. Together these country profiles and the reports of inspection missions provide a window into the application of EU food safety and veterinary legislation in the Member States, among which are the animal welfare laws examined here.

The continuing evolution of EU policy

After the first foundations of EU animal welfare legislation were completed in the early 1990s, policies continued to expand and adapt, albeit more gradually than in this initial period. To complement the species-specific approach to farm animal welfare, a general farm animal welfare directive was agreed in 1998. Council Directive 98/58/EC of 20 July 1998 concerning the protection of animals kept for farming purposes had as its transposition deadline 31 December 1999 and specified general requirements for all farmed vertebrate animals except those living in the wild or intended for use in competitions, shows, and other activities (to which a different Directive applied). All of the on-farm welfare directives required the Member States to submit biannual reports to the Commission stating the results of their on farm animal welfare inspections (including any penalties administered), but it wasn't until 2000 that these reports were standardized through legislation (Commission Decision 2000/50/EC of 17 December 1999 concerning minimum requirements for the inspection of holdings on which animals are to be kept for farming purposes, which was replaced by Commission Decision 2006/778/EC on the same topic). Despite this attempt at standardization, interpretations of the meaning of the reporting forms by the Member States still

differed, making the reports not as easily comparable as had been intended. Moreover, several Member States have failed to submit reports and late filing remains problematic. The standardization of reporting for inspections of welfare during transport would not occur until five years later, and reports of inspections of welfare at slaughter or killing have never been required.

These pieces of legislation mainly codified existing practices, but their introduction at this time partially reflects the increasing harmonization of the application of animal welfare policies made possible by the FVO's surveillance. A much more significant policy change was introduced by Council Directive 1999/74/EC of 19 July 1999 laying down minimum standards for the protection of laying hens. In 1996, the Commission's Scientific Veterinary Committee concluded its study into the welfare of laying hens in various rearing systems and the economic consequences of them based on the experience of Council Directive 88/166/EEC (Commission of the European Communities, 1996). Among its twenty-two conclusions was the conclusion that "because of its small size and its barrenness, the battery cage as used at present has inherent severe disadvantages for the welfare of hens" (Commission of the European Communities, 1996, p. 109). The Committee also concluded (among others) that beak trimming (the main method used to prevent cannibalism and harmful feather pecking) should be banned "as soon as is practicable", that hens have strong preferences for perches, and that egg prices could be as much as 50% higher if hens are reared in non-cage systems. This latter conclusion was made even taking into account the increased demand for cage-free and free-range eggs that was starting to pick up at the time.

Nevertheless, after intense negotiations over the final draft of the new Directive, a version of the law was agreed in which new standards for battery cages (termed "unenriched cages" to distinguish them from the roomier and improved "enriched" cages) went into effect quickly and all battery cages were to be phased out by 1 January 2012. Although exact figures have never been available, battery cages constituted the industry norm for egg production in Europe. In addition to space and other construction requirements, all enriched cages would be required to have perches (at this time required in nowhere else but Sweden). Requirements were also introduced for non-cage or "alternative" systems. With the introduction of this law and the gradual phasing out of battery cages throughout its territory, the EU launched its most publicly salient and possibly most expensive animal welfare policy.

The next major change, with implications for several sectors, occurred in 2004 with the agreement of Regulation (EC) No 882/2004 (entering into force in 2006) mentioned above. This regulation attempts to standardize control systems across multiple sectors in all the Member States through a large number of requirements (the regulation contains 63 articles). The most important change it introduced to all sectors is that the priorities and frequencies for inspections should be made on the basis of risk (targeted inspections). The regulation also introduced the requirement that all countries develop multiannual control programs for all sectors covered under the regulation. Among the other requirements include the verification of official controls and audits, the use of documented procedures for inspections, and the need for transparency with respect to control activities and confidentiality with respect to the identities and other private information of those inspected.

Two other legislative changes in the late 2000s worth mentioning are Council Directive 2007/43 of 28 June 2007 laying down minimum rules for the protection of chickens kept for meat production (the broiler chickens directive) and Council Regulation (EC) No 1099/2009 of 24 September 2009 on the protection of animals at the time of killing. The former introduces housing requirements for broiler chickens to be transposed by the Member States by mid-June 2010. The latter replaces Directive 93/119/EC (which had not been significantly altered since its creation) starting from 2013. Reflecting the scientific opinions of the European Food Safety Authority issued in 2004 and 2006, it updates requirements regarding restraint, stunning, and slaughter given the latest scientific knowledge and extends, for the first time, the scope of EU farm animal welfare policy to farmed fish. Rather than developing detailed requirements for fish farming, the regulation merely applies the general Article 3(1) (that "animals shall be spared any avoidable pain, distress or suffering during their killing and related operations") to all vertebrate animals (except reptiles and amphibians) and provides for the possibility of more detailed requirements for farmed fish later. Because these last policy changes will be implemented by the Member States from 2010 or 2013, respectively, they will not be considered further in this book.

One final note regarding the evolution of EU animal welfare policy concerns the substantial backing given to this policy area in revisions to the EU's founding treaties at the end of the 2000s. The thirteenth article of the Lisbon Treaty, which entered into force on December 1, 2009, states that "In formulating and

implementing the Union's agriculture, fisheries, transport, internal market, research and technological development and space policies, the Union and the Member States shall, since animals are sentient beings, pay full regard to the welfare requirements of animals, while respecting the legislative or administrative provisions and customs of the Member States relating in particular to religious rites, cultural traditions and regional heritage." The inclusion of animal welfare within the EU's foundational agreements echoes the protection granted to animals under a 2002 revision of the German constitution.

CHAPTER 5

Measuring implementation quality

The empirical part of the dissertation presents three implementation case studies, one for each of the three sub-sectors within EU farm animal welfare policy, and two sets of quantitative analyses. The purpose of these case studies is not to directly test the hypotheses advanced in the theory chapter but instead to suggest their plausibility. This is done by describing the implementation of each of the major policies in several member states and pointing out the importance of the explanatory factors from the theory chapter along the way. The order of the cases corresponds to the progression of live animals from their rearing or keeping on farm (chapter 6)[7], their transport from farms to markets and/or slaughterhouses (chapter 7), and their slaughter or killing (chapter 8). Each case study will begin with a description of EU policy in the sub-sector that highlights the major requirements, followed by an overview of implementation difficulties and successes across 27 member states. The strategy for selecting a handful of countries for more detailed description comes next, after which the individual descriptions will be presented. A concluding section revisits the overview and the detailed descriptions in light of the theoretical expectations.

Before beginning the case studies, I present in this chapter the primary means that I use to evaluate the implementation record for each member state in each of the three policies. Although these evaluations are used to operationalize the dependent variable (implementation deficiency) for the quantitative analysis that follows in later chapters, the strategy employed is described here for several reasons. First, the selection of countries for more detailed investigation is based in part on these evaluations, so that the full range of implementation deficiency (including no deficiency) is preserved in the case studies. In other words, countries' scores on the implementation deficiency indicator described in this chapter form both the dependent variable in the quantitative analyses but also the main criteria for selection of country-policies for the case studies. Second, and more importantly, these evaluations are themselves a distillation of an immense amount of qualitative information about the implementation of animal welfare policy in the member states. It is from this information, supplemented by additional secondary sources, that the case studies are constructed.

[7] This subsector is referred to as "on farm" animal welfare (referring to those aspects of farm animal welfare that concern farm animals when they are still on the farm), while the more general policy area that is the scope of this thesis is referred to as "farm animal welfare" to distinguish it from the welfare of performing animals or animals used for scientific research and testing.

Measuring the quality of implementation

The major purpose of this dissertation is to explain cross-national variation in the post-transposition application of EU animal welfare policies. Much of the scholarly interest in transposition and implementation more generally has as one of its core concerns the extent to which the member states are faithfully abiding by the requirements set at the EU level. The pursuit of a European policy in a particular policy area remains at best symbolic if legislation is not effectively implemented in all member states. While many analyses of implementation seek to explain the positive or negative effects of public policy by focusing on the outcomes of a restricted set of processes and procedures, the current analysis uses a conception of successful implementation that remains close to the objectives of legislation, reflecting this core concern of EU implementation scholarship. Hence I view implementation as relatively successful if the requirements of legislation are being respected and duly executed by a member state, its competent authorities, and its regulated entities, and as unsuccessful if they are not.

Within a single policy area like animal welfare, multiple pieces of EU legislation (directives, regulations, and decisions) supply the member states with requirements that they must implement. Several pieces of legislation might be grouped together to form a sub-policy within the general area that applies to a particular category of activities, class of actors, or sub-sector of activity. I refer to these lower level policy areas as sub-sectors. Within animal welfare there are three such sub-sectors: welfare on the farm, during transport, and at slaughter or killing. Each comprises a small number of unique pieces of legislation and all are governed together by horizontal legislation that applies to several policy areas (including animal welfare, animal health, and imports of food of animal origin, to name a few). Each case study chapter lists the legislation that governs the subsector that is the subject of the chapter.

Because implementation varies not only across member states and across policies but also across different requirements within policies, an appropriate unit of analysis at which implementation can be evaluated must be selected within policies. I take a pragmatic approach that balances the practice used in previous analyses with the characteristics I have observed in this policy. Reflecting the way in which EU law is structured, several studies use the article of a directive or regulation as the basic unit of analysis. An article bundles together a particular set

of requirements that are mutually dependent. In other words, articles are more independent from one another (the independence of observations is a key assumption for basic statistical analyses) than are the requirements within then. Pragmatically, it is easier to observe the implementation of a single article than it is to observe each requirement separately, as some requirements within a single article are more important than others.

Strictly using the article as the unit of analysis presents several problems, however, when applied to animal welfare legislation that has evolved over a ten year period. First, some of the most important requirements within the field are contained in annexes. Nearly all the requirements governing the application of animal welfare during slaughter or killing are contained in four separate annexes, each governing a different slaughterhouse or killing process. The references to these annexes all appear in the same article, so using the article as the unit of analysis would combine these separate processes into a single implementation unit when the degree of implementation deficiency may vary from one to another. Second, when a policy sub-sector undergoes significant reforms, as did the transport sub-sector in the mid-2000s, requirements contained within the articles of the original legislation may be rearranged in the legislation that replaces it. New requirements may be introduced, others modified, while still others remain the same but appear in a new article or are divided into several. Finally, some articles do not contain requirements that must be implemented by the member states. Hence while I look first at each individual article to identify implementation units, in some cases it is necessary to break down articles into major constituent parts and in other cases, it is necessary to trace the implementation of major legislative issues even while the structure of the legislative text that defines them is rearranged. Some articles are left out of the analysis altogether. I call this unit of analysis the "issue" level as each article (or part of an article) roughly defines a single issue within the policy area. Within a single piece of legislation, some issues may be more important than others. Nevertheless, I treat each issue equally in the analyses that follow for two reasons. First, the division into issues (and their equal treatment) mirrors the practice of the FVO in its evaluation of implementation in the member states. The mission reports summarize the systems in place and offer recommendations structured around issues that are roughly equivalent to those used here. Second, there is likely no single criteria for determining the relative importance of issues within a single piece of legislation, as perceptions of

importance likely vary across officials from EU institutions and the member states and across the individuals whose behavior is affected by the legislation.

Table 3: Articles, issues, and requirements in the calves directive*

Article†	Summary of contents and sample requirements
Article 1	Scope of the directive
Article 2	Definition of terms
Article 3	Specific requirements for holdings, such as: • "No calf shall be confined in an individual pen after the age of eight weeks, unless a veterinarian certifies that its health or behaviour requires it to be isolated in order to receive treatment." • "The width of an individual pen for a calf shall be at least equal to the height of the calf at the withers, measured in the standing position, and the length shall be at least equal to the body length of the calf…"
Article 4	General requirements for calf rearing (14 points in the annex), such as: • "Materials used for the construction of calf accommodation…must be capable of being thoroughly cleaned and disinfected." • "…electrical equipment must be installed in accordance with current national rules so as to avoid electric shocks."
Article 5	Provisions for amending the annex
Article 6	Requirement for the Commission to submit to the Council a report and proposals based on the opinion of the European Food Safety Authority on intensive farming systems for calves.
Article 7	Inspections and reporting requirements for the member states, such as: • "Member States shall ensure that inspections are carried out under the responsibility of the competent authority in order to check that the provisions of this Directive are complied with." • "These inspections, which may be carried out on the occasion of checks made for other purposes, shall each year cover a statistically representative sample of the different farming systems used in each Member State."
Article 8	Certification requirements for importing animals from a third country
Article 9	Requirement for the member states to assist veterinary inspectors from the Commission in carrying out checks on member state application
Article 10	Assistance for the Commission by the Standing Committee on the Food Chain and Animal Health
Article 11	Allowance for member states to apply stricter provisions
Article 12	Repeal of previous directive on calves and its amendments
Article 13	Entry into force date
Article 14	Address to the member states

* Council Directive 2008/119/EC of 18 December 2008 laying down minimum standards for the protection of calves (Codified version)

† Articles in bold are those that contain requirements that member states must implement and are thus single "issues" in this thesis; non-bold articles are not part of the analyses that follow

Each case study chapter presents the division of a subsector into issues and the overall level of implementation quality observed in that issue across the EU. To illustrate how issues bundle together a set of requirements, Table 3 indexes each article from the calves directive (part of the on welfare subsector) and the requirements contained therein. For the entire domain of farm animal welfare policy (including horizontal issues) there are 76 issues.

For each issue, I evaluate the extent of implementation deficiency for the entire ten-year period (2000-2010) for each country based on the reports from FVO missions (see Box 1). Each country-issue is scored as either 0 (no deficiency), 1 (minor deficiencies present), or 2 (significant deficiencies present). For a given issue, I determine whether the FVO has issued the member state any recommendations to make changes in order to bring implementation into compliance (Step 1). Although they are not identical, issues correspond to articles or parts of articles in the legislation, and nearly all recommendations in the FVO reports cite articles (and in most cases the specific point within the article), which enables me to link recommendations to issues. If the member state has not received any recommendations pertaining to a given issue during this period, the country-issue is given a score of 0 (no deficiencies present). If recommendations have been issued, I refer back to the relevant section within the main body and the conclusion of the report that records the FVO's observations that give rise to this recommendation (Step 2). I trace the issue across later mission reports, noting when additional recommendations are given to the member state in relation to that issue (Step 3). I then decide whether the country-issue receives a score of 1 or 2 based on the description of the situation with respect to that issue (Step 4). Problems that are widespread, intense, or lead to severe suffering for the animals receive a score of 2, while minor or localized problems lead to a score of 1. Finally, I observe how and when the member state addresses the recommendations pertaining to the issue to determine whether sufficient action has been taken.

Box 1: Steps for coding implementation quality in issue-countries

Step 1A: Locate the first FVO mission report in which the FVO gives a recommendation to the member state in relation to this issue. Record the year of this first recommendation in the issue sheet. Proceed to Step 2.

Step 1B: If no mission report between 2000 and 2010 contains a recommendation pertaining to that issue in the member state, score the member state as "0" (no implementation deficiency) for that issue and count the number of recommendations as "0". Indicate "ND" (no deficiency) in the "year of first recommendation" and "year of completion" columns.

Step 2: Within the mission report, find the observations made by the FVO that compel them to issue the recommendation. Copy and paste these observations into the issue sheet and indicate the nature of the recommendation that these observations lead to.

Step 3: Examine later FVO mission reports to locate additional recommendations given to the member state in relation to this issue. Repeat Step 2 for each of these recommendations. Count the number of recommendations pertaining to this issue and record this number.

Step 4: On the basis of the observations collected in Steps 2 and 3, evaluate the extent of implementation deficiency for 2000-2010. Score a "1" for minor deficiencies present. Score a "2" for major deficiencies present.

Step 5: Examine subsequent country profiles and mission reports (if necessary) to determine how and when the member state took measures to address the recommendations pertaining to this issue. Copy and paste these intended or actual actions taken into the issue sheet. Record the year in which the last recommendation pertaining to this issue reached an "action taken" status. If the recommendations remain outstanding beyond 2010, indicate "NY" (not yet).

For example, the following observation from the report of a mission to Lithuania led to a recommendation to ensure that restraint equipment is appropriate for the method of stunning (the issue observed is the restraint of animals before stunning or killing which corresponds to Annex B of Directive 93/119/EEC):

> "Handling of animals was appropriate, except where some bovines were tied by the horns" (European Commission, 2004d, p. 6)

Because the observation indicates that this deficiency is an exception to the general "appropriate" means of restraining animals before stunning, I coded this issue for Lithuania (the "country-issue") as 1 (minor deficiencies). On the other hand, the situation described below for the same issue in Spain led to a score of 2 (significant deficiencies):

> "Sheep were restrained in an inappropriate way as they were tied by one leg and then suspended before stunning. This system of restraint is forbidden by Annex B, Section 2 of Directive 93/119/EC. Although the OV had been working for several years in this slaughterhouse performing his daily inspections, this major deficiency had only been detected when he conducted an inspection using the check list provided by the CA of Extremadura 10 days before the inspection team's visit" (European Commission, 2007h)

The presence of the words "major deficiency" and the fact that a forbidden system of restraint persisted undetected lead to the score of 2 for this issue-country.

The quality of inspection measure is a single score for this issue-country for the entire ten year period. In order to take into account the dynamics of implementation during this period, I also record some additional information. First, I record the year when a deficiency for an issue is first noted by the FVO for the member state. This is the first year in which an FVO mission report contains a recommendation for that issue. Next I trace that issue over follow-up FVO mission and country reports. If the problem persists, or related deficiencies are noticed, the FVO may repeat or issue additional recommendations for that issue. I record the number of recommendations for a particular issue-country that appear in all reports for the ten-year period. Country reports contain a listing of outstanding recommendations and their status: action taken, in progress, or no action taken. When action is taken, I record the year when the deficiency is remedied for that issue (when the quality of implementation has effectively moved from either a one or a two to a zero). If a recommendation does not appear in either of the next two country reports (under any status), then I look for the follow-up to that recommendation in later mission reports on the same subject. If the recommendation is not followed-up in these, then I assume that the actions announced by the member state to remedy the situation have been sufficient to eliminate the deficiency. Many recommendations are still outstanding at the end of 2010, so their end years are recorded as "not yet" remedied. For the qualitative case studies, I have also noted the steps that the member state has taken to eliminate the deficiency. From the above additional information, I observe that in most cases, implementation quality is relatively stable over time. Minor deficiencies persist for the entire period in 65% of the cases, while major deficiencies persist if 64%. While

the remaining deficiencies are corrected sometime within the ten year period under investigation, there is only a slight difference between major and minor deficiencies, with major deficiencies being addressed in 2.3 years on average and minor deficiencies being addressed in 3.2 years on average.

In the examples above, Lithuania eliminated the minor deficiency within the same year that the recommendation was issued (2004). In its response to the recommendations, the competent authority of Lithuania declared that it is "monitoring the proper restraint of animals before stunning" (European Commission, 2004d). The next country report for Lithuania notes in relationship to a pre-accession mission and the 2004 mission in which the above deficiency was noted that "out of nine recommendations contained in the reports of these missions, none required follow up during the general review mission" (European Commission, 2006c, p. 62). In the 2007 FVO mission to Lithuania regarding animal welfare during transport or slaughter (the last one in the period under investigation), no deficiencies related to the restraint of animals before stunning or killing were noted. Thus the minor deficiency, first noted in 2004 and leading to a single recommendation, was eliminated in 2004.

The situation with respect to this issue in Spain was quite different. The problem was first noted and led to a recommendation in a 2006 mission (European Commission, 2006k). A follow-up mission in 2007 led to that recommendation being repeated and an additional recommendation being given to improve documented procedures so that inspections are carried out satisfactorily (European Commission, 2007h). The situation had not improved in the 2009 mission, leading to another recommendation on the same subject (European Commission, 2009c). In the 2011 country report, action was still required on one or more of these recommendations. Hence a major deficiency, first noted in 2006 and leading to four recommendations from 2006-2010, was not eliminated during this period.

See Boxes 2 and 3 for the complete description of the steps taken to score these two cases. Appendix A contains an example "issue sheet" which lists for each member state, the score given and the additional details recorded. The scoring described in boxes 2 and 3 produce one line each (one for Lithuania and one for Spain) in this issue sheet (the issue sheet corresponding to requirements for restraint of animals before stunning, slaughter, or killing contained in Appendix B of Directive 93/119/EEC).

Box 2: Scoring requirements concerning restraint of animals before stunning in Lithuania

Step 1

The first FVO mission report to Lithuania that covered aspects of animal welfare during slaughter was conducted as a pre-accession mission in 2003 (European Commission, 2003e). No recommendation was issued to Lithuania during this mission regarding the restraint of animals prior to stunning. A second FVO mission to Lithuania in 2004 covered welfare during slaughter. One of the recommendations in this report stated "Regarding surveillance in slaughterhouses: to ensure that (a) Restraint facilities are appropriate to the stunning equipment (Annex B of Council Directive 93/119/EC)" (European Commission, 2004d, p. 8). Thus the year of the first recommendation is 2004.

Step 2

The recommendation identified in Step 1 corresponds to the observation that "Handling of animals was appropriate, except where some bovines were tied by the horns" (European Commission, 2004d, p. 6).

Step 3

The only other FVO mission to Lithuania covering aspects of animal welfare during slaughter happened in 2007 (European Commission, 2007g). The FVO did not issue recommendations to Lithuania concerning the restraint of animals before slaughter during this mission. Thus the FVO issued Lithuania one recommendation concerning this issue.

Step 4

Because the observation indicates that this deficiency is an exception to the general "appropriate" means of restraining animals before stunning, I coded this issue for Lithuania as "1" for minor deficiencies.

Step 5

In the addendum to the 2004 mission report, in which the recommendation identified in Step 1 was issued, the State Food and Veterinary Service (SFVS) indicates that it "is monitoring the proper restraint of animals before stunning" (European Commission, 2004d, p. 9). The FVO's first country profile for Lithuania was created in 2006 and notes that (in relation to this and other recommendations) "out of nine recommendations contained in the reports of these missions, none required follow up during the general review mission" (European Commission, 2006c, p. 62). Thus I assume that the actions announced in the addendum to the 2004 mission report were taken and eliminated Lithuania's minor deficiency with respect to this issue. Thus the year in which this deficiency was corrected is 2004.

Box 3: Scoring requirements concerning restraint of animals before stunning in Spain

Step 1

FVO missions to Spain covered welfare during slaughter in 2002 and 2003 but in neither of these missions did the FVO issue recommendations regarding the restraint of animals before stunning. The third FVO mission covering this topic (a 2006 FVO mission that covered the safety of food of animal origin as well) issued the recommendation "to ensure that the animal welfare conditions at the time of slaughter or killing set out in Council Directive 93/119/EC are met" (European Commission, 2006c, p. 24). Although this recommendation does not directly refer to the restraint of animals before stunning or that part of the Directive, the observations that led to this recommendation (see Step 2) included this topic. Thus the year of the first recommendation is 2006.

Step 2

The 2006 mission report contains the observation that "In one large SH (Castilla-La Mancha), lambs were stunned in the lairage without restraining" (European Commission, 2006k, p. 19). This follows the broader observation that "generally, very limited evidence was seen of checks on animal welfare rules in the SHs [slaughterhouses] visited" (European Commission, 2006c, p. 19).

Step 3

Two FVO missions to Spain in 2007 dealt with animal welfare during slaughter. The first dealt solely with this subsector and issued two recommendations that can be traced back (in part) to observations concerning the restraint of animals before stunning:

"(3) Adequate training on animal welfare requirements at slaughter and transport is provided to inspectors in slaughterhouses as required by Article 6 of Regulation (EC) No 882/2004.

(4) Official controls implementing Directive 93/119/EC are carried out following documented procedures, as required by Article 8(1) of Regulation (EC) No 882/2004" (European Commission, 2007h, p. 18).

These recommendations stem from the following conclusions:

"(2) Official controls performed were incomplete as the system relies mainly on inspections performed by inadequately trained official veterinarians (contrary to Article 6 of Regulation (EC) No 882/2004), with no precise instructions (contrary to Article 8(1) of Regulation (EC) No 882/2004), and with no measures to verify their effectiveness (contrary to Article 8(3)(a) of Regulation (EC) No 882/2004).

(3) As a result, major deficiencies in relation to the requirements of Directive 93/119/EC and of Regulation (EC) No 854/2004 regarding the transport and ante mortem inspections of poultry, the handling and lairaging of animals, the restraint of sheep and the stunning of poultry and sheep were not detected" (European Commission, 2007h, p. 17).

The specific contribution of improper restraint to this conclusion comes from the observation that "Sheep were restrained in an inappropriate way as they were tied by one leg and then suspended before stunning. This system of restraint is forbidden by Annex B, Section 2 of Directive 93/119/EC" (European Commission, 2007h, p. 11).

The second FVO mission in 2007 that covered this topic was conducted as a follow-up to

the 2006 mission. It included the recommendation "To ensure that the animal welfare conditions at the time of slaughter or killing are in accordance with Council Directive 93/119/EC and that animal welfare during transport is respected as required by Regulation (EC) No 1/2005" (European Commission, 2007i, p. 24) This recommendation stems from the observation that "In one slaughterhouse visited, sheep and goats were not properly restrained and some were not properly stunned, which is not in compliance with the requirements of Articles 5(1)(b) and 5(1)(c) of Council Directive 93/119/EC respectively." (European Commission, 2007i, p. 18).

Another FVO mission took place in 2008 and issued a recommendation for Spain to "Take measures to ensure that restraint of animals stunned by electrical means comply with the rules laid down in Point 3 of Annex B to Directive 93/119/EC" (European Commission, 2008i, p. 147). This recommendation resulted from the following observation:

> "Concerning restraint prior to stunning, although changes had been made recently in a smaller slaughterhouse in Aragon regarding arrangements for stunning, sheep were individually pulled by a hind leg and attached to the lifting equipment, which was used as a method of restraint before applying stunning. Directive 93/119/EC Annex B(3) requires that such animals must be presented in such a position that the equipment can be applied and operated easily, which was not possible for the person working on his own to both restrain and stun sheep. As a result one in four sheep were inadequately stunned. In the two other slaughterhouses there were three workers carrying out restraint and stunning and although some back up stunning was required stunning was generally effective" (European Commission, 2008i, p. 146).

The last FVO mission to Spain concerning welfare during slaughter before the end of 2010 occurred in 2009 and contained the recommendation

> "To ensure that for infringements of the requirements of Directive 93/119/EC the operator remedies the situation, as required by Article 54 of Regulation (EC) No 882/2004 and where necessary sanctions are imposed which are effective, proportionate and dissuasive as required by Article 55 of Regulation (EC) No 882/2004" (European Commission, 2009c, p. 20).

The following observation contributed to this recommendation:

> "In Extremadura, in a slaughterhouse where sheep were slaughtered during the visit, the OV kept good records and had reported to the operator on eight occasions in 2008 infringements on problems with restraint of bovine animals and provision of water for different species. These had not been resolved" (European Commission, 2009c, p. 18).

In sum, deficiencies related to the improper restraint of animals prior to stunning led or contributed to six recommendations by the FVO between 2000 and 2010.

Step 4

I score this issue-country as "2" (major deficiency) because the FVO uses the words "major deficiency" in its observations on this issue.

Step 5

The latest recommendation concerning this issue was given in 2009 and no country profiles were made between 2009 and the end of 2010. The country profile of 2011 (outside the time period of investigation here) indicates that action is still required for at least one of the recommendations concerning this issue (European Commission, 2011b). Thus I indicate that this issue has "not yet" been resolved.

CHAPTER 6

Case study of on farm animal welfare

Five major pieces of EU legislation (and their amendments) provide minimum animal welfare requirements for the keeping of animals on farms in the member states (Table 4). Council Directive 98/58/EC applies general requirements "for the protection of animals bred or kept for farming purposes". This directive includes the basic requirement that keepers take steps to prevent "unnecessary pain, suffering or injury" and contains other general requirements in its annex with respect to staffing, inspection, record keeping, feeding, breeding, and buildings, etc. The directive serves mainly to give effect to the European Convention for the Protection of Animals Kept for Farming Purposes, to which most member states were already a party, and as such does not introduce major changes to the animal welfare policies in most EU countries. Requirements such as that all animals "have access to feed at intervals appropriate to their physiological needs" safeguard basic principles of on farm animal welfare, but do not require modifications in procedures, equipment, or buildings for member state competent authorities or animal keepers. Nearly all member states successfully implemented these general requirements during the 2000-2010 period, as reflected by the very small number of FVO recommendations that refer to this legislation. As a result, the analyses that follow do not include this Directive.

Four species-specific directives provide more detailed requirements to define on farm animal welfare policy for calves, pigs, laying hens, and broiler chickens, respectively. As mentioned earlier, the 2010 deadline for the transposition of the broiler chicken directive means that this legislation is not included in the analysis either.

Council Directive 91/629/EEC specifies animal welfare requirements with respect to rearing calves. This Directive, like Council Directive 91/630/EEC (signed into law the same day) on welfare requirements for pigs and Council Directive 88/166/EEC on those for laying hens, sets minimum requirements for the installations in which animals are housed and mandatory provisions for their keeping or rearing. These include physical requirements for the installations in which calves are raised and other equipment as well as requirements with respect to the environment (air circulation, temperature, lighting, etc.), inspections, cleaning, feeding, and watering. One of its most important measures was to prohibit the tethering of calves and the keeping of calves isolated in crates. Several of the minimum requirements for installations were phased in: new housing could

Table 4: Legislation in the on farm welfare sub-sector

Area	Legislation	Transposition or entry into force date
General on farm welfare	Council Directive 98/58/EC of 20 July 1998 concerning the protection of animals kept for farming purposes	31 December 1999
Calves	Council Directive 91/629/EEC of 19 November 1991 laying down minimum standards for the protection of calves	1 January 1994
	Council Directive 97/2/EC of 20 January 1997 amending Directive 91/629/EEC laying down minimum standards for the protection of calves	31 December 1997
	Commission Decision 97/182/EC of 24 February 1997 amending the Annex to Directive 91/629/EEC laying down minimum standards for the protection of calves	1 January 1998
	Council Directive 2008/119/EC of 18 December 2008 laying down minimum standards for the protection of calves (Codified version)	7 January 2009
Pigs	Council Directive 91/629/EEC of 19 November 1991 laying down minimum standards for the protection of pigs	1 January 1994
	Council Directive 2001/88/EC of 23 October 2001 amending Directive 91/630/EEC laying down minimum standards for the protection of pigs	1 January 2003
	Commission Directive 2001/93/EC of 9 November 2001 amending Directive 91/630/EEC laying down minimum standards for the protection of pigs	29 November 2001
	Council Directive 2008/120/EC of 18 December 2008 laying down minimum standards for the protection of pigs (Codified version)	7 January 2009
Laying hens	Council Directive 88/166/EEC of 7 March 1988 complying with the judgment of the Court of Justice in Case 131/86 (annulment of Council Directive 86/113/EEC of 25 March 1986 laying down minimum standards for the protection of laying hens kept in battery cages)	1 July 1987
	Council Directive 1999/74/EC of 19 July 1999 laying down minimum standards for the protection of laying hens	1 January 2002
	Commission Directive 2002/4/EC of 30 January 2002 on the registration of establishments keeping laying hens, covered by Council Directive 1999/74/EC	20 February 2002
Broiler chickens	Council Directive 2007/43/EC of 28 June 2007 laying down minimum rules for the protection of chickens kept for meat production	30 June 2010

not be built or brought into use for the first time after 1 January 1994 that did not meet these, and any such housing could not be used after 31 December 2007. These physical requirements did not apply to holdings with less than six calves. Calves imported from third countries must have met equivalent requirements.

The pigs directive (91/630/EEC and its amendments) provides similar requirements for the rearing of pigs. Most importantly, the directive sets minimum space requirements for pigs depending on their size, prohibits the tethering of sows and gilts, and mandates group housing for sows and gilts (from 2013). Finally, Directive 1999/74/EC did the same for laying hens. Different requirements were specified depending on the housing system: unenriched cages (known more commonly as battery cages, to be phased out by 1 January 2012), enriched cages, and alternative (non-cage) systems for rearing laying hens.

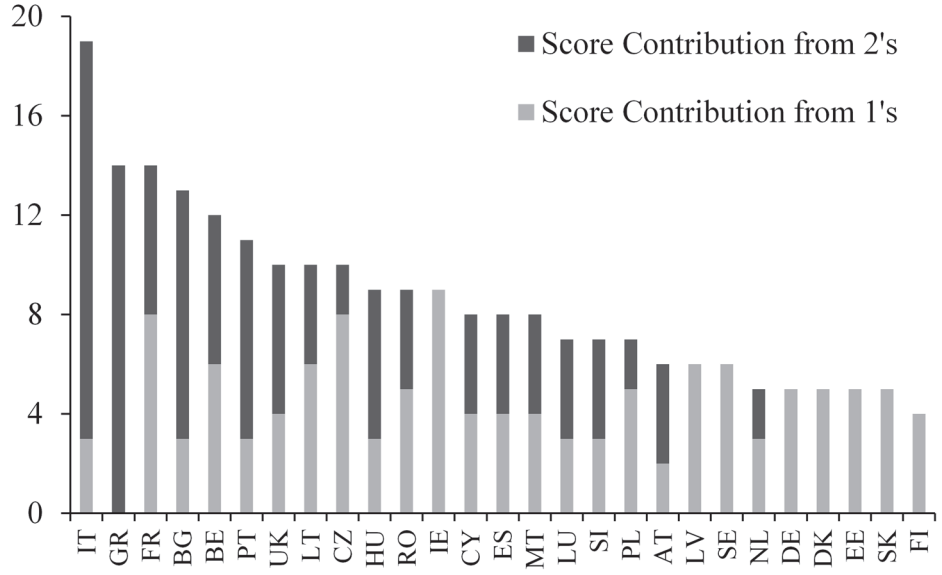

Figure 1: Deficiency in the implementation of on farm animal welfare in 27 member states, by level of deficiency

The implementation of on farm animal welfare policy in 27 Member States

Figure 1 gives some information about the deficiency of implementation of on farm animal welfare policy in the member states. For each country, the scores (described in the previous section) are summed across the thirteen issues in this subsector. Although the individual scores are measured ordinally (that is, moving

from 0 to 1 does not represent the same change in the underlying scale of implementation deficiency as does moving from 1 to 2), the total score reasonably approximates the overall deficiency of implementation by weighting significant deficiencies twice as important as minor ones. Countries are ranked from high score (greatest deficiency, on the left) to low score (least deficiency, on the right). Because there are thirteen issues, the maximum possible column height is twenty-six (if a country experienced significant implementation problems in all thirteen issues). The shading within columns enables a distinction to be made between contributions to the total score from issues experiencing minor deficiency (scored as 1) and contributions from issues experiencing significant deficiency (scored as 2). Thus France has a total score of 14, consisting of eight issues in which the country experiences minor deficiency and three issues that experience significant deficiency.

Figure 2 displays the same total score as in Figure 1, but displays the contribution from each of the three species on farm animal welfare policies. Note that for four of the New Member States (Bulgaria, Hungary, Poland and Romania), no pre- or post-accession missions covered the welfare of calves during the ten year period.

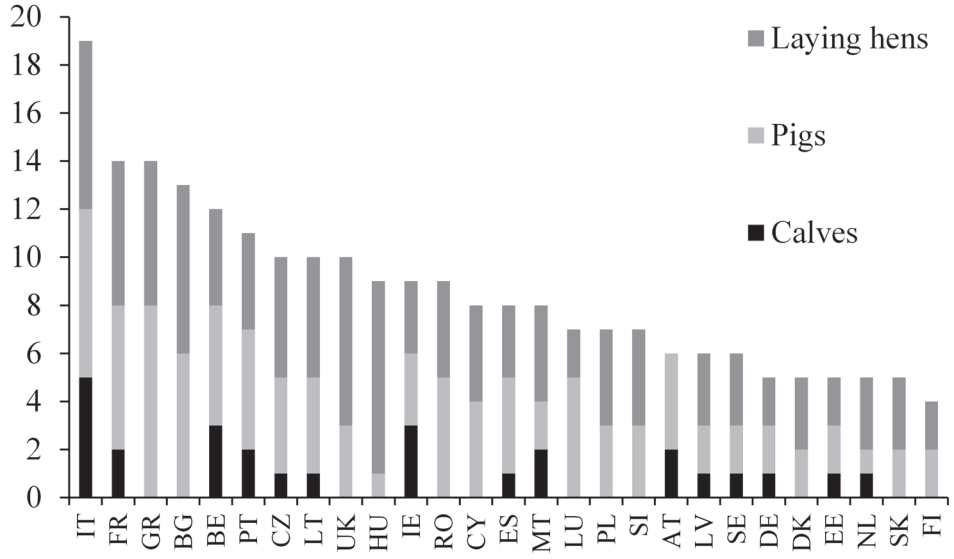

Figure 2: Deficiency in the implementation of on farm animal welfare in 27 member states, by species

Across 27 member states, the average score is 8.6, with a standard deviation of

3.5. The best performer in this sub-sector was Finland with a score of 4. The quality of implementation was also generally good in Germany, Denmark, Estonia, the Netherlands, and Slovakia (all with scores of 6). On the side of the scale, Italy performed the worst with a total implementation deficiency score of 19. Other member states in which situation with respect to EU on farm animal welfare policy needed major improvements included France, Greece, Bulgaria, and Belgium, all with scores of 12 or higher. In Italy and Greece, major deficiencies were observed in more than half the issues included in the analysis (8 and 7, respectively). Most of the score for Bulgaria can be attributed to issues experiencing major deficiencies. For Belgium and France, these high scores reflected a relatively low number of major deficiencies (3 for both) accompanied by minor deficiencies observed across a larger number of minor deficiencies. Each of these underperforming countries had deficiencies in each of the three directives, with the exception of the calves directive in Bulgaria.

For another perspective on implementation difficulties in this sub-sector, Figure 3 displays deficiency information for the thirteen issues (calculated as described above but across countries within the same issue). None of these issues were implemented with complete success by all the member states. As a group, member states fared best in implementing the general requirements for the keeping of calves and hens, with which no member state had major difficulties. The two issues with the most implementation problems were the general requirements for the keeping of pigs and the requirements for unenriched (battery) cages. In the former case, the most commonly cited problem was a lack of manipulable material. In the latter, several countries continued to allow non-compliant cage systems (modified battery cages) to be used after the date from which they were prohibited. Note that because the prohibition on battery cages took effect at the start of 2012, the continued use of these after that date does not influence scores in this analysis.

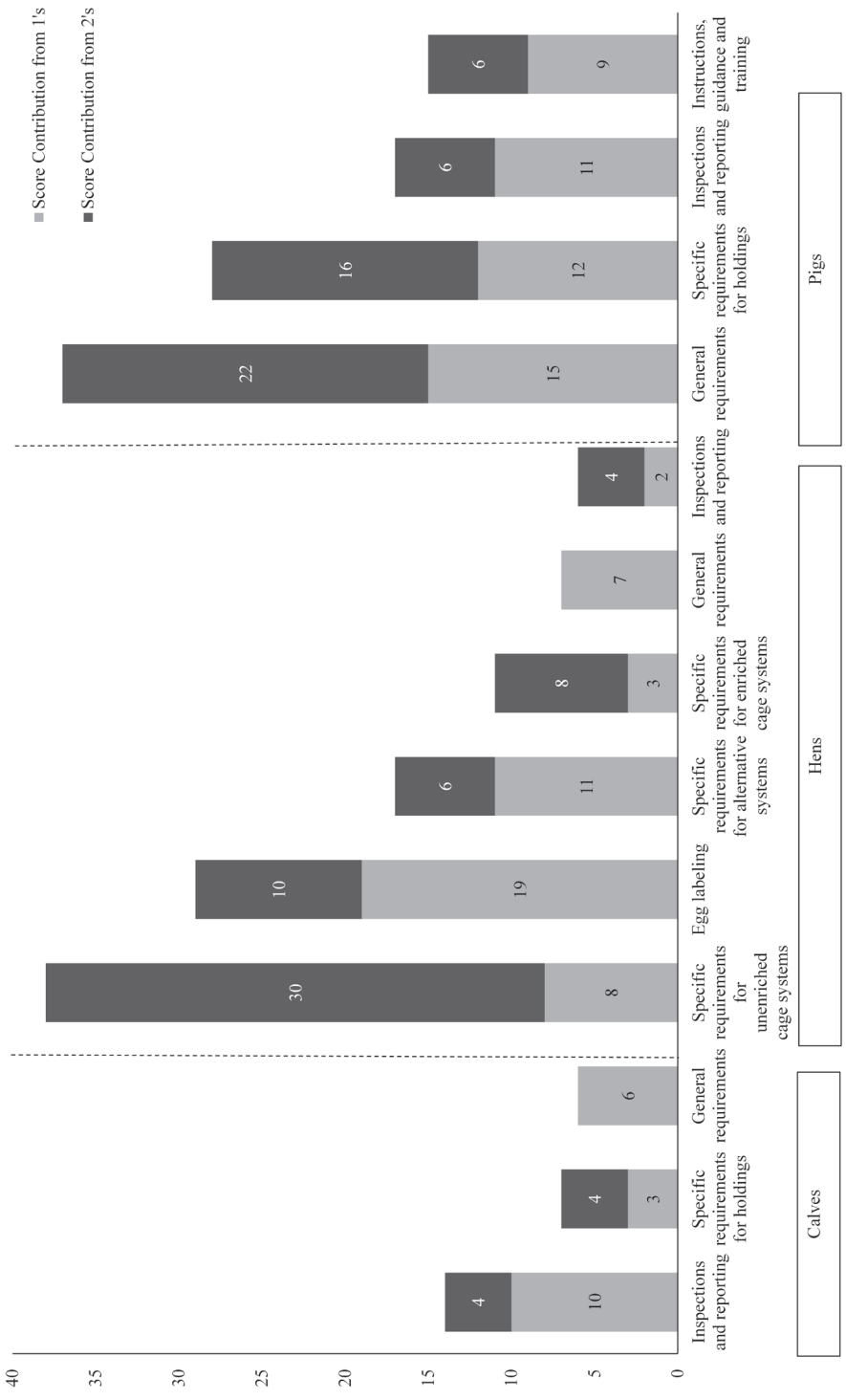

Figure 3: Deficiency in the implementation of on farm animal welfare in 27 member states, by issue area

Case selection

The strategy for selecting countries for the case studies is as follows. Each case study chapter includes four cases (country-policies): two old member states and two new member states (those that acceded to the EU in 2004 or 2007). Both new and old member states are included because they vary on a number of important dimensions that are relevant for their implementation of EU animal welfare policy. Unlike the old member states, new member states were not involved in the creation of the farm animal welfare policy under investigation here. Instead, new member states had to satisfactorily put in place systems for implementing these policies in order to accede to the EU. From both the new and old member states I select one country that experienced substantial implementation deficiency (and thus has a high deficiency score) and one that did not. Selection on the dependent variable necessarily limits the inferential usefulness of the case study chapters (see e.g. Geddes, 1990), but the inclusion of all issues in all countries in the quantitative analyses that follow ensure that the hypotheses developed earlier are satisfactorily tested. Each case study chapter follows this logic but not strictly: some exceptions are made in order to avoid using the same countries twice (and even this principal is relaxed in one case). Thus in the case study for on farm animal welfare, I select the poor performers Italy (old) and Bulgaria (new) and the successful implementers Finland (old) and Slovakia (new).

Italy: transposition delay and problems of regional and local coordination

As mentioned above, major deficiencies in the implementation of on farm animal welfare requirements have been observed in Italy. Some of these problems can be attributed to late and incorrect transposition of the laying hens directive, while others result from a lack of coordination of effort among the local and regional authorities responsible for organizing farm inspections. Decreto Legislative n° 267of 2003 transposed the laying hens directive and entered into effect on 5 October 2003, already more than twenty months later than the transposition deadline of 1 January 2002. This text was adopted despite a warning letter from the Director General of DG SANCO that major discrepancies existed between the Decreto and the requirements of Directive 1999/74/EC (European Commission, 2004c). Among the seven inconsistencies cited in this letter include

permitting the bringing into service of unenriched cages up to nine months after the EU deadline of 1 January 2003 (and even further for cages that were ordered before 31 December 2002, an exception not allowed in EU legislation), the absence of requirements regarding litter area and nests, and the extension of the deadline for the operation of densely stocked alternative systems until 1 January 2007 (these are prohibited beginning 3 August 1999). Rather than promptly amending its legislation to reach compliance, the Directorate-General of Veterinary Public Health, Food and Nutrition of the Ministry of Health (the central competent authority or CCA in Italy responsible for both national transposing legislation and coordinating the application of this legislation by subnational authorities) informed the regional authorities in 2005 to no longer apply the non-compliant derogation for unenriched cage systems (European Commission, 2005d). Moreover, the CCA indicated that it was waiting until after the review of Directive 1999/74/EC that might lead to legislative changes at the EU level (these have not occurred). The FVO did not consider this a suitable excuse, and repeated its recommendation to properly transpose the directive in its 2005 mission report. Law n° 29 of 25 January 2006 correctly transposed the requirements, four years later than the initial deadline.

Although this thesis is about post-transposition application of EU policy, some discussion of transposition is necessary as late or inadequate transposition nearly always results in a failure to apply EU requirements. The absence of a correct legal text in Italy meant that prohibited cage systems could be brought into use for the first time after they should not have been allowed to do so. Moreover, the anticipation of changes to Italian legislation prevented the CCA from issuing up-to-date inspection guidelines and checklists to regional authorities. To cite another example from the pig sector, the FVO noted that "the effect of the legislation being late was that requirements, such as the width of the openings in the floor…were not applicable on farms brought into use in 2003" (European Commission, 2005d, p. 6).

On time and correct transposition does not ensure successful application. In Italy, adequate implementation was hampered by the inability or unwillingness of some local authorities to apply animal welfare rules and the absence of suitable controls by the CCA to rein in this behavior (before 2007). Below the CCA is a "Regional Veterinary Service consisting of veterinary officers and administrative staff in each of the 19 regions and two autonomous provinces" and below the RVS

are 230 local health boards (Aziende Sanitarie Locali or ASLs) (European Commission, 2001b, p. 6). Veterinarians within the ASLs perform checks on farms to verify compliance and all enforcement actions in the event of non-compliance take place at this level. Until 2008, depending on the region, the ASL or the RVS chooses inspection targets (the percent of farms in their district to be inspected) and selects the farms it will inspect. This led to the recurring problem that a statistically representative sample of farms was not inspected (European Commission, 2005d). The RVS (or regional CCAs) coordinate and supervise the ASLs and the CCA in turn issues guidelines to the RVS. The CCA does not have a supervisory role with respect to the RVS. Beginning in 2007, a national inspection plan was developed and followed, eliminating many of the problems in this sector (although others still persist) (European Commission, 2010d).

This decentralized structure, with its lack of supervision at the central level until 2007, led to major implementation deficiencies, as "the effectiveness of the CCAs in the different regions varies significantly" (European Commission, 2005d, p. 12). The FVO notes that "the absence of the criteria from the checklist or standard report form developed in the different ASLs may account for the failure that not all the relevant requirements were properly checked" (European Commission, 2001b, p. 15). Sicily, for example, regarded 25% overstocking of laying hens in cages as satisfactory. After 2007, a national inspection program was created, though problems in this sector remain.

Finland: centralization and coordination

In Finland, (mainly) on-time transposition and more stringent on farm animal welfare laws ensure that EU requirements are respected in all but a few cases. Additionally, the central competent authority (CCA), which in Finland is the Food and Health Department of the Ministry of Agriculture and Forestry, plays a more active role in directing Finland's farm inspection program than that of Italy. By the time of the FVO's 2001 mission to Finland for this sector, the country had already transposed the relevant directives, in many cases going beyond EU requirements (European Commission, 2001a). Whereas the three directives do not apply to small farms (fewer than six calves or pigs or fewer than 350 laying hens), Finnish legislation applies these requirements to all holdings. Moreover, transitional periods for phasing out existing equipment that do not meet EU requirements do

not exist in Finnish legislation. Most significantly, the keeping of veal calves is prohibited and the tethering of pigs has been illegal since 1996. The FVO noted only minor deficiencies, most of which are related to the definitions employed.

The organization of controls in Finland contributes to low level of deficiencies detected in this country. Municipal veterinarians perform controls at farms. They are supervised by the 13 regional provincial state offices (European Commission, 2007a). The CCA "issues guidelines and instructions to the regional services" and writes the inspection checklists (European Commission, 2001a). In contrast to Italy, the CCA determines the overall inspection program:

> "There is a good system of selecting farms to be inspected with a national farm register at central level fulfilling the requirement of randomness. The percentage of selected farms is adapted to each species in order to ensure a good representation" (European Commission, 2001a, p. 21)

This approach is not without faults, however, as national inspection rate targets are not always achieved in every region.

In Finland, no major deficiencies related to on farm animal welfare were detected in the 2000-2010 period. Three of the four minor deficiencies that led to FVO recommendations were addressed within a year of the mission in which they were observed. Problems with documented procedures in the pigs sector, noted in the 2007 FVO mission report, led to inspectors overlooking certain requirements and to confusion with regard to rules about medicines as these requirements are spread over several pieces of legislation (European Commission, 2007c). More comprehensive guidelines issued by the CCA in 2008 to the regional authorities clarified these requirements (European Commission, 2008a). The guidelines were still inadequate for the laying hens sector, however, and height requirements for cages have been inadequately inspected despite several FVO recommendations from 2007-2010. Action on this issue is still in progress according to the 2010 country profile (European Commission, 2010a).

Slovakia: improving the system through training and guidelines

In Slovakia, the State Food and Veterinary Administration serves as the central competent authority (CCA) (European Commission, 2004e). A hierarchical distribution of authority exists in the CCA with eight Regional Food and Veterinary Administrations and forty District Food and Veterinary Administrations. Within

the latter, 230 veterinarians were employed in 2004. One veterinarian in each district takes the lead on animal welfare issues. The CCA created a national inspection program in which a set percent of holdings for each animal are to be inspected in each district, but the selection of farms occurs at the district level.

As noted above, successful implementation of EU farm animal welfare legislation is not limited to old member states, where some animal welfare rules have applied for nearly a decade before the period investigated in this book. In Slovakia, no major deficiencies were detected from 2004 to 2010, and minor deficiencies were observed in only five issues. In every case that a minor deficiency led to a recommendation, the CCA acted quickly to try to fix the problem. If these attempts were not immediately successful, additional efforts were made following subsequent FVO missions. The CCA primarily improved the control system through issuing detailed guidance and checklists to inspecting veterinarians and updating these as often as necessary. The attempts were undermined, however, by varying levels of supervision of the districts by the regional offices.

Slovakian animal welfare legislation, which incorporated EU requirements beginning in 2003, already contains within its text more specific guidelines for inspectors than the EU text (European Commission, 2004e). Where the directives include words like "adequate" or "sufficient" (words that are in turn included in national implementing measures that literally transpose the directives), Slovakian legislation replaces these words with specific parameters or rules. Although the legislation fully transposed the directives in 2003, existing legislation was more stringent than the EU rules (European Commission, 2006e), while modifications since then have increased their stringency or specificity. Calf holdings with more than six calves met EU requirements before the 2003 deadline, and some requirements applied from this date to all holdings, regardless of size. Slovakian pig welfare legislation also requires that pig keepers receive regular training and obtain certification, whereas the directive merely stipulates that animal welfare training courses for pig keepers are available. This latter change was made in response to an FVO recommendation that the existing system of disseminating information to pig keepers about animal welfare rules, which relied on the voluntary participation of local farmers associations, did not adequately cover this large sector.

Detailed guidelines and continued training are the two ways that the CCA in Slovakia strives to improve the farm animal welfare control system. The CCA

organizes training in which at least one veterinary inspector from each district participates. Already in 2004, the FVO noted that the detailed checklists provided by the CCA to district veterinarians provided a good basis for inspections (European Commission, 2004e). The quality of guideline and checklists does not alone ensure high quality inspections, however. Despite having comprehensive checklists, the FVO noted that "for certain requirements such as measurements of cages for laying hens, inspectors had not received adequate practical training" (European Commission, 2004e, p. 8). In response to this recommendation, the CCA planned to provide additional training on the issue before the end of the year.

The minor deficiencies observed can also be attributed to regional variation in control systems. The FVO believed as much, stating that "the level of supervision carried out by the regions on the districts differs from one region to another and as a consequence, where the level of supervision is not sufficient, the performance of inspections is of lower quality" (European Commission, 2006e, p. 16). In the two RVFAs observed by the FVO in the 2004 mission, one responded to overstocking of cages by demanding immediate action while the other did not consider the overstocking a problem. In response to this conclusion, the CCA required the regions to increase on-the-spot checks in the districts (European Commission, 2007b). Inadequate supervision was no longer mentioned as a problem in the 2008 report (European Commission, 2008g).

Bulgaria: poor supervision and failed commitments

Although Bulgaria does not have the worst record for implementing EU on farm animal welfare requirements, significant problems have remained unfixed since the FVO identified them in several pre-accession missions. All five of the issues with major deficiencies, first noted in either the 2005 or 2006 pre-accession FVO mission, had not been addressed by the end of 2010. The FVO attributes the continuing implementation problems in Bulgaria to a low level of supervision by the central competent authorities (CCA) of the lower levels, but through a careful investigation of the mission reports, it becomes clear that a lack of commitment on the part of the CCA plays some role as well.

In Bulgaria, the CCA is the National Veterinary Service, which is divided into 28 Regional Veterinary Services (RVS). The CCA was reorganized in 2005 in order to

prepare for accession. Among these 28 RVSs are 264 municipalities, each with their own veterinarians responsible for inspecting farms for animal welfare requirements (among other duties). Control programs are drafted at the regional level, though in 2005 the FVO noted that not all regions had inspection plans in place (European Commission, 2005j).

In the 2005 mission, the FVO observed several problems in Bulgaria's on farm control system (European Commission, 2005j). The directives require that a statistically representative sample of farms for each species are inspected, but inspections in all regions did not include subsistence farms, which represent approximately one half of the holdings in the country. For both pig and laying hen holdings, many requirements were overlooked by municipal inspectors. Most significantly, severe overcrowding of laying hen cages went undetected. When deficiencies were observed, these were not always followed up with by authorities to ensure that compliance was achieved. When follow-up did occur and compliance was still lacking, penalties imposed were not sufficiently dissuasive to prevent non-compliance.

In response to these deficiencies, the CCA stated that it would send more detailed instructions to the RVSs for the performance of farm inspections. In the FVO follow-up mission, the team noted that these instructions were not sent (European Commission, 2006m). A checklist was amended but the amended checklist was not accompanied by guidelines and instructions for its use, resulting in further inadequate inspections. In relation to the problem of overstocking, the CCA made promised to make an overview all laying hen systems in the country. The follow-up mission noted that this overview had not yet been started a year later.

By 2008, there was still no effective system in place for the supervision of the municipal authorities by the regional or central level (European Commission, 2008e). The FVO remarked that in one region "checks are performed by the OV [Official Veterinarian] responsible for animal welfare himself and if these checks deficiencies regarding the checks of municipal OVs are noted, they would be informed about the shortcomings of their checks; however, no evidence that the OVs had been informed about shortcomings in their checks had been noted" (European Commission, 2008e, p. 3).

In the following year, the FVO noted that farm inspections were taken over by the regional level, and the quality of inspections improved, even though significant

problems remained (European Commission, 2009a). Still no satisfactory system of supervision by the CCA of the regions existed.

Conclusion

This chapter presented a set of four case studies describing the implementation of on farm welfare policy in different member states. These descriptions highlight several of the mechanisms that underlie the hypotheses presented in the previous chapter as well as focusing attention on other factors contributing to implementation success or failure. Transposition delay presented a challenge for Italian implementation of on farm welfare, the only case described above in which delay was present. The delay led directly to misapplication by leaving less stringent standards in place past the transposition deadline. It also had an indirect effect by delaying the adaptation to new requirements (through updated guidelines and checklists). The content of transposition measures seemed to have an effect as well. In Finland, early and more stringent requirements helped to ensure that the level of protection required by EU policy was reached. In Slovakia, the more specific requirements (in place of vaguely worded statements in the directives) provided sufficient guidelines for farmers and inspectors alike.

The relationships between central and regional offices of the implementing authority provide a more striking contrast between successful and unsuccessful application of on farm animal welfare policy. Effective supervision of regional offices by the central competent authorities of Finland and Slovakia (after some adaptation), and subsequent supervision by the regions of inspectors, led to better implementation outcomes in those countries. Centralized information about farms and the results of inspections in Finland allowed the creation of a national inspection plan with input from the regions on inspection targets. Poor supervision in Italy and Bulgaria, on the other hand, prevented the uniform application of EU requirements in these countries. Violations of EU requirements frequently went undetected and few mechanisms were in place to improve the efficacy of inspections.

One final factor, a country or agency's willingness to apply the rules, seems to have some effect on the quality of implementation. This willingness (or lack thereof) is more properly an intervening variable rather than a truly independent explanation for why some countries succeed while others fail. That is to say, there

are multiple, overlapping reasons why some countries will be more committed to applying the rules than others. The issue is brought up here because it is (or at least appears to be) a near-constant theme throughout the cases observed in this thesis. In Finland, more stringent requirements likely reflect public support for animal protection policies. Slovakia continually adapted its administration in order to satisfy FVO inspectors even after accession, while Bulgaria and Italy avoided major changes. Bulgaria made commitments that it did not uphold, despite the relative low cost or effort required for making these commitments (issuing guidelines and instructions requires fewer resources than putting in place an effective inspector supervision system). The reasons for Bulgarian and Italian recalcitrance cannot simply be attributed to lower capacity (although that does play some role). Nevertheless, it is unlikely that the cause of limited will to implement is the same for both countries.

CHAPTER 7

Case study of welfare during transport

This chapter describes the implementation of animal welfare during transport policy in the EU through an introduction to EU legislation and its requirements, an overview of cross-national differences in implementation success across the ten year period, and four more detailed case studies of application by particular member states. The case shows that even in a policy subsector in which legislation has been reformed in order to improve implementation, old problems persist while new ones appear.

Overview of the policy area

In contrast to the relatively stable policy subsectors of animal welfare during slaughter or killing and on farm animal welfare, the animal welfare during transport subsector has been substantially reformed during the period under investigation. The first major welfare during transport legislation, Council Directive 91/628/EEC, laid down requirements for transporting farm animals, dogs, cats, and other animals both within and between Member States for journeys exceeding fifty kilometers. Among these requirements are rules concerning the fitness of animals for transport, feeding, watering, and equipment for transport, loading, and unloading. Special provisions for the transport of animals by rail, water, and air were specified.

This Directive was amended by Council Directive 95/29/EC, which introduced several important changes. In addition to setting loading densities (the space required per animal depending on its size and the method of transport) for farm animals, the legislation introduced the requirement that all transporters covered by the directive obtain authorization to transport animals from the competent authority of the Member State in which they are based. Most significantly, perhaps, was the introduction of a harmonized route plan system for all journeys exceeding eight hours. Under this system, transporters filled out a route plan prior to departure with details concerning their intended journey, including the itinerary and the location and duration of planned intervals required for feeding, watering, and rest. Before departure these route plans must be checked by veterinarians of the Member State competent authority for their compliance with the requirements of the Directive and to ensure that the intended journeys were realistic. After completion of the journey, the route plans had to be sent back to the competent authority for further control.

Significant problems in the application of the Directive and its amendment, which will be discussed below, led to a major overhaul of the EU legislation in this subsector (European Commission, 2000d). Because of the large variance in both the transposition and application of the existing EU legislation, and the potential trade distorting effects this might have, the Commission decided to replace the amended Directive with a regulation. Regulation (EC) 1/2005, which entered into force on 1 January 2005 significantly altered EU animal welfare during transport policy. Because of persistent and widespread difficulties with the route plan system, this was replaced with a more harmonized "journey log" system that will eventually be integrated with satellite navigation systems now required in all vehicles transporting animals for long journeys. These systems, which also continuously monitor temperature and other environmental conditions within vehicles, enable the quick detection of non-compliant journeys. In order to further reduce the wide variance in implementation within this subsector, the Regulation introduced more stringent requirements for the training of transporters to ensure that they are fully aware of and have the necessary competency to carry out the requirements of the Regulation. More stringent space requirements were also introduced, as well as requirements for actors other than the transporters themselves who have some role in the transport of animals (e.g, the animals' keepers and operators of assembly centers).

Despite the attempts at greater harmonization, major cross-national differences still exist in the implementation of animal welfare during transport policy. Not only have some countries had difficulty adjusting to the new requirements, but problems with several of the requirements that were carried over, namely the monitoring of route plans (now journey logs) and requirements concerning journey times, resting periods, and feeding/watering intervals, have persisted. Moreover, as the setting of penalties for enforcement and administrative fees for transporter authorization is the responsibility of the Member States, wide divergence in these areas leads to compliance costs (and likely outcomes) that vary from one country to another.

The implementation of animal welfare during transport policy in 27 Member States

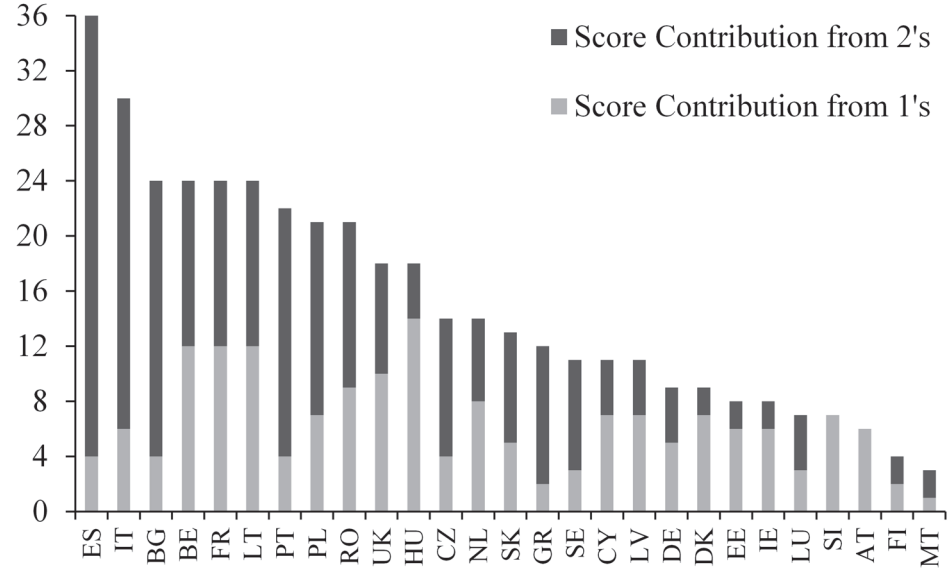

Figure 4: Deficiency in the implementation of during transport animal welfare in 27 member states, by level of deficiency

Figure 4 provides an overview of the quality of implementation of animal welfare transport policy in the member states. The figure shows the total score (the sum of the individual scores for each of the thirty-two issues in this subsector) for each member state and the contribution to that score from minor (scores of 1) and major deficiencies (scores of 2), respectively. Given the number of issues, the maximum score is sixty four. Countries are ordered from left to right in order of performance (with the worst performers on the left).

The average total score for the member states is approximately fifteen with a standard deviation of 8.4. Countries with relatively poor performance (e.g., those for which the total score is higher than one standard deviation above the mean) include Belgium, Bulgaria, Spain, France, Italy and Lithuania. Among these, Spain in particular stands out with a total score of thirty-six. Spain received a score of two (again, indicating significant implementation difficulties) for half (sixteen) of all issues within this subsector. Those with fewer implementation difficulties (whose total score is one standard deviation below the mean) include Austria, Finland and Malta.

Malta, which received a score of three and the lowest score (indicating the fewest problems with implementation), is a special case with respect to animal welfare during transport. Given its isolation from mainland Europe and its small size, most of the EU requirements in this subsector do not apply in Malta. The pre-accession mission report notes that "Council Directive 91/628/EEC[3] on animal transport is not applicable, as journeys do not exceed 50 km" (European Commission, 2003f, p. 2). Maltese authorities believed the same was true of Regulation (EC) No 1/2005, but the FVO pointed out that several provisions applied to "farmers using their own vehicles" and to "other commercial transport up to 65km" (European Commission, 2009b, p. 7). Because Maltese authorities were late to develop their control system for welfare during transport, deficiencies related to fitness during transport, checks after long journeys, and reporting requirements were noted but as of the 2010 mission had not yet been addressed (European Commission, 2010e). Luxembourg, another small country, also has a relatively low score, but given its location on a major crossroads in Western Europe, the control system here has been more fully developed.

Figure 5 gives a cross-issue perspective on implementation deficiencies for EU animal welfare during transport policy. In Appendix B, a correspondence table lists all thirty-two issues alongside their location in the old (Directive 91/628/EEC) and new (Regulation (EC) No 1/2005) European legislation governing this policy subsector. As mentioned above, Regulation (EC) No 1/2005 introduced new requirements, specifically those concerning assembly centers, requirements for transporter and long journey transporter authorizations, training, and the certification of the approval of means of transport. For most other issues, the requirements were modified slightly and usually relocated into a different Article or Annex.

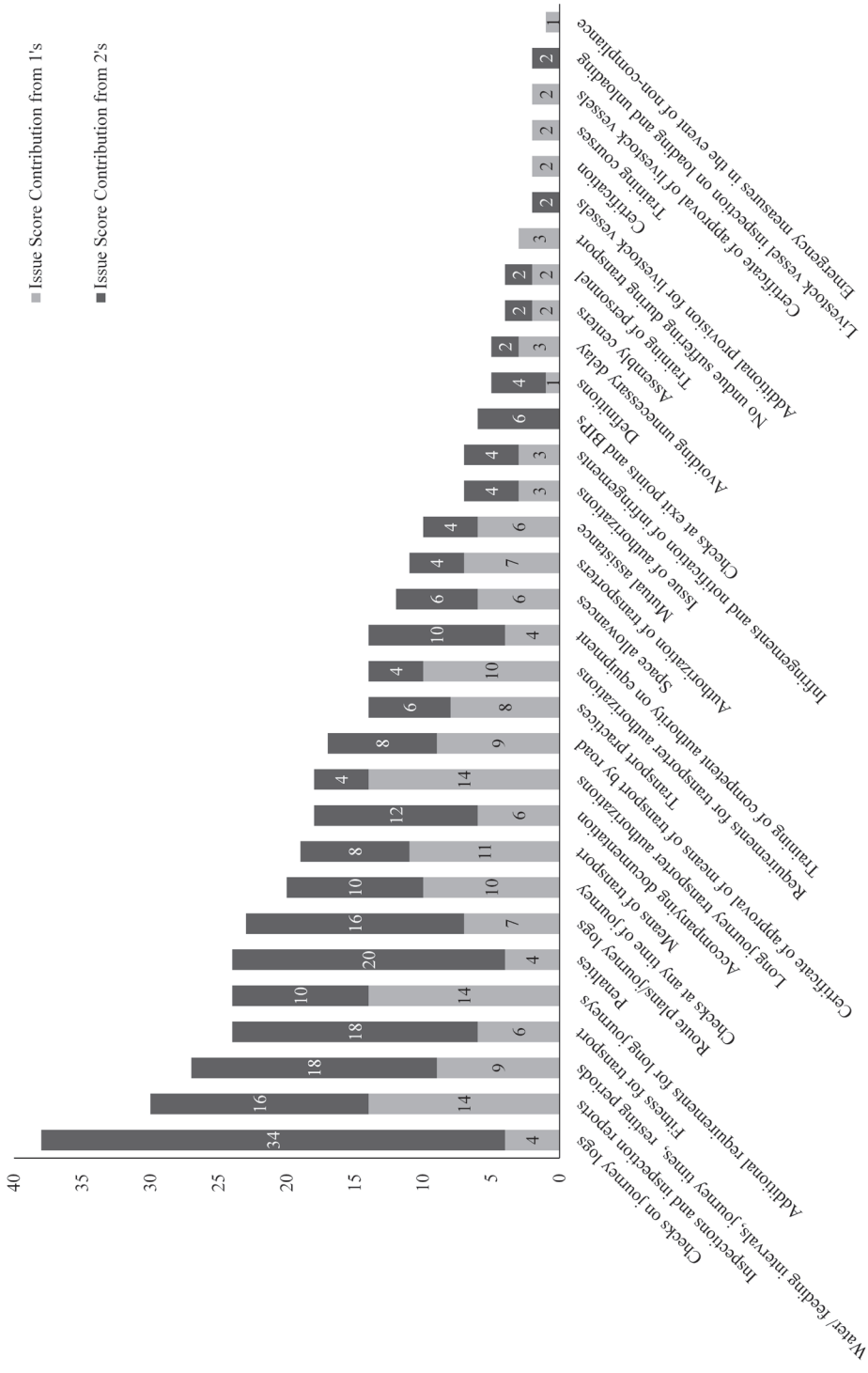

Figure 5: Deficiency in the implementation of during transport animal welfare in 27 member states, by issue

As with on farm animal welfare policy, there were no issues in this subsector that were free of implementation difficulties, though several experienced only minor deficiencies. Many of the issues with very low scores concerned the transport of animals by ship, which represents a small segment of animal welfare during transport and does not apply to all member states. Across the thirty-two issues, the average score was close to thirteen with a standard deviation of almost ten. Of the ten issues that were not part of the original animal welfare during transport policy, half had relatively low scores (four or below) and the highest had a total score across the member states of only eighteen (out of a possible fifty). From this it appears that the new legislation did not introduce issues that were difficult for the member states to adapt to, but the lower scores for these issues partly reflect the prevalence of issues related to transport by ship in this set and the fact that deficiencies in newer issues have had less time to be noticed by FVO inspectors. This does not mean that the new legislation did not introduce major adaptation pressures, however, as modifications of requirements related to preexisting issues may have experienced major deficiencies only after the new requirements went into effect.

The most problematic issues for implementation by the member states was were checks on journey logs (formerly called route plans). This was a significant problem in seventeen of the twenty-seven member states (and a minor problem in four others). In several countries, these checks were inadequate, leading to the approval of plans or intended journeys that were either not in compliance with EU requirements (too long, inadequate resting periods, etc.) or were unrealistic about the time required to reach the destination (and thus also not likely to respect requirements when actually carried out). Other issues for which many member states had difficulty included requirements for inspections and inspection reports; water and feeding intervals, journey times, and resting periods; fitness for transport; additional requirements for long journeys and the specification of sufficient penalties to deter noncompliance.

Case selection

As with the previous policy area, I describe the implementation of EU animal welfare during transport policy in greater detail for four countries: two that have been relatively successful and two that have experienced significant difficulties in

applying the rules. Within each pair, I include an old member state and a new member state. The countries experiencing relative success to be described below are Austria (with a total score of six) and Slovenia (seven). In order to avoid repetition and to provide insights from additional countries, I have excluded Finland (with a total score of four), whose implementation of on farm animal welfare policy was described in the previous chapter. For reasons described above, I also chose not to describe the country with the lowest score (Malta). The country experiencing the most significant implementation difficulties (Spain, with a score of thirty-eight) will be described alongside Lithuania (its score of twenty-four matches that of Bulgaria, described in the previous chapter, but is less than that of Italy, the country with the highest score after Spain).

Spain: uncoordinated decentralization

The structure of the competent authority in Spain is very decentralized, with most authority for implementation at the regional level. The central competent authority (CCA) with responsibility for animal welfare legislation in Spain is the Ministry of Agriculture, Fisheries and Food and is responsible for transposing EU legislation at the national level and issuing manuals and other guidelines to promote the harmonization of animal transport and other welfare controls in the seventeen autonomous regions (European Commission, 2000c). The CCA does not supervise the regions, and although supervision is legally possible for severe cases of non-compliance, this option has never been used (European Commission, 2000c, p. 6). Not only do the regions apply and enforce the legislation, but they also may develop their own animal welfare legislation. Because they are responsible for enforcement, each region develops its own system of penalties and procedures for applying the legislation. The absence of a functioning system for the application of penalties in some regions has been a recurrent problem for the implementation of all animal welfare policy in Spain (European Commission, 2003b).

Although the administrative structure varies from region to region, in general each region is divided into provinces which are in turn in charge of local veterinary units. Instructions are sent from the regional level to the provincial offices, although the CCA may play a limited role in coordinating the activities of the regions. Meetings are held between the CCA and the regions periodically for

informational purposes and guidelines may be supplied to the regions, but the regions are not required to follow these. The 2002 FVO mission, which included meetings with the regional competent authorities for Castilla-La Mancha and Galicia noted that neither region followed CCA guidance on control of route plans (European Commission, 2002b).

Of the many issues for which Spain experienced significant implementation difficulties, an illustrative example is provided by the failure to adequately control route plans (later journey logs). The 2000 FVO mission concludes that "Autonomous Regions did not supervise effectively the control of route plans" (European Commission, 2000c, p. 12). Specific examples of problems with this issue may be cited from several FVO reports in which various regional authorities are visited. Thus in Aragón, the FVO noted that "route plans had either: been approved although they lacked a proper itinerary although a staging point would have been necessary; sometimes no estimated journey time had been given; no time of arrival had been indicated or route plan had not been returned after the journey" (European Commission, 2002b, p. 8). One example is particularly striking:

> "In Castilla y León, the [C]CA had asked the local unit visited to investigate a particular complaint regarding checks at a collection centre for sheep. The reply from the local unit indicated that the veterinarians had difficulties in assessing the feasibility of journey times. However, returned route plans seen by the inspection team indicated that information was available in this office and indicated that the journey to Greece was usually 60 to 94 hours and never within 28 hours as indicated on the approved route plans. Route plans with this unrealistic journey time had continued to be approved" (European Commission, 2002b, p. 8)

By accepting unrealistic route plans, Spanish authorities allow the transport of animals in journeys that exceed the limits imposed by EU requirements. Combined with systemic problems in Spain regarding the transport of unfit animals, the welfare of transported animals from or through Spain has been seriously compromised in the last decade.

Given the difficulties of coordinating the autonomous regions, Spain has been slow to remedy the shortcomings identified during FVO missions. In response to the FVO missions of 2000, 2002, and 2003 (three missions in four years covering the same topic is unusual for the FVO and reflects the need to follow-up on serious and persistent problems), the CCA has done little more than issue additional

guidelines. Because several regions continued to ignore these guidelines, "controls on the route plans and the measures to ensure their return were inadequate" (European Commission, 2004j, p. 9).

The replacement of the route plan system with journey logs under Regulation (EC) Nº 1/2005 did little to alleviate these problems in Spain. The 2008 mission report (which visited Aragón and Castilla y León notes that "in both ACs all the journey logs reviewed by the FVO were unsatisfactory", with continued problems regarding unrealistic journey times, overstocking, and missing information (European Commission, 2008i). Similar problems were noted again for other regions in 2009 (European Commission, 2009c). In response, Spain's CCA has indicated that although instructions now exist for fourteen of the seventeen Autonomous Communities, "the [C]CA is waiting for the European Commission to draw up a simplified version of the journey log" (European Commission, 2011b, p. 56). Thus for this issue as for many others for which Spain has experienced significant implementation difficulties, the deficiency remains largely unresolved. Infringement proceeding were launched against Spain concerning the transport of unfit animals. Infringement proceedings were launched in 2011 against Spain regarding welfare during slaughter.

Lithuania: inadequate training

Lithuania has experienced major difficulties implementing EU animal welfare during transport policy, largely through inadequate provision of training to both official veterinarians and transporters. Although a small country, animal welfare controls in Lithuania are relatively decentralized. There are ten county offices of the State Food and Veterinary Services, the central competent authority (CCA) in Lithuania, which are further divided into thirty-four districts and four cities (European Commission, 2004d). According to the country profiles (which each repeat the same description word for word regarding welfare during transport), "controls on means of transport are carried out by official veterinarians working in the territorial services of the CCA with the assistance of the Police, or at the destination by the official veterinarians supervising the slaughterhouses" (European Commission, 2006c).

As early as the 2003 pre-accession mission report, the FVO noted that inadequate training of inspectors led to some checks missing important

requirements (European Commission, 2003e). At this point training courses were provided to veterinarian officials in Lithuania by NGOs and the Technical Assistance Exchange Office (TAIEX) of DG Enlargement. Officials from the CCA continued to attend workshops organized by TAIEX on animal welfare during transport and slaughter in 2006. These officials then organized training courses for representatives from the county offices who in turn trained the official and private authorized veterinarians involved in transport checks (European Commission, 2007g).

The 2007 FVO mission revealed that despite these efforts, significant problems persisted in welfare during transport inspections, which they still attributed to inadequate training. They noted that "OVs were not trained to check drivers' record sheets…and this prevented them from verifying the duration of journeys" (European Commission, 2007g). Welfare during transport requirements verified by officials in slaughterhouses were similarly problematic. Because the CCA did not organize any training for slaughterhouse inspectors related to transport requirements, these officials "permitted the systematic transport of unfit animals for slaughter" (European Commission, 2009f). In response to the recommendations by the FVO regarding inadequate training, the CCA "organized training for veterinarians and persons responsible for implementation of animal welfare requirements during transport and slaughtering of the animals" (European Commission, 2010b). Although the FVO considers the deficiency corrected, it is too soon to determine whether these efforts have led to significant improvements in the implementation of transport welfare requirements in Lithuania.

Slovenia: early adaptation and innovation

Despite its location at an important European crossroads, Slovenia has one of the best track records regarding the implementation of EU animal welfare during transport legislation. Its position between Italy and Austria on the one hand and Hungary and the rest of the Balkan Peninsula on the other has ensured its importance as a transit point for goods, including live animals, entering Western Europe from both other new member states and outside the EU (until Croatia's accession in 2013). Slovenia transposed and applied EU welfare during transport requirements beginning in 2000, four years before it acceded to the EU. Since then it has maintained a well-functioning and adaptive control system to ensure that EU requirements are satisfactorily met.

The Veterinary Administration of the Republic of Slovenia is the central competent authority (CCA) and holds responsibility for welfare during transport lies. Inspection tasks are divided among official veterinarians in ten regional offices (aided by the police if necessary) as well as official veterinarians in slaughterhouses who check the welfare status of animals arriving for slaughter. In addition to this conventional administrative structure for welfare during transport controls, Slovenia has a mobile unit of official veterinarians (European Commission, 2006b). This comprises three veterinarians in a specially-equipped vehicle that checks vehicles during transport and at any stage of a journey. Since 2007, this unit has been empowered to stop vehicles without relying on cooperation with the police. Under the annual inspection plan, the mobile unit performs 350-400 checks (or 2% of the estimated activity in this subsector), but this target is not always met.

In the two FVO missions to Slovenia dealing with animal welfare during transport (in 2007 and 2009), four recommendations were given concerning minor deficiencies spread across seven issues (including cooperation with other member states, checks on journey logs, and the certification of approval of livestock vessels). In six out of seven issues, these were deficiencies were corrected by Slovenia within one year of their notification. The only recommendation issued in the 2007 report indicated that in some cases where the mobile unit detected non-compliance with welfare during transport requirements by vehicles registered in other member states, the unit satisfactorily communicated with the central office but did not contact the competent authority of the other member state (European Commission, 2007e). The FVO mission that identified this minor deficiency took place from 10 to 14 September, and the 2008 country profile reports that action had been taken: "reports on infringements identified since September 2007 were sent to the competent authorities of the relevant member states' Control" (European Commission, 2008c, p. 97).

Problems identified in the 2009 mission (mainly regarding documented procedures and checks on journey logs) were dealt with promptly by additional guidance and instructions in that same year (European Commission, 2009h, 2011a). The only issue that took more than a year to resolve involved the inspection and certification of third country vessels in a Slovenian port. Because Slovenian authorities believed that Regulation 1/2005 was not binding with respect to these vessels and that "international agreements with third countries are vague and not

applicable" (European Commission, 2009h, p. 8), the authorities did not offer a certificate of approval to those third country (non-EU) vessels that complied with the requirements of the regulation. The deficiency was corrected by Slovenia after consulting the Commission as to the legal requirements and involved cooperation with the Maritime Services to develop a new procedure for such inspections (European Commission, 2011a). Unlike the other issues, fixing this deficiency required cooperation with state actors outside the CCA.

Austria: coordinated federalism

Like Slovenia, Austria has maintained an effective and adaptive control system for animal welfare during transport despite its location at the intersection of important crossroads between Western and Eastern Europe. From 2000 to 2010 the deficiencies in this subsector noted by the FVO were minor, and Austrian authorities were quick to remedy the situation, even if that involved a major overhaul of their approach to implementing these requirements.

Austria, like Spain, is a federal country divided into nine provinces and depending on the policy area, these provinces may have sole competency for implementing EU legislation. Unlike the subsectors of animal welfare on the farm or at slaughter or killing, however, the implementation of animal welfare during transport has always been through a system of indirect federal administration (European Commission, 2005a). That is, the central competent authority is at the federal level and has the authority to issue instructions and control plans, but controls are carried out by authorities at the provincial and district level (each province is divided into districts). By contrast, until a new federal act entered into force in 2005, animal welfare on farms was the sole competence of the provinces. Each province had its own implementing legislation, organized and carried out inspections in their jurisdiction and as a result, the quality of control systems varied from province to province (European Commission, 2000a). With the entry into force of the new act, the system of on farm welfare more closely resembles that for welfare during transport.

Another difference between this subsector and the others in Austria is that until March 2007, the central competent authority was not a ministry with veterinary expertise (like the Federal Ministry for Health and Women or BMGF). Transposition and implementation of animal welfare during transport was the

responsibility of the Federal Ministry for Traffic, Innovation and Technology (BMVIT). Inspections are "mainly carried out by the police, customs officers, and staff working at border inspection posts and specially appointed control officers" sometimes with the help of public veterinarians (European Commission, 2006a). Even after the Animal Transport Act was amended from January 2004 (in order to fix several major inconsistencies with EU legislation), the FVO noted that "the relationship between the BMGF and the BMVIT on the issue of animal welfare during transport is limited" (European Commission, 2005a, p. 33). The FVO concluded that inadequacies in the interpretation, guidance, and training with respect to certain EU requirements in this field were the result of this lack of veterinary expertise in the central competent authority (European Commission, 2002a).

Indirect federal administration has not ensured perfect performance, however, though only minor implementation deficiencies have been observed by the FVO in Austria. In one case the regional veterinarian (acting as a federal agent for controlling welfare during transport) interpreted requirements incorrectly by considering the point of departure for journeys originating in third countries as the place where the journey entered the EU instead of the actual place of departure (European Commission, 2000a). This occurred despite assurances from the Federal Ministry for Traffic, Innovation and Technology that its official position was that the point of departure should be considered wherever the journey commenced, even if in a third country. Nevertheless, amendments to the legislation cleared this up by providing a satisfactory definition.

Other minor deficiencies have been corrected by these amendments and the transfer of authority from the Federal Ministry for Traffic, Innovation and Technology to the Federal Ministry for Health in 2007. Although no FVO missions between 2002 and 2011 to Austria examined animal welfare during transport, the 2011 report concluded that "although the CA was delayed with guidance and check lists regarding welfare during transport, the system of transport checks was largely efficient and effective enforcement actions were taken when necessary" (European Commission, 2011c, p. 14). The FVO issued Austrian authorities only one recommendation regarding welfare during transport in this report that concerned only minor deficiencies.

Conclusion

The cases described here echo some of the same issues raised in relation to implementing on farm animal welfare policy. Mechanisms related to transposition are less apparent – the major directive governing the subsector was already in place before 2000 and was replaced by a regulation midway through the decade – though still present, as illustrated in the case of Spain. Formerly, each region in Spain transposed the welfare during transport directive. Once the regulation replaced the directive, it still fell on the regions in Spain to enact their own legal frameworks for enforcement and sanctioning in relation to this and the other subsectors of the policy area. Large variability among the regions with respect to these systems has persisted, contributing (along with other regional coordination mechanisms) to significant deficiencies. On the other hand, Slovenia transposed and applied EU requirements very early (given its accession in 2004), and by beginning early has been able to adapt to FVO recommendations.

The actual level of coordination, and the degree to which central offices are able to supervise and control the regional offices, appear to be more important factors in determining the quality of implementation. The experience of Spain is indicative of this pattern. In Spain, the central agency has very little authority over the autonomous regions. The CCA offers guidelines, but the regional authorities can ignore them. In effect, each region is a separate set of institutions responsible for implementation in its territory, yet Spain as a whole is held responsible (e.g., in infringement proceedings) for the overall low level of implementation quality. In Austria on the other hand, plans are developed centrally and implemented locally. The other member states discussed in this chapter also have relatively few problems of coordination between the different levels of authority with respect to welfare during transport policy. Coordination likely contributes to Slovenia's success, but is insufficient to ensure that Lithuania implements the requirements without significant deficiencies. For a small country, Lithuania's implementation of animal welfare policy is relatively decentralized. Nevertheless, the FVO attributes many of the persistent problems in this subsector to inadequate training of inspectors and operators. The FVO reports do not attempt to explain why inadequate training remains a problem even after additional training programs are instituted, so it is difficult to draw general conclusions with respect to this factor.

CHAPTER 8

Case study of welfare during slaughter or killing

This final case study chapter considers the implementation of EU animal welfare during slaughter or killing policy. The format follows that of the previous two chapters: an overview of the policy area introduces the requirements contained in EU legislation, the performance of all twenty-seven member states for the policy area (from 2000-2010) is compared, and four more detailed cases illustrate the challenges and successes of selected member states in implementing EU policy in this field. Relative to the other policy sectors, EU policy with respect to welfare during slaughter or killing remained largely unchanged during the period under investigation, but recurrent problems in the area have led to a major reform of the legislation (the first in twenty years), with the original directive replaced by a regulation to take effect from 1 January 2013. Recent months have seen significant politicization of this field as countries, including the Netherlands and Poland, enact bans on the ritual slaughter of animals (e.g., slaughter that conforms to religious requirements for Islam and Judaism) for animal welfare reasons.

Overview of the policy area

An early directive in this area, dating from 1974, laid down the basic principles that the stunning and slaughter of animals be performed by competent individuals using appropriate and properly working equipment, that stunning is performed immediately prior to slaughter and is done so as to minimize unnecessary suffering, and that slaughter induces death as quickly as possible following stunning. Recognizing the necessity to take into account "the particular requirements of certain religious rites", this directive included the very open statement that it did not "affect national provisions related to special methods of slaughter which are required for particular religious rites". The original, very brief directive, provided no specifics as to the appropriate methods or equipment.

Following the agreement of the European Convention for the Protection of Animals for Slaughter and much scientific research into the humane treatment of animals during slaughter or killing that helped produce that agreement, the EEC replaced the 1974 slaughter directive with the much longer and more detailed "Council Directive 93/119 of 22 December 1993 on the protection of animals at the time of slaughter or killing". Maintaining the same principle (found throughout EU animal welfare policy) that "animals should be spared any avoidable excitement,

pain or suffering", the Directive stipulated general requirements for slaughter in slaughterhouses (Chapter II) and for slaughter outside of slaughterhouses (e.g., for animals reared for fur, slaughter for personal consumption, emergency slaughter, or disease control; Chapter III). Specific requirements were laid out for the movement and lairaging (the holding of animals at slaughterhouses prior to their slaughter) of animals in slaughterhouses (Annex A), the restraint of animals prior to stunning (Annex B), the stunning or killing of animals other than those raised for fur (Annex C), the bleeding of animals (Annex D), killing methods for disease control (Annex E), and methods for killing fur animals (Annex G). Most importantly, Annexes C and F contained a limited list of permitted methods for killing and detailed the requirements and equipment necessary for carrying out each. In order to allow the legislation to adapt to technological changes in slaughter methods and scientific advancement in the understanding of animal welfare, the Scientific Veterinary Committee could advance proposals for the legislation's amendment.

In relation to ritual slaughter, the Directive states (in greater specificity than the 1974 Directive it replaced) that in these cases the requirement that animals "be stunned or killed instantaneously in accordance with the provisions of Annex C" shall not apply. Moreover, the religious authority for whom ritual slaughter is carried out shall act as competent authority for applying and monitoring the provisions applicable to ritual slaughter, though they are to act under the responsibility of the official veterinarian. This provision potentially affords religious authorities considerable autonomy and discretion with respect to animal welfare during ritual slaughter.

Regarding the inspection and reporting obligations for the member states, these are less stringent than those in the fields of welfare during transport or on farm welfare. Like in those, the member state competent authority must carry out inspections and controls, but the legislation is silent with respect to enforcement. Whereas the welfare during transport Directive contained an entire article dedicated to this subject, and the regulation that replaced it obligated the member states to draw up national legislation regarding penalties for non-compliance, the slaughter directive contains no reference to steps to be taken should non-compliance be detected by the competent authorities during the inspections and controls they are to carry out. Similarly, while both welfare on farm and welfare during transport legislation required that member states report

to the Commission on the results of their inspections from the start (and these requirements have become increasingly specific over the years), the slaughter directive contains no reporting requirements for the member states. As in the other areas, however, inspectors from the Commission (and thus the FVO) may inspect member state application of the legislation in this area.

In the preamble to the "Council Regulation (EC) No 1099/2009 of 24 September 2009 on the protection of animals at the time of killing" (which replaces the welfare during slaughter directive of 1993), one citation notes that "large discrepancies have been observed between the Member States in implementing that Directive and major welfare concerns and differences susceptible to affect competitiveness between business operators have been pointed out". In addition to adapting the specific requirements for stunning, slaughter, and other slaughterhouse procedures to scientific and technological changes, the new 2009 regulation (which does not form part of the subsequent analysis) fills some of the gaps noted in the Directive mentioned in the previous paragraph. Mirroring the transport regulation, the welfare during slaughter regulation requires member states to draw up penalties for non-compliance and more detailed requirements are stipulated regarding monitoring and enforcement. Reporting obligations, however, have not been extended to this sector. The derogation for ritual slaughter has been maintained, but now may only be applied as long as the animal is slaughtered in a slaughterhouse. A final provision allows member states to maintain more stringent national rules to ensure "more extensive protection", and cites ritual slaughter as one field in which this is permitted, but forbids member states with stricter provisions from prohibiting the sale of animal products obtained from animals killed in accordance with the less stringent requirements contained in the regulation.

The implementation of animal welfare at slaughter or killing policy in 27 Member States

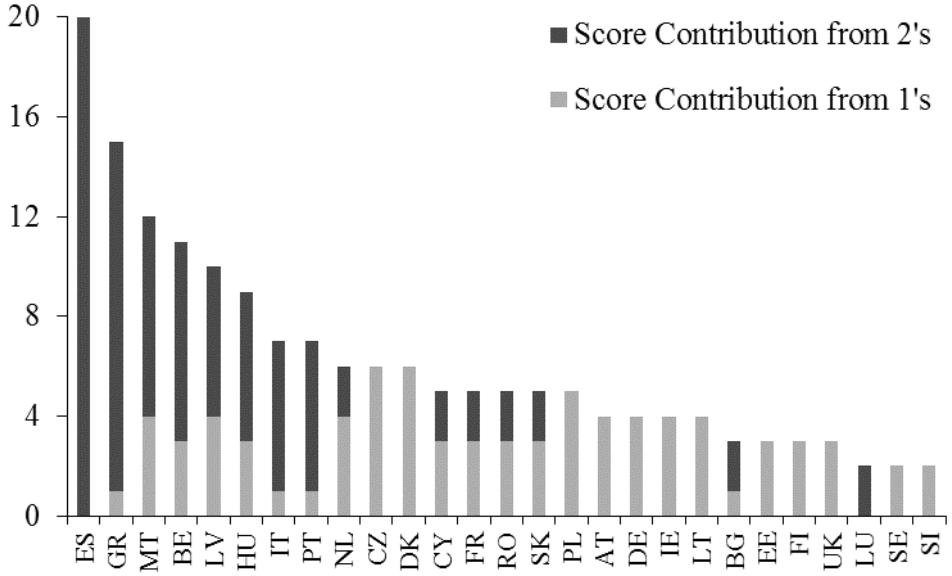

Figure 6: Deficiency in the implementation of at slaughter or killing animal welfare in 27 member states, by level of deficiency

Similar to those in the previous two chapters, Figure 6 provides an overview of the application of welfare during slaughter or killing policy in the member states. As before, the figure shows the total score (the sum of the individual scores for each of the eleven issues in this subsector) for each member state and the contribution to that score from minor (scores of 1) and major deficiencies (scores of 2), respectively. Given the number of issues, the maximum score is twenty two. Countries are ordered from left to right in order of performance (with the worst performers on the left).

The average score across all member states is approximately six with a standard deviation of 4.2. Poor performing countries (those whose score exceeds the average by more than one standard deviation) include Spain, Greece, Malta, and Belgium. Well performing countries (here referring to those countries with a score of two or below) are Luxembourg, Sweden, and Slovenia.

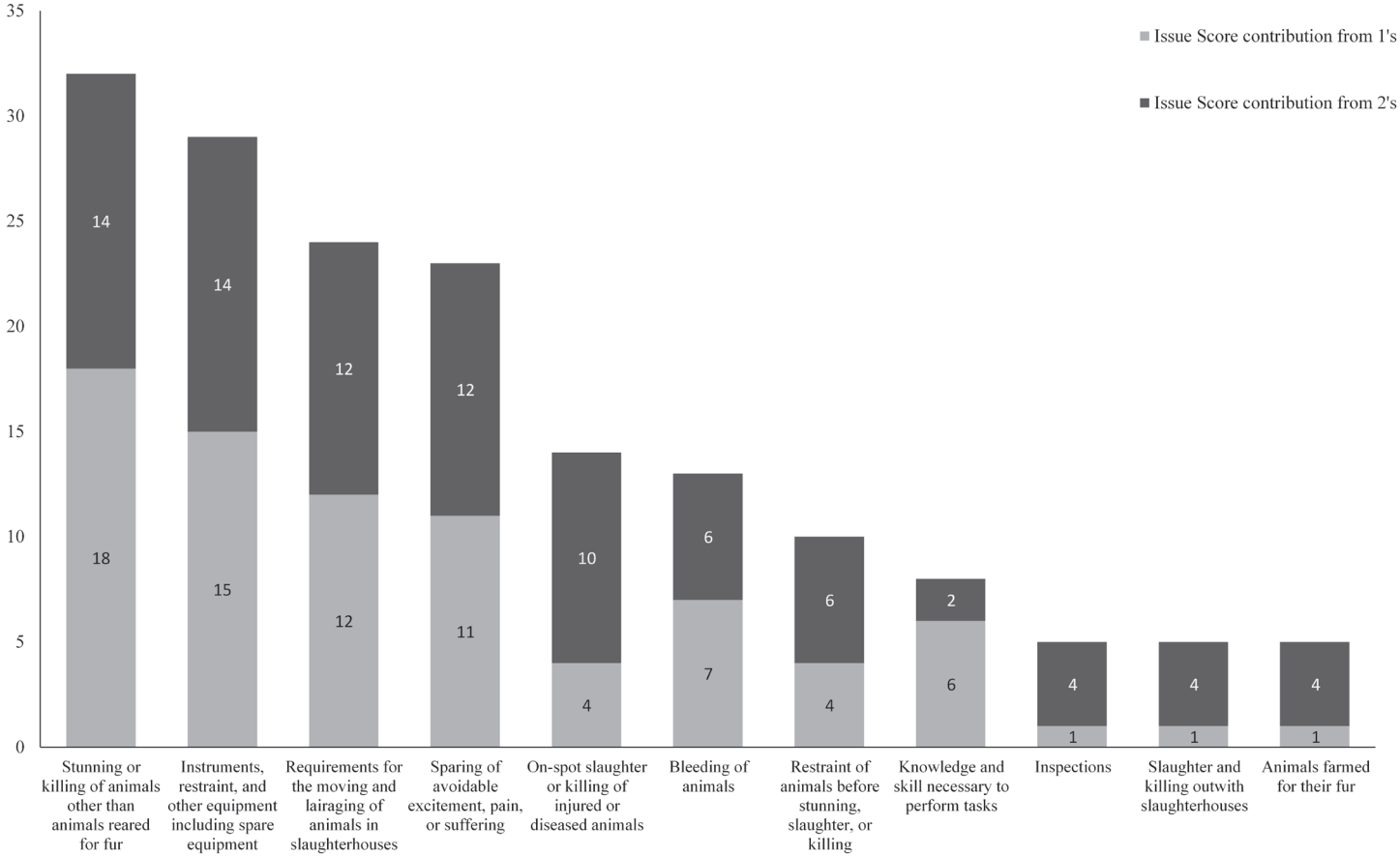

Figure 7: Deficiency in the implementation of at slaughter or killing animal welfare in 27 member states, by issue

A cross-issue perspective is given in Figure 7. As with on farm and during transport animal welfare policy, each issue experienced some implementation difficulty by one or more member states. The issue that created the most difficulties for the member states concerned stunning and killing procedures. This had a total score of thirty-two. Other problematic issues include requirements for spare stunning equipment (29), requirements for lairaging of animals (24), and the sparing of avoidable excitement, pain or suffering (23).

Case selection

The case selection procedure follows the same principle as in the other chapters, with one innovation. Until now I have generally avoided repetition and have sought to balance countries with few deficiencies with countries that have many deficiencies. Here, instead of including two relatively high performers, I include a country that was a high performer in a case described previously but has an average level of implementation for at slaughter or killing. Thus I have chosen Sweden as the country with few implementation problems (its score of two is among the lowest). For countries experiencing significant problems in implementing welfare during slaughter or killing policy, I have selected Greece (whose score of 15 is lower than that of Spain, which has been covered in the previous chapter) and Malta, the new member state with the highest score. For the fourth case, I have selected Slovakia, which although covered in a previous chapter, is included here because successfully adapted its welfare during slaughter or killing implementation in a short amount of time. This selection also has the advantage of contrasting one member state (Sweden) that has consistently applied most animal welfare policies against another (Greece) that has been a major laggard in this field, failing to adapt its policies to be in compliance. Another contrast can be made between two new member states, one that has more quickly adapted to EU requirements (Slovakia) while the other has also been successful if slightly slower (Malta).

Sweden: an animal welfare leader

The implementation of welfare slaughter policy in Sweden takes place within the context of a set of animal welfare regulations that are similarly strict as those

of its northern neighbors (Norway, Denmark, and Finland). Although the rules differ somewhat across each of these countries, they each go beyond EU requirements in several ways and, in the case of Sweden, have a longer history. For example, a ban on conventional cages for laying hens was first announced in 1988 and following a transition period that lasted until 2005 (seven years before the EU deadline), less than 2% of hens were kept in battery cages. Regarding welfare during slaughter and like Switzerland, Norway, and Iceland, Sweden has a complete ban on the slaughter (or killing for any other reason) of any animal (except fish) without prior stunning. This rule effectively bans ritual slaughter and has existed in the country in some form since 1937. Additionally, more stringent requirements in Sweden include the immediate availability of backup stunning equipment at the place of stunning and mandatory bedding for animals kept overnight at the slaughterhouse.

In contrast to on farm or during transport welfare policy, the activities regulated by welfare during slaughter or killing take place in government approved facilities where official veterinarians apply and monitor welfare and other veterinary regulations. Although a veterinarian must be present in slaughterhouses, this does not ensure that all rules are being properly applied. These veterinarians must be kept up-to-date on the latest requirements and must be periodically monitored to ensure that they check all requirements correctly and apply appropriate sanctions when necessary. In Sweden, supervisory authority has until only recently been in the hands of 290 municipalities, with varying resources and commitment to enforcing welfare legislation. Administrative arrangements for the application of welfare during slaughter policy have overcome the complexities of coordinating the supervision activities of municipalities through administrative adaptation, effective auditing, and the dedication of sufficient resources to training activities.

In the beginning of the period under investigation, central responsibility for coordinating animal welfare policy lay with the Swedish Board of Agriculture's Department for Animal Production and Health, Animal Welfare Division. Prior to reorganization, the central authority had no authority over regional and local authorities but did convene a supervisory group five times per year to coordinate enforcement. Veterinary inspectors (VIs) operating in slaughterhouses are monitored periodically by the animal welfare inspector from their municipality, and the activities of these in turn are coordinated by the county. During this period, the FVO noted that although "in general VI's were motivated to supervise

animal welfare issues", the "high discretion for the VI…results in enforcement action not always being sufficient to ensure compliance." The conclusion goes on to cite the "variable level of supervision of [animal welfare inspectors] by the [County Administrative Board]" as a contributing factor.

Facing public pressure from vocal animal welfare interest groups in Sweden to improve the situation, the government moved central responsibility for implementation from the Swedish Board of Agriculture to a separate Animal Welfare Agency tasked with ensuring more uniform application beginning in 2004. This short-lived agency had the authority to issue binding regulations to the municipalities and County Administrative Boards concerning their inspection programs, but it could not complete its aim of achieving greater uniformity before the newly elected government eliminated it in 2007 and transferred its responsibilities back to the Swedish Board of Agriculture. Still, the drive towards centralization and uniform controls continued. For on farm and during transport welfare, responsibility was transferred completely from the municipalities to the County Administrative Boards. This transfer was accompanied by a comprehensive audit of these authorities' inspection programs. For welfare during slaughter or killing, centralization was complete when municipal and county inspectors were replaced by official veterinarians employed by the National Food Administration from 2008. No recommendations regarding welfare during slaughter have been issued to Sweden since 2003, and no outstanding recommendations existed by the time of the 2009 country report. This report also noted the extensive training programs in place for the full-time inspectors of the National Food Administration and part-time slaughterhouse official veterinarians.

Slovakia: responsiveness in a new Member State

The implementation of animal welfare during slaughter or killing policy in Slovakia has been marked by effective enforcement mechanisms and a willingness to remedy detected shortcomings as often as necessary to achieve a well-functioning system. As early as 2004, the year in which Slovakia acceded to the EU and one year after it began applying EU animal welfare regulations, the FVO concluded that Slovakia had already "set up a reasonable system of control for animal welfare" (European Commission, 2004e, p. 9). Of the eight recommendations issued to the country in this first post-accession mission (which covered all three

sectors), only one concerned welfare during slaughter. The main shortcoming detected, an insufficient level of training and monitoring to ensure that all requirements are adequately checked by veterinary inspectors, affected on farm and during transport welfare as well. As documented below, training programs were frequently readjusted to achieve satisfactory controls. Meanwhile, the enforcement mechanisms in place and the comprehensive monitoring within slaughterhouses compensated somewhat for the shortcomings in training.

Responsibility for animal welfare controls in Slovakia lies with the State Veterinary and Food Administration within the Ministry of Agriculture. This administration is divided into eight regional administrations which are further divided into forty district administrations. Over the time period investigated, no significant administrative changes occurred with respect to animal welfare controls. As mentioned above, EU animal welfare directives were transposed and went into effect in Slovakia in 2003. The first FVO report notes that Slovakian legislation is "often more specific than EU requirements on which it is based" and that these interpretations "are useful for its practical implementation" (European Commission, 2004e, pp. 2, 8). For welfare during slaughter, these interpretations include the precise positions for stunning devices and the maximum stun to stick times (the time between stunning and the cutting of the throat meant to kill) for each method and each species of animal.

On the ground, the monitoring and enforcement system is intensive and involves fewer levels of authority than in other countries. Official veterinarians from the district veterinary administrations (and in some cases authorized private veterinarians) monitor animal welfare and other veterinary requirements in slaughterhouses and "are permanently present while the plant is in operation" (European Commission, 2008h, p. 10). These official veterinarians are afforded considerable discretion and authority. Upon detecting violations of the law, they may impose immediate corrective actions and may also "initiate infringement proceedings and impose fines on a natural person up to circa [EUR] 1300 and up to circa [EUR] 33 300 on a legal entity" (European Commission, 2008h, p. 38). Already in 2004, "deficiencies such as the lack of drinking facilities, inadequate stunning equipment and backup had been followed-up and corrected" (European Commission, 2004e, p. 7). Of the nine non-compliances detected in 2007, "three were corrected on the spot, whereas in six cases administrative proceedings had been initiated" (European Commission, 2008h, p. 39).

In some cases, however, official veterinary inspectors failed to detect violations of welfare during slaughter rules. Since its first post-accession mission to Slovakia in 2004, the FVO has attributed such shortcomings to the inadequate training system in place for inspectors (European Commission, 2004e). At that time, training had been provided to at least one official in each district, but private practitioners were excluded and training materials were based on US systems, which was unusual for Slovakia. One veterinary inspector who attended the training failed to identify significant deficiencies regarding stunning practices in one slaughterhouse. In response to FVO recommendations issued during this mission, Slovak authorities stepped up their training efforts and provided additional training sessions between 2004 and 2007 (European Commission, 2007b). Training responsibilities were transferred from the central level to the districts and outside experts were brought in from NGOs and abroad. Still in 2008, the FVO concluded that "training and guidance for [official veterinarians] working in slaughterhouses were insufficient" (European Commission, 2008g, p. 10). The administration responded promptly by enrolling all veterinary inspectors in a nine session training program and the FVO consequently closed its recommendations concerning this issue (European Commission, 2010c).

Malta: constraints from administrative capacity

The example of Malta shows a small country adapting EU animal welfare during slaughter requirements through frequent readjustments despite financial constraints and staff shortages. Between the FVO's pre-accession mission in 2003 and the latest mission covering this subsector in 2009, Maltese authorities have reduced significant problems in this area, though some issues remain. The precise hierarchy and names of organizational units changed frequently in this period. Prior to accession, implementation of animal welfare laws was the responsibility of the Food and Veterinary Regulatory Division of the Ministry of Rural Affairs and Environment. By 2006, this division was merged with that of fisheries to become the Veterinary Affairs and Fisheries Division. In 2008, additional levels of hierarchy were created within this division (now within the renamed Ministry of Resources and Rural Affairs). These changes may have had little significance during this period, however, as the 2006, 2008 and 2009 country profiles all note in the description of the overall distribution of responsibilities that because of "the small

scale of the services, the offices at central level are responsible not only for policy and co-ordination but also for direct implementation of controls" (European Commission, 2009b, p. 7). Additionally, given its small size, there are no regional divisions in the administration.

Problems identified in FVO missions have been generally addressed, subject to resource constraints. Prior to accession, the FVO observed that there were two red meat and eleven poultry slaughterhouses with a single official veterinarian responsible for controls (European Commission, 2003f). By 2006, there was only one red meat slaughterhouse which was then government-owned and under permanent supervision by the administration (European Commission, 2006j). Four veterinarians were recruited for supervising various other food establishments, including the now nine poultry slaughterhouses. Despite government control of the country's only slaughterhouse, significant problems in welfare during slaughter were observed. These included both structural deficiencies in the layout and equipment at the slaughterhouse and incorrectly applied slaughterhouse procedures. Following the FVO mission, both issues were promptly resolved, with the administration providing the FVO with a detailed account of the actions taken to fix the situation. Slaughterhouse reconstruction and training of operators were both completed in 2007.

By the 2009, the FVO concluded that "controls at slaughterhouses have been sufficient to identify the most significant deficiencies" (European Commission, 2009b, p. 9), but, at the same time, noted additional shortcomings in Malta's application of this legislation. In particular, the FVO noted that "enforcement action has often been lacking in relation to the operational deficiencies and the food business operator, in this case another part of the same Ministry, has not responded to many requests for corrective actions" (European Commission, 2009b). In response to this mission, the country committed itself to developing "a more effective system of actions that will ensure that deficiencies detected shall be corrected" (European Commission, 2009b). A country report of the same year, however, describes staff shortages and the "lack of specialists in certain fields", which it cites as particularly acute in the Ministry for Resources and Rural Affairs.

Greece: unable or unwilling? Or, how much suffering went into that souvlaki?

The situation in Greece with respect to implementing animal welfare during slaughter policy represents the one of the lowest levels of compliance with EU requirements observed by the FVO from 2000 to 2010. Greece experienced considerable difficulties implementing on farm and during transport welfare policies, but the focus of this discussion will be on slaughter policy. Not only did significant welfare problems persist in Greek slaughterhouses during this period (and still continue), but inspection and sanctioning systems achieved very little improvements. While attempting to deflect blame for the problem onto staff shortages, which did exist during the time, low levels of recruitment cannot by themselves explain the observed outcomes. In addition to staffing issues, low administrative will, combined with decentralized authority, have rendered the situation abysmal and have stalled improvements, despite ongoing EU infringement proceedings against the country in this field.

The monitoring of the situation in Greece by the FVO and its predecessor has a history stretching beyond the period under investigation here, but some mention must be made of these earlier missions. Missions were sent to observe the situation in slaughterhouses and with respect to welfare during transport in 1995, 1996, and 1998, and each time major deficiencies in stunning practices were noted with no progress being made to fix the situation (European Commission, 2000b). As a result, infringement proceedings were initiated against the country in 1999. This frequency of missions by the FVO to the country continued in the following decade, with FVO inspectors continually looking for improvements and finding few (or in one case, being unable to complete their mission objectives). Thus there were missions again in 2000, two in 2003, 2004, 2006, and missions related to other veterinary activities observed the situation with respect to welfare during slaughter in 2007, 2008, and 2009. This latest mission concluded that "the recommendation to respect animal welfare conditions at the time of slaughter or killing has not been satisfactorily addressed and the situation as regards animal welfare at slaughter was found to be largely unsatisfactory" (European Commission, 2009e, p. 15).

The highly decentralized character of Greek administration in this field played an important role in shaping the ineffectiveness of the control system. The central level consists of the Directorate for Veterinary Inspection and Control (once the

General Veterinary Directorate) within the Ministry of Agriculture. This level issues guidelines and checklists for control programs, but the regional and local levels have principal authority for carrying out controls and imposing sanctions. The country is divided into 54 prefectures, each with their own Directorate of Veterinary Services and these are further divided into 347 rural offices (of which only 250 were actually operating in 2000) (European Commission, 2000b). Official veterinarians in these district and local offices carry out controls in the country's 232 slaughterhouses, primarily on a monthly basis (as compared to the permanent presence of official veterinarians in slaughterhouses in the countries described above). Because the local authorities are under the budgetary control of the prefects, any personnel or major enforcement-related decisions must be approved not by the Ministry of Agriculture, but by the Ministry of Interior. The central authority committed the prefects to re-inspect all slaughterhouses by 2001, but by 2006 only 38 of the 54 prefectures had done so (European Commission, 2006h). Veterinary officials in these prefectures found deficiencies in 29 slaughterhouses but only in one were sanctions attempted (higher level officials in the prefecture dismissed these sanctions). Regarding actual controls, in 2000, the FVO found no evidence that controls were actually carried out (European Commission, 2000b). By 2006, some prefectures had control systems in place, but the FVO concluded observed "some local CAs providing a completely unacceptable level of control" (European Commission, 2000b, p. 16).

Staffing shortages contributed to this situation. In the General Veterinary Directorate, there were between one and two persons with responsibility for animal welfare issues, with most of their attention being devoted to Greece's stray dog problem (European Commission, 2005b). Officials in the prefectures explained to FVO inspectors that it is difficult for them to receive approval for hiring new recruits and that "even if posts were available, the monthly salary for a recently qualified veterinarian recruited to the official services is not attractive in comparison with earnings in private practices" (European Commission, 2003a, p. 6). This in itself likely contributes to a major conflict of interest observed later by the FVO concerning "direct payment by the owner of the animals to the veterinarian for providing inspection services at slaughterhouses outside working hours" (European Commission, 2006h, p. 16). Nevertheless, the FVO concluded that "although staffing levels are a problem, this does not account for the overall level of ineffectiveness of the control system" (European Commission, 2006h).

Instead, a decisive factor seems to be a lack of administrative will, primarily demonstrated by the lack of cooperation the competent authority has given the FVO in conducting its missions. Following the mission in 2000 (which itself was conducted in order to evaluate the steps taken since the 1998 mission), a mission was planned for 2003 for additional follow-up. Four slaughterhouses were to be visited by FVO inspectors as part of this mission, but official veterinarians abstained from their duties during these visits. According to the FVO report, "no slaughterhouse was operational after the first day of the mission and according to the Greek authorities this was the situation throughout Greece" (European Commission, 2003c, p. 4). As a result, the FVO inspection team was unable to evaluate whether any progress had been made and whether commitments made by Greece since the last mission were respected. During an FVO mission three years later, the FVO report notes that "official veterinarians when asked direct questions referring to the slaughterhouse within their responsibility were prevented by the Director of the Veterinary Service from giving a direct reply" (European Commission, 2006h). At the same time, conditions in slaughterhouses improved very little during this period with few assurances provided that the situation would improve.

Conclusion

In this final case study chapter I examined the implementation of welfare at slaughter or killing welfare policy in the EU by way of general cross-national patterns and specific case studies of its implementation in Sweden, Slovakia, Malta, and Greece. This subsector differs from the others in that trained veterinarians (whether official or private) are nearly always present in the establishments subject to the regulation. Despite the possibility of constant monitoring by trained professionals, the quality of implementation in this field remains varied like in the others. This variability persists despite the legislation undergoing no changes in the period under investigation (nor for several years before).

The two old member states come from opposite ends of the spectrum in terms of their implementation record for animal welfare policy. While Sweden, along with its neighbors, has long been a leader in the field, Greece exhibited one of the poorest implementation efforts of all the countries in all three of the subsectors.

Malta and Slovakia also present a contrast. Both are new member states, and both have a relatively centralized administration for implementing farm animal welfare policy, but Slovakia has had the administrative capacity to adapt to the changes demanded by EU legislation and respond to FVO recommendations. The smaller size of Malta and its lower capacity has meant that adaptations there have been slower.

Some of the factors described in the previous chapters, namely the degree of coordination between the different levels of authority, reappear here. This is especially the case with respect to Sweden (where a lack of coordination became the focus of public attention, leading to improvements in an already well-functioning system) and Greece (where major decisions affecting the operation of veterinary inspectors are controlled by an outside ministry). The effect of inadequate training of officials on implementation quality also reappears here, this time with respect to Slovakia. The root cause of inadequate training, whether a lack of will or capacity, is not speculated upon in the FVO reports.

Nevertheless, willingness and capacity to implement the requirements do emerge again as factors that the FVO cites as being important for the implementation outcomes observed. Distinguishing between the two can be difficult. Maltese authorities appear to face significant constraints on their ability to implement these requirements, given the small size of the country, and the FVO is ready to take these claims at face value. Greek authorities, on the other hand, who may also face considerable resource constraints, cannot use this defense so easily. The FVO argues in one case that inadequate staffing is an insufficient explanation for this poor performance, implying that a simple lack of will on the part of authorities also undermines implementation. Claims about the absence of will (let alone its causal effect), however, are difficult to substantiate.

CHAPTER 9

Analyzing the Effects of Adaptation Pressure and Discretion at the Issue-Level

In this part of the thesis (chapters 9 and 10) I return to the four hypotheses advanced in the theory chapter and subject them to a series of quantitative analyses. Below is a review of the hypotheses:

H1: Each additional source of adaptation pressure (regardless of its origins in amendments, specifications, or phased-in requirements) increases the likelihood of implementation difficulty.

H2A: As the amount of adaptation pressure increases, discretion decreases the likelihood of implementation difficulty.

H2B: In the absence of discretion, adaptation pressure increases the likelihood of implementation difficulty.

H3A: As the number of actors responsible for transposition increases, the likelihood of implementation difficulty increases.

H3B: As the number of actors horizontally coordinating implementation increases, the likelihood of implementation difficulty increases.

H3C: As the number of geographic divisions within the central competent authority increases, the likelihood of implementation difficulty increases.

H3D: The decentralization of implementation authority from the central office to regional offices increases the likelihood of implementation difficulty.

H4: The greater the delay in transposing EU legislation, the greater the likelihood of implementation difficulty.

The previous chapters looked at the implementation of animal welfare regulations in the member states by exploring general cross-national patterns and more specific instances of their application in particular member states. Although some cross-issue differences were described (primarily in the introduction to each case study chapter), the case studies investigated implementation from a policy-within-country perspective for each of the three policy subsectors that make up farm animal welfare policy in the EU. Recall from the discussion of units of analysis in Chapter 5 that within a policy subsector (itself constituted by one or more pieces of legislation), a number of issues define norms that member states must adhere to and enforce in their territories. In this chapter, issue-level influences on implementation quality will be brought to the front and national-level factors will be put aside. The systematic analysis of cross-issue differences will reveal patterns that, while supported by evidence from the case studies, do not emerge directly from the descriptions of implementation success

and failure in those chapters. A premise of this chapter is that some issues may be more difficult for member states to apply than others according to characteristics of the issues themselves rather than the countries that implement them. The two issue-level factors considered here are the degree of adaptation required by an issue (independent of national circumstances) and whether an issue delegates substantial discretion to the member state. Although these analyses will be replicated in the following chapter when issues within countries form the unit of analysis, a separate issues-only chapter is presented because the analyses used here are more parsimonious and as a result rely on simpler and more easily interpretable methods (negative binomial regression in place of multinomial logistic regression).

Measuring dynamic adaptation

The theory chapter introduced three sources of policy-level dynamic adaptation pressure: sources of adaptation pressure that originate in the phasing in of requirements over time, adaptation pressure introduced by amendments to EU legislation, and pressure introduced by further specifying particular requirements in greater detail. They are called policy-level here to distinguish them from the national-level adaptation pressures or sources of 'misfit' that scholars have applied widely in this field already, even though I apply them here in an issues-level analysis (as described above, issues are simply the building blocks of policy). They are dynamic in the sense that their impact is felt not as an instantaneous burst of pressure (resulting from misfit) that makes implementation more difficult but rather they force member states to adapt multiple times over the course of implementing a policy. Some of these adaptations are completely anticipated, as in requirements that are phased in or partially anticipated, such as when legislation stipulates that the details of some requirements may be specified later. Others are not easily foreseen, as when requirements are modified in amendments to existing legislation.

Three count variables were constructed to indicate the number of amendment adaptation points, specification adaptation points, and phased in adaptation points, respectively, for each of the seventy-six issues. Each issue was coded individually through a careful reading of the legislative texts and care was taken to limit adaptation pressure points to those that introduced changes only within

the ten year period of investigation. Thus amendments were included only if their entry into force date occurred between 2000 and 2010 (even if the legislation was agreed prior to 2000). The same principle applies to specification adaptation points. Phased in requirements were included only if their effective date occurred in this period. Thus, for example, the well-known phase-out of battery cages that went into effect in 2012 is not included in the count of phased-in adaptation points for the issue "provisions applicable to rearing hens in unenriched cage systems" (battery cages). Each adaptation pressure point is a date from which new changes are introduced, thus if multiple requirements are modified or several additional requirements enter into effect from a certain date they will not be counted separately.

The number of additional adaptation pressure points are counted against the baseline policy in effect for that issue at the beginning of 2000, whether those requirements were newly in force that year or had been in force for several, or sometime after 2000 if no requirements existed for that issue. As an example of the former, Commission Decision 97/182/EC of 24 February 1997 amended the Annex to Directive 91/629/EEC (the calves directive) thus modifying several general provisions for rearing calves and introducing additional ones. These alterations came into force beginning 1 January 1998. No other modifications in this area occurred between 1998 and 2000, so the baseline for that issue is defined by those requirements in force from 1 January 1998. As it happens, no modifications with respect to this issue occurred between 2000 and 2010 either, so this issue experienced no adaptation pressure points of any kind for the period under investigation here, and receives a score of zero for each of the adaptation pressure point variables. As an example of the latter case, Article 4 of the laying hens directive introduces requirements for rearing hens in alternative (i.e., non-cage) systems that go into force from 1 January 2002 for "all newly built or rebuilt systems of production referred to in this chapter and all such systems of production brought into use for the first time". Prior to this date there were no EU requirements for such systems, so the baseline for that issue begins at this time, and any adaptation pressure points are counted from then. For this issue, there was one phased-in requirement between 2002 and 2010 (see below), thus it receives a score of 1 for the phased-in requirements variable and a score of zero for the other two adaptation pressure variables.

The first source of adaptation pressure, phased-in requirements, are the easiest

to identify, as nearly every reference to a date following the legislation's entry into force date indicates this phenomenon. Exceptions include dates with procedural implications like entry into force dates, the requirement for a review of the legislation after a certain time, or periodic reporting obligations beginning from a certain date. To continue the previous example from the issue containing provisions for rearing hens in alternative systems beginning in 2002, the second paragraph of that article states that "Member States shall ensure that the requirements laid down in paragraph 1 apply to all alternative systems from 1 January 2007". Thus these requirements are phased in for existing non-cage systems that have been brought into use before 2002 after a five year transition period. Of the seventy-six issues, sixty-eight had zero phased in requirements, six had one and two had two phased in requirements.

Amendments and specifications take some extra effort to identify (as they originate outside the original legislative text), and in some cases it is also difficult to distinguish them from phased in requirements (as amendments and specifications may involve additional phased in requirements beyond those immediately introduced). Identifying amendment adaptation points, the second source of adaptation pressure, requires a comparison between the texts of the original legislation and any amending legislation. The EUR-LEX database contains a page for each piece of legislation and contains links to any amending legislation. To identify amendment adaptation points it is necessary to read through amending legislation to determine whether and when changes are made to the articles that define each of the issues and thereby introduce new requirements or modify existing ones. Thus an example of an amendment adaptation point would be Council Directive 2001/88/EC of 23 October 2001 which amends Directive 91/630/EEC (the pigs directive) by introducing additional requirements for the construction of pig holding systems. Note that amending legislation may introduce new issues and thereby establish a baseline for any newly introduced issue. For example, Council Directive 2001/88/EC inserted a new article into Council Directive 91/630/EEC containing requirements for instructions, guidance and training courses for individuals who care for pigs on farms. Prior to this amendment, no requirements specific requirements existed for this issue and hence the issue was introduced only when this amendment went into effect.

For animal welfare during transport policy the task of distinguishing new issues from amended ones was complicated by the replacement of the directive

with a regulation in which the text defining issues was rearranged and many new issues were introduced (see Appendix B for the correspondence table). A careful comparison of the two texts reveals that while several new issues were introduced (those for which "NA" appears in the column that notes the source in the old legislative text for that issue), virtually no issues that were carried over were left unchanged (except for space allowances for animals during transport), and no issues were deregulated. Thus all issues but one (space allowances) in this subsector for which some policy existed under Directive 91/628/EEC experienced one amendment adaptation pressure point as a result of the replacement of this directive by Council Regulation (EC) 1/2005. Twenty-five or roughly one-third of the seventy-six issues were amended in the ten year period that is the subject of this dissertation.

The third source of adaptation pressure, instances where additional legislation specifies in greater detail the requirements of existing legislation, can come from one of two sources. They may come from specific implementing legislation, as in Commission Directive 2002/4/EC of 30 January 2002 on the registration of establishments keeping laying hens, which specifies in greater detail the requirements for egg labeling that were first introduced in Article 7 of the laying hens directive of 1999. Identifying the issue affected in these cases is straightforward as the relevant part of the original legislation is directly referred to. Alternatively, they may come from horizontal legislation that affects all subsectors in the policy area (as in the reporting and inspection requirements introduced and amended by Commission Decisions 2000/50/EC and 2006/778/EC, respectively) or that affect multiple policy areas (as in Regulation (EC) No 882/2004, which regulates the performance of official controls for feed and food law, animal health, and animal welfare). In these cases, it is necessary to determine which issues are affected by the horizontal legislation through a careful reading of both the horizontal legislation and the non-horizontal legislation for which it specifies requirements. The distribution of specified pressure points is similar to that of phased in points: sixty-seven had zero specifications, six had one, and three had two specifications.

One final note regarding specification and amendment adaptation pressure points concerns the sometimes blurry line between these on the one hand, and phased in requirements, on the other. Both amendments and specifications do not always alter an issue from one moment only. They may themselves phase in

requirements, so that some changes are introduced when the amendments first enter into force while others are introduced later. On the one hand, relative to the original policy, these are all amendments as they were not part of the original legislation. On the other hand, they are phased in over time and thus may indicate difficult issues to implement immediately. Because the latter notion is more informative, I have chosen to consider any additional requirements introduced by amending and specifying legislation beyond the entry into force date as phased-in requirements. Thus each piece of legislation of either kind can have at most one adaptation pressure point per issue. In these seventy-six issues, forty-four did not change during between 2000 and 2010 (and thus had one norm state, a concept discussed in the next paragraph). Of the remainder, nineteen experienced two norm states, twelve had three, and a single issue had four norm states.

As noted in the previous paragraph, the line between different types of adaptation pressure points cannot always be easily drawn. Because of this, I have also constructed an additional variable to measure this concept that makes no distinction between the different types I have identified above. For each issue, I identify the number of "norm states" in force between 2000 and 2010. The phasing in of a new requirement or the modification or specification of existing requirements shifts an issue from one norm state to another. For each issue there is at least one norm state – that which is in effect in the beginning of 2000. The number of norm states for an issue is simply the number of phase-ins, specifications, or amendments plus one. This variable will be used to test the same basic theoretical argument, that policy-driven adaptation pressure makes implementing an issue difficult, all things equal. Constructing it requires fewer difficult decisions, but using it prevents us from seeing how different types of adaptation pressure points affect implementation. Thus the analyses that follow will consider both separately.

Measuring discretion

In order to explore the relationship between discretion granted to the member states and implementation, I have adapted for the issue-level the delegation ratio following Franchino's adaptation of Epstein and O'Halloran's own discretion ratio (Epstein & O'Halloran, 1999; Franchino, 2001, 2004). This approach counts the major provisions in each piece of legislation and the discretion ratio is a function

of the proportion of those major provisions that delegate authority. It is calculated for the entire piece of legislation. I modify this approach to indicate the presence of discretion at the issue-level and only at this level. Like in Franchino's adaptation, I indicate for each issue whether the provisions of that issue delegate authority, but I stop there and do not construct any index based on this indication. It is thus a dummy variable for each issue rather than a proportion for the whole policy and indicates whether delegation has been granted (in which case discretion exists). Although authority can be delegated to either the member states or the Commission under Franchino's system, I consider only those issues containing provisions that delegate authority to the member states as relevant for testing the arguments set forth in the theory chapter. It is the member states that must adapt to the pressures of EU policy and only the delegation of authority to them matters for how well they adapt. For these seventy-six issues, thirty delegated authority to the member states.

Control variables

Two control variables are included in the subsequent analyses. The first is a dummy variable indicating whether an issue is one that appeared for the first time in the period under investigation. As mentioned above, the new transportation regulation, which entered into force at the beginning of 2007, introduced several (ten in fact) new issues into animal welfare during transport policy in the EU. The novelty of these issues means that implementing them may have been difficult for the member states. Such an effect is conceptually different from adaptation pressure points, which arise from an existing policy issue and influence implementation over the course of a long period of time.

The second control variable is a dummy variable for the issues from the horizontal regulation concerning official controls. Although the regulation went into force from 2006, the issues contained therein are "horizontal" issues in the sense that they are an implicit (and in many cases, explicit) part of implementing all other policies in the field of on farm animal welfare (and beyond). Despite not having a single legal source before the promulgation of the regulation, the FVO commented on and gave recommendations concerning many of the issues that the horizontal regulation later legislated. They came part and parcel with violations of other legislation in this field. When such issues persisted in member states after

the horizontal regulation went into effect, the FVO repeated these recommendations and at this point included references to the regulation in their recommendations. Because these are horizontal in nature, and because they are somewhat novel in the sense that specific legal text was elaborated them beginning in 2006, these issues may behave differently with respect to influencing implementation or with respect to the effects of the theoretical variables.

Dependent variables

Chapter 5 introduced the scheme used to code implementation quality for the seventy six issues across the twenty seven member states. The reader will recall that for each of these country-issues, a score of zero to two was given to indicate no problems with implementation (zero), minor deficiencies (one), or significant deficiencies (two). In the issue-level analyses of this chapter, I aggregate these scores across the countries in two ways, to produce two different dependent variables. Each indicator measures a different facet of implementation deficiency for a given issue (the units of analysis for all the analyses in this chapter are the seventy six issues across all policy subsectors). Because the degree to which countries are successful at implementing policy issues is a multidimensional concept (and the relative importance of these dimensions is difficult to rank), it is difficult to assign overall implementation scores that capture the full range of implementation deficiency for each country on each issue. In order to maintain some of these differences without getting into thorny issues about ranking the relative importance of different aspects within the implementation of a single issue, I take a pragmatic approach that in the first case looks at implementation deficiency in total (in which significant and non-significant deficiency are treated equally) and in the second case looks at only major implementation deficiency. While the hypotheses are expected to hold in both cases, splitting the dependent variable in this way allows testing for the possibility that some effects are more or less intense for significant deficiency than for deficiency in general.

The first indicator (used as the dependent variable in the first set of analyses in this chapter) counts the number of countries experiencing some problem with the implementation of an issue (both minor and significant deficiencies). Thus it counts the countries that have a score of either one or two for that issue. Figure 8 displays the frequency distribution for this variable. The second dependent

variable is concerned only with significant implementation problems for any given issue and thus counts the number of member states that have a score of two for an issue. Figure 9 displays the frequency distribution for the second dependent variable. Both variables are left-skewed, and are different in that for every issue there are some countries that experience some implementation difficulty but there are some issues in which no country experiences significant implementation difficulty. Thus zeroes are observed in Figure 9 but not in Figure 8. Because the FVO has inspected all twenty-seven countries for all seventy-six issues at some point between 2000 and 2010, no missing observations exist in these analyses.

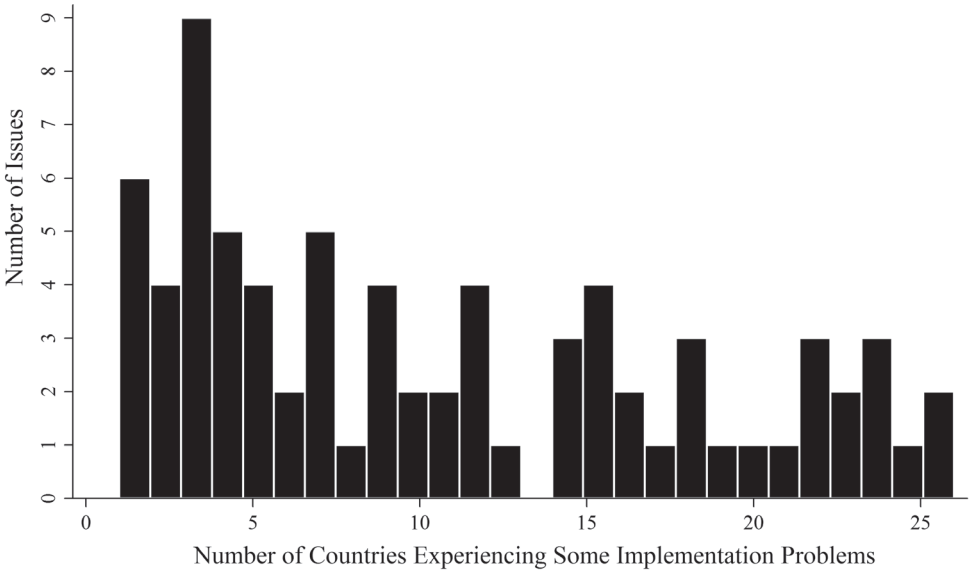

Figure 8: Frequency distribution of first dependent variable

Methodology

The non-normal distribution of both dependent variables means that ordinary least squares (OLS) techniques would lead to biased and inefficient estimates. Moreover, the linear predictions obtained would generate predictions that fall outside the theoretical maximum and minimum for both variables (the maximum number of countries is twenty-seven and the minimum is zero). By thinking of the

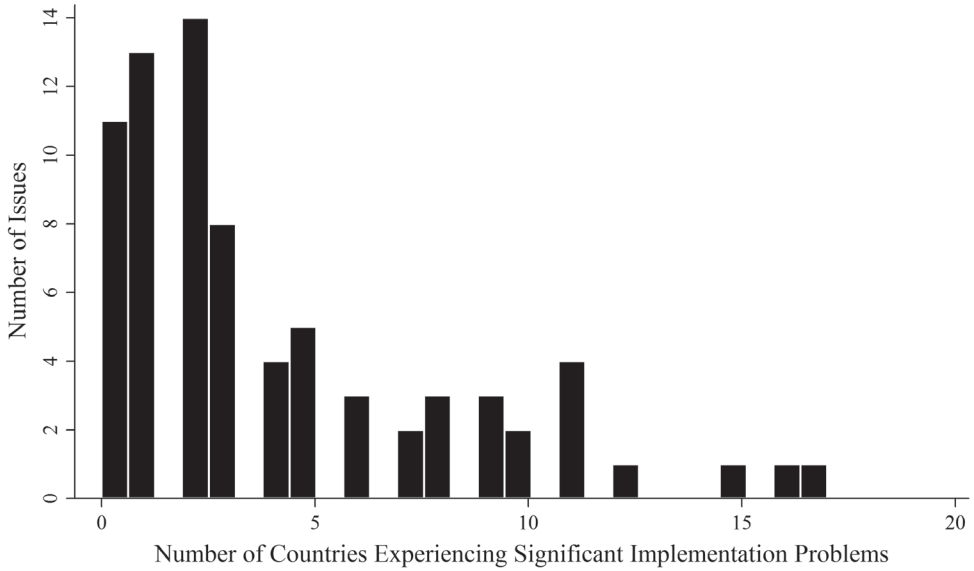

Figure 9: Frequency distribution of second dependent variable

dependent variables as counts of the number of countries that experience implementation problems within an issue, a count model can be applied. The two most commonly used approaches to modeling count data are Poisson and negative binomial regression. Both do not allow predictions of the dependent variable to fall below zero, thus satisfying one constraint posed by the theoretical range of the dependent variables here (that is, the minimum number of countries is zero). Theoretically these predictions have no maximum, thus predictions beyond twenty-seven (the maximum possible value for the dependent variables here) are possible. In the results that follow, I use model diagnostics to determine the probabilities for all values of the dependent variable that have a predicted probability significantly different from zero, and thus determine the extent to which the model predicts counts beyond twenty-seven.

Before proceeding, I will briefly review count models and the implications that the use of such models have for the interpretation of the results that follow (see Hilbe, 2011 for a more comprehensive overview). In classic multiple linear regression, the dependent variable is modeled as a multivariate normally distributed random variable conditional on a set of regressors (independent variables). The model consists of a linear combination of a constant parameter and partial coefficients for each of the independent variables. An estimation

technique, typically ordinary least squares, is used to estimate the parameters. Because of the distributional assumption and the linear additive property of the model, the model generates predictions for the dependent variable across the full range of real numbers. Such a model is inappropriate for counts, which are discrete and non-negative.

Poisson regression models deal with this limitation in two ways. First, they model the dependent variable as the mean of a Poisson random variable. The Poisson distribution has a single parameter, the Poisson mean or λ, which represents the average rate (or count per unit). Second, because the Poisson mean must be positive, in order to model it as a function of a set of independent variables (which together can assume any real value, positive or negative), the logarithm of the mean is predicted as a linear additive function of the independent variables. Thus the estimated coefficients for an independent variable represent the effect on the logarithm of the count for a one unit increase in that variable. Parameters are typically estimated using maximum likelihood estimation.

Because scholars conventionally prefer working with the effects of independent variables on the actual dependent variable (and not its logarithm), Poisson regression results typically present both the raw coefficients and incidence rate ratios (IRRs). The incidence rate ratio is simply the exponentiated coefficient. The terminology comes from epidemiology: the incidence rate (of, say, a disease or cancer) is the number of "incidents" in which the outcome occurs for a particular unit of time or area (thus the "rate" of "incidents" per unit). The "ratio" component refers to the ratio of the value of the dependent (incidence rate or count) variable given one value of the independent variable versus the value of the dependent variable given a different value of the independent variable, holding all other independent variables constant. In this ratio, the base case appears in the denominator and the numerator contains the value of the dependent variable given an increase of 1 in the independent variable from the base case. In social science applications, outcomes are typically discussed as counts (instead of rates) even though the use of the term "incidence rate ratio" remains. Thus for any coefficient β, IRR = e^{β} and it represents the factor by which the dependent variable changes for a one unit change in the independent variable. If the IRR is greater than 1, then subtracting 1 from the IRR will give the percent increase in the dependent variable for a one unit increase in the independent variable. If the IRR is less than 1, then subtracting the IRR from 1 will give the percent decrease in the

dependent variable for a one unit increase in the independent variable.

Poisson regression has one important limitation. As mentioned above, the Poisson distribution has a single parameter λ. This is not only the mean of the distribution, but also the variance. In other words, the distribution assumes that the mean and the variance are equal (equidispersion). If the variance exceeds the mean (overdispersion), the estimated coefficients will be unbiased but their standard errors will be inflated. As a result, predictors may appear significant when they are not. The extent of overdispersion in a Poisson model can be estimated by the Pearson dispersion parameter (part of the standard output for estimating any generalized linear model), which if significantly different from one, indicates overdispersion.

As an alternative to Poisson regression, negative binomial regression relies on a different distributional assumption about the dependent variable, namely that the dependent variable is distributed according to a negative binomial distribution. This relaxes the assumption of equidispersion and is appropriate for modeling count data in which the variance exceeds the mean. The dependent variable is still modeled as the logarithm of expected counts against a set of independent variables, so the raw coefficients have the same interpretation and scholars typically present these alongside incidence rate ratios (as in Poisson regression). The results of negative binomial regression also include the heterogeneity parameter α, which estimates the degree of overdispersion. If this is significantly different than 1, then overdispersion is present and the negative binomial regression is appropriate. In the analyses that follow, Poisson regression models were estimated first, but the Pearson dispersion parameters were significantly different from zero. Hence I estimate and give the results for negative binomial regression and include the heterogeneity parameter α as an indicator of the overdispersion in each model.

One final note regarding the estimation technique concerns model fit. In OLS regression, the R^2 or multiple R^2 indicates the percent of the total variance in the dependent variable explained by the model. This is thus an implicit comparison between a model with no independent variables (i.e., using only the mean of the dependent variable to predict its value for each observation) and the estimated model (i.e., obtaining predicted values of the dependent variable from the estimated regression parameters) and shows the extent to which the latter has improved predictions of the dependent variable over the former. The R^2 is

calculated from the sum of the squared residuals (the difference between predicted and actual values for each observation) from both "models". This statistic is inappropriate for count models (which are estimated in this chapter) and qualitative response models (which are estimated in the next chapter) that both rely on maximum likelihood estimation in place of ordinary least squares.

Scholars have proposed a variety of goodness-of-fit measures for models estimated using maximum likelihood, but "no consensus has emerged on the single best measure, and each measure may give different results" (Pampel, 2000, p. 100). Following convention, a measure that is analogous to the R^2 described above will be presented in the models that follow (Hilbe, 2011). The (McFadden's) pseudo-R^2 compares the likelihood of producing the observed data given a model with no independent variables against the likelihood of producing these data given the estimated model (McFadden, 1974). It is thus also called the likelihood ratio index (LRI). Like the OLS R^2, it ranges (in theory) between 0 and 1, and the "LRI increases as the fit of the model improves" (to a degree) (Greene, 2003, p. 683). Unlike the R^2 value, however, "the values between zero and one have no natural interpretation", and "there is no way to make LRI equal to 1" (Greene, 2003, p. 683). Thus while I report the pseudo R^2 value (the LRI) and the base and model likelihoods from which it is constructed, these should be seen "as only rough guides without attributing great importance to a precise figure" (Pampel, 2000, p. 50).

The possibility that (unmeasured) characteristics of the six policy subsectors (welfare of hens on farms, calves on farms, pigs on farms, during transport, at slaughter or killing, and official controls) influence the extent of implementation difficulties cannot be ruled out, and these unobserved factors likely reduce model fit. The ideal solution would have been to theorize those subsector-level characteristics and include them in a multilevel model, but the limited number of subsectors rules out the possibility of such an approach. I nevertheless control for these effects in two ways: by clustering the standard errors in the negative binomial regressions according to these subsectors (see e.g. Moulton, 1990) and by including subsector-level dummy variables (e.g., in addition to the official controls dummy variable discussed above). Each approach is used when possible, and all models use robust standard errors.

Results

I present the results in two stages. In the first stage, I explore the effects of the different kinds of adaptation pressure points on each of the two dependent variables. The second stage combines the different sources into a single indicator and adds the conditional effect of whether issues delegate authority (that is, whether discretion is present in an issue). The first stage allows a more informative test of the adaptation pressure hypothesis (H1) than will be possible in the second stage, while the second stage allows a complete test of the interactive effect of discretion (H2).

Stage 1: the adaptation pressure hypothesis deconstructed

The motivation for the first stage is to explore differences in the effects of the three kinds of adaptation pressure: phased in requirements, amendments, and specifications. While the adaptation pressure hypothesis (H1) predicts that adaptation pressure will increase the likelihood of implementation deficiency regardless of the source, the possibility exists that one source of pressure has a larger substantive effect on implementation than another. It is also possible, on the other hand, that there are no differences in effect from one source to another. The results presented here enable such a comparison.

For each dependent variable, I present three models in this first stage. The first contains only the theoretical variables (adaptation pressure points only), the second adds control variables, and the third includes policy subsector dummy variables. This last model in each triplet is a harder test for the adaptation pressure hypothesis, as it isolates the effects that different sources of adaptation pressure have from subsector-level differences. In the first two models I cluster the standard errors by policy subsector (to control for within-subsector homogeneity in these models) while the third does not include this clustering (the subsector dummies introduce greater statistical control than the clustering of standard errors). I first present the results for three models of "some implementation deficiency" (that is, no regard to whether that deficiency is significant or not) and then I present the results for corresponding models of "significant implementation deficiency".

Table 5 shows the results of the negative binomial regressions, in which the number of countries experiencing some implementation deficiency is the dependent variable. Because the models are non-linear, incidence rate ratios are

included alongside each model to illustrate the substantive effects. As discussed above, these incidence rate ratios represent the factor by which the dependent variable changes for a one unit change in the independent variable, holding all the other independent variables constant.

Table 5: Negative binomial explaining the number of countries experiencing implementation difficulty

	(1)	IRR	(2)	IRR	(3)	IRR
Phased-in points	0.353	1.424	0.397*	1.488*	0.340*	1.405*
	(0.222)	(0.316)	(0.236)	(0.351)	(0.183)	(0.258)
Amended	0.103	1.109	0.069	1.071	0.377**	1.458**
	(0.116)	(0.129)	(0.142)	(0.152)	(0.176)	(0.257)
Specified points	0.230	1.259	0.224	1.252	0.333*	1.394*
	(0.234)	(0.294)	(0.240)	(0.300)	(0.188)	(0.262)
New issue			-0.416***	0.659***	0.006	1.006
			(0.137)	(0.090)	(0.297)	(0.298)
Official controls			0.103	1.108		
			(0.142)	(0.157)		
Hens					-0.089	0.914
					(0.272)	(0.249)
Calves					-0.770**	0.463**
					(0.337)	(0.156)
Pigs					-0.081	0.922
					(0.273)	(0.252)
Slaughter or killing					0.019	1.019
					(0.289)	(0.295)
During transport					-0.515*	0.598*
					(0.269)	(0.161)
Constant	2.221***	9.213***	2.244***	9.429***	2.347***	10.450***
	(0.132)	(1.218)	(0.142)	(1.336)	(0.192)	(2.001)
Alpha	-0.736***	0.479***	-0.779***	0.459***	-0.843***	0.430***
	(0.189)	(0.091)	(0.203)	(0.093)	(0.165)	(0.071)
Observations	76	76	76	76	76	76
Pseudo R^2	0.000	0.000	0.000	0.000	0.022	0.022

Robust standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

For all three models, the overdispersion parameter α is significantly different from zero, indicating the appropriateness of a negative binomial model over Poisson regression. This fact has already been indicated in the methodology

section, but I note it here along with the diagnostic evidence. In model 1, which contains only the adaptation pressure variables, no variables are significant although each has a positive effect on the number of countries that experience implementation difficulty. Although hardly providing incontrovertible evidence for the adaptation pressure hypothesis, the model does not give results that are contrary to its predictions (as would be the case if the effects of the variables were negative, significant or otherwise).

Compared to model 1, model 2 begins to show some confirmation for the adaptation pressure hypothesis. When the new issue and official control variable dummies are added, the effect that phased in requirements have on the number of countries is positive and significant. The incidence rate ratio for this variable shows that each additional phased in requirement increases the number of countries experiencing implementation difficulty by 49%. Put another way, with all other variables equal to their means, the expected value of the number of countries experiencing implementation difficulties is 9.72 for an issue with zero phased-in requirements. Increasing the number of phased in requirements from zero to one increases the expected number of countries by 49% to 14.46. The case studies of on farm animal welfare alluded to this effect, with the phasing in of new requirements for laying hen holdings posing significant problems for several member states. Figure 10 displays the expected counts for different levels of the phased in variable, holding all other variables constant at their means. The effect is modestly significant at the $p < 0.10$ level. On the other hand, the effects of specifications and amendments remain insignificant even with these controls.

Of the two control variables, that for new issues is significant at $p < 0.001$ and is negative, indicating that new issues experience fewer implementation difficulties than already existing ones. Holding all other variables constant at their means, the expected number of countries experiencing some implementation problems drops from 10.8 to 7.1 (a decrease of 34% or 1-IRR). This may be a characteristic of these issues themselves, the lack of reporting on their situation in the member states by the FVO, or a spurious correlation as all new issues come from the 2005 transport regulation.

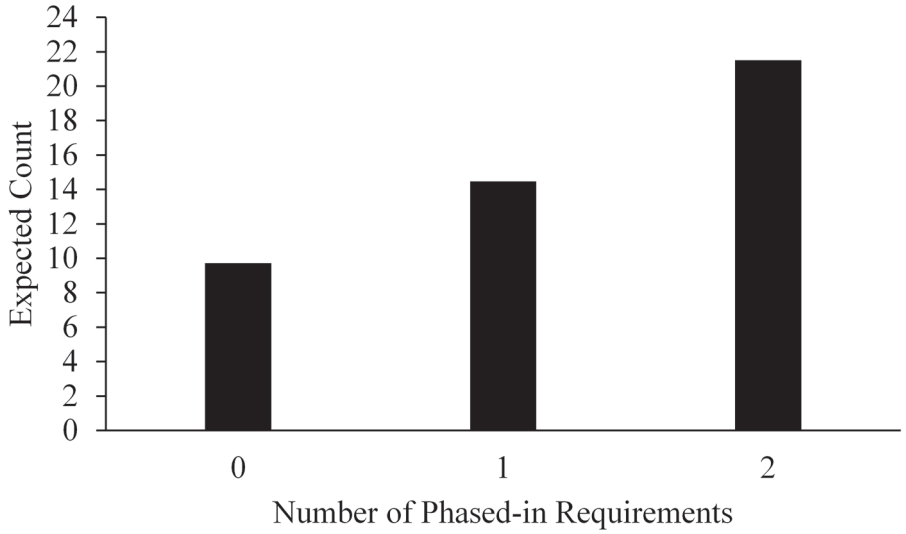

Figure 10: Expected number of countries experiencing some implementation problems by number of phased-in requirements (holding all other variables constant), Model 2

In model 3 I deal with the possibility of inter-policy subsector differences by replacing the clustered standard errors with a dummy variable for each of the five subsectors (hens, calves, pigs, slaughter, and transport). This model allows us to test whether amendments, phased-in requirements, or specifications lead to implementation deficiency even when subsector differences have been accounted for. Note that in model 3, the base case has swapped relative to that in model 2. Whereas in model 2, a dummy variable for official controls issues was included as a control, model 3 uses official controls issues as the base case from which the coefficients for the other policy subsectors indicate deviations. This model gives additional evidence for the hypothesis that adaptation pressure points increase the number of countries that experience implementation problems. In this model, the coefficients for all three adaptation pressure variables are significant. The effect that phased-in requirements have on the number of countries is slightly reduced, though still significant at $p < 0.05$. Holding all other variables constant, an additional phased in requirement increases the expected number of countries experiencing some implementation problem by 40%. Amendments also have a significant (at the $p < 0.05$ level) and positive effect: an issue that has been amended will have 47% more countries experiencing implementation difficulties than one that has not been amended. Similarly, the effect of specifications is also

significant (at $p < 0.10$), positive, and also smaller substantively than that for phased-in requirements. Each additional specification increases the number of countries experiencing implementation difficulties by 39%. Figure 11 displays the expected counts for different levels of the specified requirements variable, holding all other variables constant at their means.

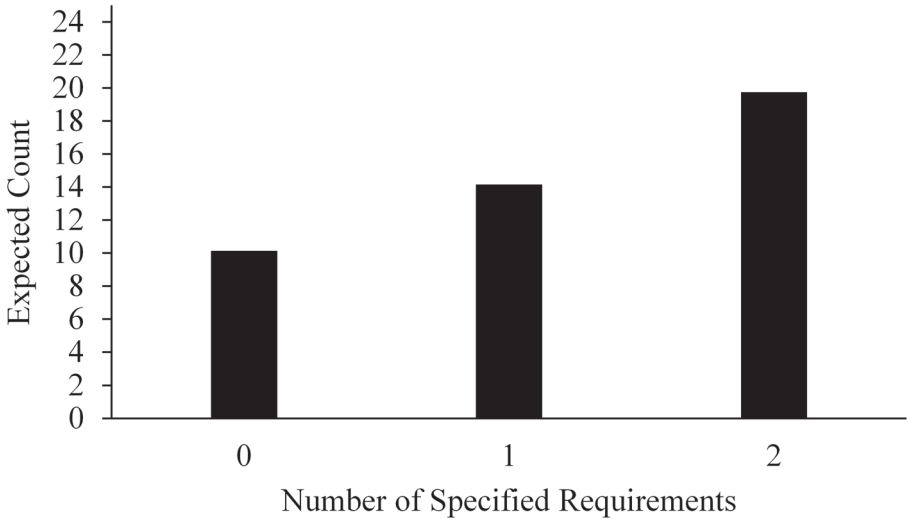

Figure 11: Expected number of countries experiencing some implementation problems by number of specified requirements (holding all other variables constant), Model 3

As alluded to in the discussion of model 2, in model 3 the effect of the newness of an issue is no longer significant, while transport issues have an expected number of countries experiencing implementation difficulties that is significantly lower than that for official controls issues (at $p < 0.1$). In other words, the effect attributed to novelty in the previous models is likely due to the difference between implementing transport issues as opposed to other issues (note that this effect is separate from the effect of amendments, and many transportation issues faced amendments). The expected number of countries experiencing some implementation difficulties is 12.5 for non-transport issues and 7.5 for transport issues (holding other variables constant). Of the other policy subsector variables, only that for calves is significant ($p < 0.05$). The number of countries experiencing some implementation difficulties is 11% less for issues related to calves than from other issues (holding other variables constant).

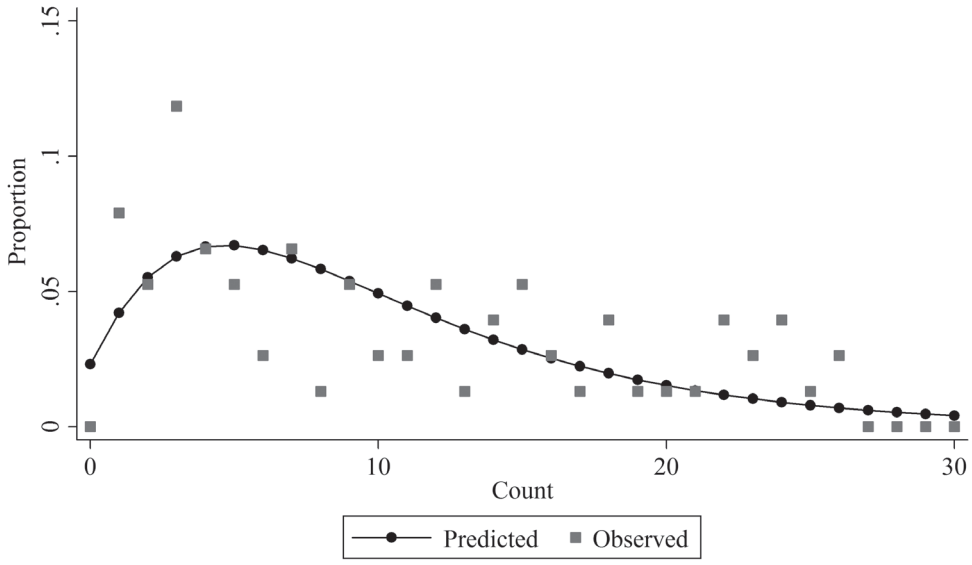

Figure 12: Observed frequencies vs. predicted probabilities, Model 3

Together these models provide consistent evidence that adaptation pressure, regardless of its source, increases the likelihood that countries experience implementation deficiencies (significant or not). The presence of each source of adaptation pressure increased the number of countries that experienced deficiencies for a given issue, as predicted in the adaptation pressure hypothesis. Phased in requirements (like those for laying hens), although anticipated well before they go into effect, still cause problems for implementation. Similarly, amendments, like the changes to the welfare during transport policy that many countries struggled to implement, made issues more difficult to implement than those issues that remained unchanged. Specifications, although less common, also complicated implementation. The difficulty that many countries had implementing the registration system for laying hens is a testament to this effect.

Turning to model diagnostics, Table 5 shows that although the models provide some supporting evidence for the adaptation pressure hypothesis, the goodness-of-fit measures indicate that quite a substantial amount of variation in the dependent variable is unexplained by the models. The pseudo-R-squared reaches its highest at 0.02 for model 3. For model 3, Figure 12 compares the predicted proportions (the number of times a particular count outcome is predicted by the model, given different values of the independent variables, divided by a

standardizing coefficient of 30) with observed proportions (the number of times a particular count outcome is observed in the data divided by a standardizing coefficient of 30)[8]. Despite the low-level of fit, there appears to be little pattern to the relationship between predicted probabilities and their observed frequency, although the conditional variance appears higher for a lower count of the number of countries experiencing some difficulty implementing an issue. The figure also reveals that predicted probabilities beyond twenty-seven (the theoretical maximum given the number of member states in the EU during the time period analyzed) are very unlikely. The probability of observing a number above twenty-seven given the model is 5.7%.

Table 6: Negative binomial explaining the number of countries experiencing significant implementation difficulty

	(4)	IRR	(5)	IRR	(6)	IRR
Phased-in points	0.173	1.189	0.276	1.317	0.465*	1.593*
	(0.181)	(0.215)	(0.175)	(0.231)	(0.245)	(0.390)
Amended	0.410*	1.507*	0.594**	1.810**	0.988***	2.686***
	(0.227)	(0.343)	(0.293)	(0.531)	(0.331)	(0.890)
Specified points	0.145	1.157	0.255	1.291	0.539**	1.714**
	(0.389)	(0.450)	(0.340)	(0.439)	(0.239)	(0.409)
New issue			-0.464	0.629	0.105	1.110
			(0.305)	(0.192)	(0.487)	(0.541)
Official controls			0.604*	1.829*		
			(0.314)	(0.574)		
Hens					-0.980**	0.375**
					(0.423)	(0.159)
Calves					-2.111***	0.121***
					(0.535)	(0.065)
Pigs					-0.962**	0.382**
					(0.437)	(0.167)
Slaughter or killing					-0.312	0.732
					(0.307)	(0.225)
During transport					-1.193***	0.303***
					(0.431)	(0.131)
Constant	1.205***	3.337***	0.965***	2.624***	1.569***	4.800***
	(0.262)	(0.874)	(0.314)	(0.823)	(0.240)	(1.153)
Alpha	-0.319	0.727	-0.474	0.622	-0.599***	0.549***
	(0.382)	(0.278)	(0.399)	(0.248)	(0.221)	(0.121)
Observations	76	76	76	76	76	76
Pseudo R^2					0.049	0.049

Robust standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

[8] The standardizing coefficient of 30 is chosen here to assess the likelihood that the model generates predictions beyond counts that are impossible in reality (those beyond 27).

Table 6 shows the results from the negative binomial regressions with a count of the number of countries experiencing significant implementation difficulties as the dependent variable, along with their incidence rate ratios. Although the overdispersion parameters are significantly different from zero only for model 6, and thus models 4 and 5 are more appropriately modeled using Poisson regressions as discussed above, I report negative binomial regressions for all three models for the sake of consistency. The results from Poisson regressions (not shown) that correspond to models 4 and 5 are consistent with the results reported from the negative binomial regressions (unsurprisingly, given that the negative binomial model is a generalization of the Poisson) (Hilbe, 2011). In contrast to Model 1, in which no variables were significant, the effect that amendments have on the number of countries experiencing significant implementation problems is significant (at the $p < 0.10$) level. The presence of an amendment increases the expected number of countries experiencing significant implementation problems by 51%, from 3.5 countries for issues that have not been amended, to 5.3 countries for issues that have been amended, holding the number of phased in and specified requirements constant at their means. In other words, amendments (like those in the transport sector, for example) lead to significant implementation deficiencies, but this effect is lost if significant and less significant deficiencies are grouped together.

Model 5, which introduces the two control variables, also shows some differences between the two dependent variables. Once controlling for the novelty of an issue and the official controls issues, the effect of amendments on the dependent variable remains significant (now at $p < 0.05$), again attesting to the importance of this factor. Holding all other variables constant at their means, the expected number of countries experiencing significant problems is 3.12 for an issue that has not been amended during the ten-year period and 5.66, or 81% larger, for an amended issue, and is thus an effect of comparable magnitude to that in Model 4. In contrast to the corresponding Model 2 (same independent variables, different dependent variable), the official controlss dummy variable is significant (at $p < 0.10$) while the new issues dummy variable is not. Holding all other variables constant, the expected number of countries experiencing significant implementation difficulties is 5.93 for official controls issues and 3.24 for issues from the other subsectors.

Finally, Model 6 replaces the official controls dummy with one for each of the

other policy subsectors and therefore does not cluster the standard errors by these subsectors. The results are similar to those in Model 3 but with some differences regarding the significance of the policy subsectors. Like in Model 3, the coefficients for all three of the adaptation pressure point variables are statistically significant. Phased-in pressure points are significant at the $p < 0.10$ level, and each additional phased in requirement increases the expected number of countries experiencing significant implementation problems by 59%. Figure 13 displays the expected counts for different levels of the phased in requirements variable, holding all other variables constant at their means. The effect for amendments is comparable to that in the previous two models: an issue that has not been amended has an expected 3.10 countries experiencing significant implementation difficulties, while one that has been amended has an expected 8.32 countries. The effect that specification pressure points have on the dependent variable is also significant ($p < 0.05$), with each additional specified requirement increasing the number of countries experiencing significant implementation difficulties by 71%. Figure 14 displays the expected counts for this variable. Relative to official controls issues, both transport and calves' issues have lower values for this dependent variable as in Model 3 for the previous dependent variable ($p < 0.01$). Once adaptation pressure is accounted for, these issues are

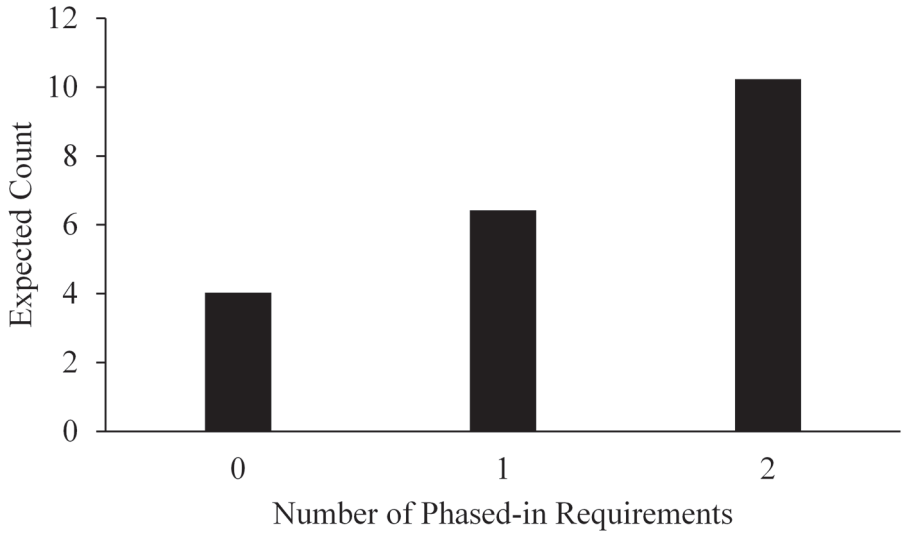

Figure 13: Expected number of countries experiencing significant implementation problems by number of phased-in requirements (holding all other variables constant), Model 6

easier to implement than the others. Additionally, hens and pigs have a significantly lower expected value than official control issues as well ($p < 0.05$). This conforms to Model 5 in which official controls issues had a significantly higher number of countries experiencing major implementation problems than other issues.

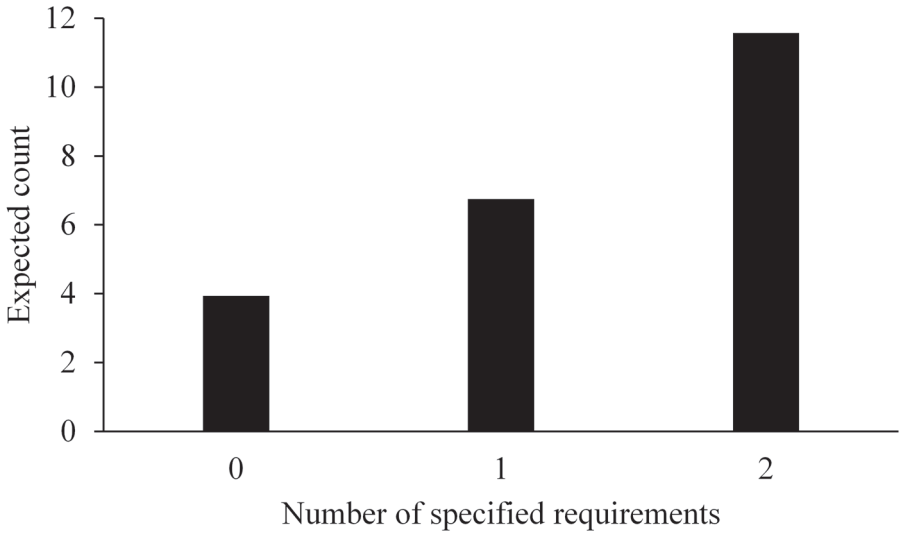

Figure 14: Expected number of countries experiencing significant implementation problems by number of specified requirements (holding all other variables constant), Model 6

Again, these models have low fit, with Model 6 attaining a pseudo-R-squared of 0.05. Figure 15 plots the predicted proportions with their corresponding observed proportions (observed instances of a particular count value divided by the standardizing coefficient of 30) for Model 6. Although the pseudo-R-squared is low, the plot does not seem to reveal any patterns in the relationship between predicted probabilities and observed frequencies. That is, some predicted probabilities are greater than their corresponding observed frequencies while others are lower, but the size and direction of these differences does not show a consistent pattern across the range of values. Whereas the number of issues for which no country experiences any implementation difficulties (the dependent variable in the previous set of analyses) is zero, the number of issues for which no country experiences significant implementation difficulties is relatively large (thus the observed frequency for this value and its predicted probability are both positive). As in Model 3, the predicted probability for counts greater than twenty-

seven is very small. Here the probability of such an occurrence is 0.2%. In other words, the constraints imposed upon the dependent variable in reality are reflected in the model.

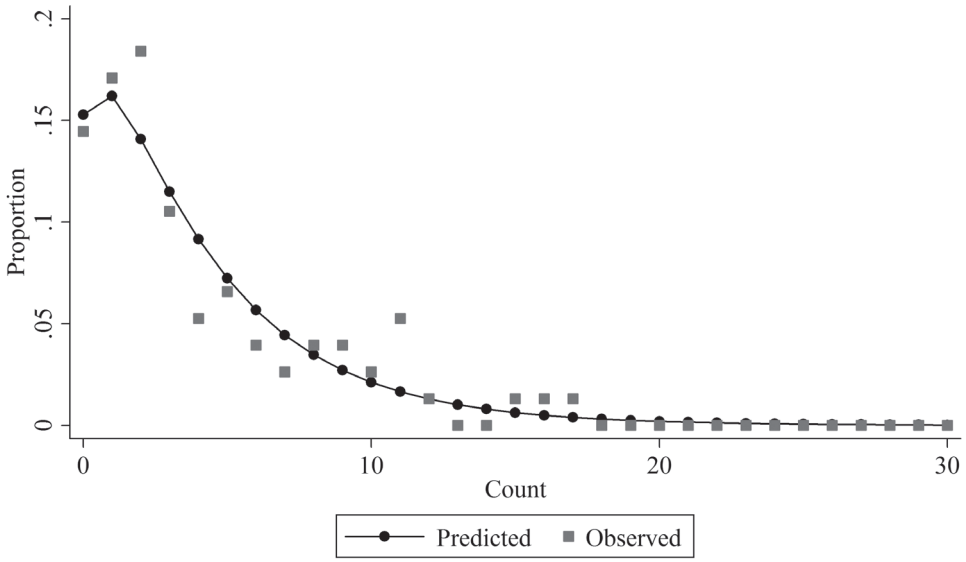

Figure 15: Observed frequencies vs. predicted probabilities, model 6

Taken together, both sets of models in stage 1 provide good evidence for the adaptation pressure hypothesis, whether examining implementation deficiency in general or significant implementation deficiency in particular. All three sources of adaptation pressure raise the number of countries experiencing implementation deficiency in an issue. At the same time, the results show that the effect of a given source of pressure on implementation varies depending on the implementation outcome observed. To put it more concretely, amendments increased the likelihood of significant implementation deficiencies, while having a less significant effect for implementation deficiency in general. This might explain some of the major problems observed in the implementation of particular transport issues. On the other hand, phased in requirements increased the likelihood of implementation deficiencies in general without affecting significant deficiencies in particular. That is, phased in requirements led to both significant and less significant implementation difficulties. The presence of a phased in requirement in an issue alone did not explain which of the two occurs.

Stage 2: the mediating influence of discretion

In the second stage, I replace the three adaptation pressure point variables with one variable that combines the three (the number of norm states). The results of the models in the previous stage (in which all three sources had a positive effect on implementation deficiencies, both general and significant) suggest that these can be combined into a single indicator, the number of norm states (described above). The motivation for doing so is pragmatic. This second stage tests the interactive hypothesis between discretion and adaptation pressure. This is more easily accomplished in a single interaction (that between the number of norm states and the delegation of authority) than in three (one for each source of adaptation pressure).

For this stage, I estimate four models for each dependent variable. The first includes only norm states and the two control variables, the second adds the delegation dummy variable, the third adds an interaction between it and the number of norm states, and the fourth includes policy subsector dummy variables. I cluster standard errors in the first three models but not in the fourth. I estimate the first models for each dependent variable as a robustness check for the tests of the adaptation pressure hypothesis of the previous stage. I include the discretion variable (whether an issue delegates authority) without its interaction in the second model in each set because the convention in social science is to report a model with only main effects before introducing interaction effects. Finally, the third and fourth models in each quadruplet allow an actual test of the interactive discretion hypothesis (H2), both with and without subsector dummy variable controls.

In Table 7 I report the results for negative binomial regressions in which the dependent variable is again the number of countries that experience some implementation problem (the same dependent variable as the models in Table 5). In place of three separate variables corresponding to the three sources of adaptation pressure, I have combined them into a single variable that measures the number of "norm states" where a norm state corresponds to a different set of requirements in place (each the result of an amendment, specification, phased-in requirement). The minimum value for this variable is a 1, with such a value corresponding to an issue that undergoes no modification for the ten-year period under investigation. If an amendment, phased-in requirement, or specification modifies the requirements for an issue once, then the value of the variable rises to

2 for that issue. This is not simply 1 plus the sum of amendments, specifications, and phased-in requirements, however, as the number of norm states is time sensitive. That is, if both an amendment and a specification modify the requirements within an issue, and these go into effect on the same day, the effect is to raise the number of norm states by one rather than two. I substitute this variable for its constituent parts in order to test for the possibility of an interactive effect between adaptation pressure and discretion. Having multiple variables for adaptation pressure and interacting each with the dummy variable for discretion would lead to a profusion of interactive effects that would make interpretation difficult and likely lead to collinearity problems.

Table 7: Negative binomial regression explaining the number of countries experiencing some implementation difficulty (including delegation)

	(7)	IRR	(8)	IRR	(9)	IRR	(10)	IRR
Norm states	0.238**	1.269**	0.233**	1.263**	0.358***	1.430***	0.683***	1.980***
	(0.109)	(0.138)	(0.105)	(0.133)	(0.100)	(0.142)	(0.148)	(0.292)
New issue	-0.329*	0.720*	-0.365**	0.695**	-0.356**	0.701**	0.195	1.215
	(0.190)	(0.136)	(0.176)	(0.122)	(0.170)	(0.119)	(0.323)	(0.392)
Official controls	0.162	1.176	0.172	1.188	0.228	1.256		
	(0.208)	(0.245)	(0.195)	(0.231)	(0.205)	(0.258)		
Delegated			0.104	1.110	0.443**	1.557**	0.810**	2.247**
			(0.105)	(0.116)	(0.191)	(0.297)	(0.368)	(0.827)
Delegated * Norm states					-0.203*	0.816*	-0.556***	0.574***
					(0.109)	(0.089)	(0.208)	(0.119)
Hens							-0.066	0.936
							(0.247)	(0.231)
Calves							-0.681**	0.506**
							(0.311)	(0.158)
Pigs							0.172	1.188
							(0.302)	(0.358)
Slaughter or killing							-0.094	0.910
							(0.269)	(0.245)
During transport							-0.779***	0.459***
							(0.302)	(0.139)
Constant	1.946***	7.002***	1.914***	6.779***	1.701***	5.477***	1.600***	4.951***
	(0.312)	(2.184)	(0.302)	(2.049)	(0.317)	(1.735)	(0.269)	(1.330)
Alpha	-0.773***	0.462***	-0.777***	0.460***	-0.792***	0.453***	-0.926***	0.396***
	(0.197)	(0.091)	(0.190)	(0.087)	(0.187)	(0.085)	(0.177)	(0.070)
Observations	76	76	76	76	76	76	76	76
Pseudo R^2							0.032	0.032

Robust standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Model 7 replicates Model 2 from Table 5 (clustered standard errors and control variables for official controls and new issues) but uses the norm states variable in place of the variables for amendments, specifications, and phased-in requirements. The results in Model 7 are similar to those in Model 2. The number of norm states has a significant (at the $p < 0.05$ level) and positive effect on the number of countries experiencing some implementation difficulty (in model 2, the number of phased in requirements was the only significant adaptation pressure variable), with each additional norm state increasing the number of countries experiencing some implementation difficulty by 27%. Figure 16 displays the expected number countries experiencing some implementation problem across the range of values for the number of norm states, holding the other variables constant at their means. The new issues variable is also significant, but as it is no longer significant when the policy subsector dummies are included in the final model (Model 10), it is likely a spurious correlation due to these new issues coming exclusively from the transport subsector.

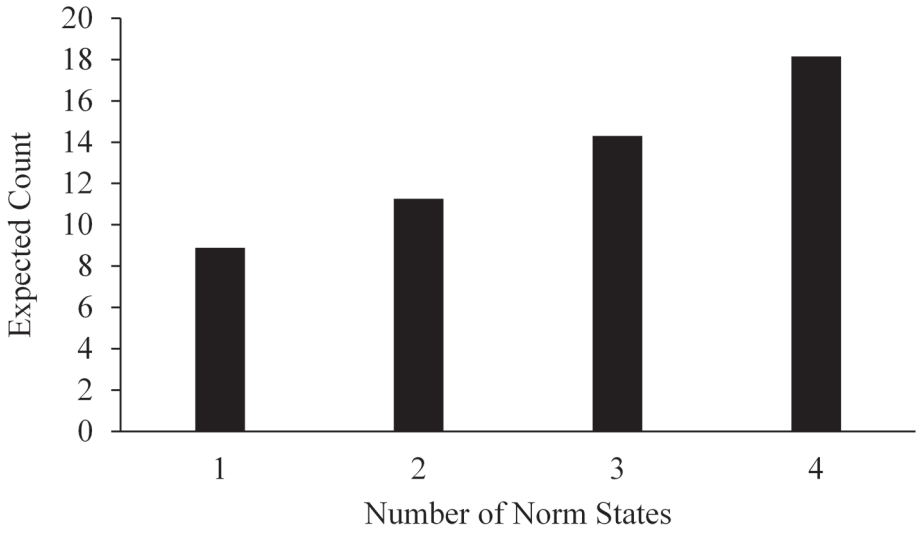

Figure 16: Expected number of countries experiencing some implementation problems by number of norm states (holding all other variables constant), Model 7

In Model 8 I introduce the main effect for discretion. Recall that this is a dummy variable indicating whether any of the provisions that constitute an issue delegate significant authority to the member states (the presence of discretion and whether an issue delegates authority are synonymous; the latter can be seen as an indicator

of the former, just as the number of norm states is an indicator of adaptation pressure). This variable is not significant in this model, but its inclusion does not affect the significance of variables from the previous model. In other words, the presence of discretion alone does not increase (or decrease) the number of countries experiencing implementation deficiencies. At the same time, the adaptation pressure hypothesis remains uncontested.

Model 9 introduces an interaction term to explore whether the effect that adaptation pressure has on implementation is conditional upon the presence or absence of delegated authority (and vice-versa). This is the first test of the interactive discretion hypothesis (H2). The raw coefficients for the main and interaction effects are both significant, but additional calculations are needed in order to determine for which levels of the variables the effects are significant and to interpret the substantive effects (Hilbe, 2011, pp. 520-529). Accordingly, the incidence rate ratio for the effect that norm states have on the number of countries experiencing implementation problems for issues that do not delegate authority to the member states is 1.43 while that for issues that do delegate authority is 1.17. The former is significant at $p < 0.01$ while the latter is not significant. In other words, adaptation pressure appears to have an influence on the number of countries experiencing some implementation difficulty only for those issues in which countries have less flexibility. If a country does not have discretion, then adaptation pressure increases the likelihood that implementation deficiencies occur. With respect to the control variables, new issues have a larger number of countries experiencing implementation problems (as in Model 8) that is significant at $p < 0.05$.

In the last model of the number of countries experiencing some implementation difficulty (Model 10), I introduce dummy variables for each of the policy subsectors (official controls acts as the base case) and remove the clustering of the standard errors. The results are consistent with those of Model 9 (with respect to the significance of the interaction effect) and with those of Model 3 (regarding the direction and magnitude of policy subsector effects). Concerning the latter, both calf welfare on farms and welfare during transport are significant (at $p < 0.05$ and $p < 0.01$, respectively) and have an expected number of countries experiencing some implementation difficulty that is less than that of official controls issues. The interaction effect follows the same pattern as in the previous model: the effect of norm states on the dependent variable is significant at $p < 0.01$ for issues that do

not delegate authority (the incidence rate ratio is 1.98) but not significant for issues that do grant authority to the member states (the incidence rate ratio is 1.14. Figure 17 displays the interaction effect through a plot of the expected number of countries experiencing some implementation difficulty across the number of norm states, for issues that do grant authority to the member states (Delegation = 1) and issues that do not (Delegation = 0), along with their 95% confidence intervals. As for the goodness of fit, the plot of observed frequencies against predicted probabilities looks nearly identical to that in Figure 10, and thus the model does not generate predictions that fall outside the range of possible values for the dependent variable.

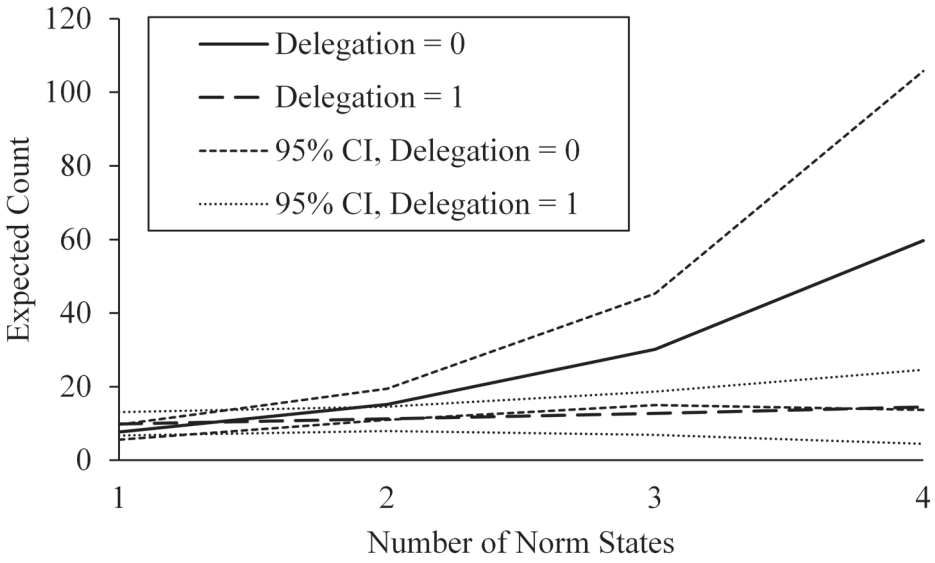

Figure 17: Expected number of countries experiencing some implementation problems by number of norm states and different levels of delegation (holding all other variables constant), Model 10

Finally, Table 8 presents the analogous results in which the dependent variable is the number of countries that experience significant implementation problems. The results from Model 11 and its corresponding model from Table 6 (Model 5) are similar, and the adaptation pressure variable has a significant ($p < 0.05$) and positive effect on the dependent variable (in Model 5, the variable for amendments was the only significant adaptation pressure variable), with each additional norm state increasing the number of countries experiencing significant implementation

Table 8: Negative binomial regression explaining the number of countries experiencing significant implementation difficulty (including delegation)

	(11)	IRR	(12)	IRR	(13)	IRR	(14)	IRR
Norm states	0.396**	1.486**	0.390***	1.476***	0.595***	1.814***	0.775***	2.171***
	(0.157)	(0.233)	(0.148)	(0.219)	(0.170)	(0.309)	(0.218)	(0.473)
New issue	-0.537**	0.584**	-0.576***	0.562***	-0.548***	0.578***	-0.258	0.772
	(0.232)	(0.135)	(0.220)	(0.124)	(0.211)	(0.122)	(0.439)	(0.339)
Official controls	0.543**	1.722**	0.554**	1.740**	0.646***	1.908***		
	(0.247)	(0.425)	(0.218)	(0.379)	(0.234)	(0.446)		
Delegated			0.159	1.172	0.711**	2.037**	0.633	1.883
			(0.212)	(0.248)	(0.338)	(0.689)	(0.482)	(0.908)
Delegated * Norm states					-0.326**	0.722**	-0.292	0.747
					(0.143)	(0.103)	(0.265)	(0.198)
Hens							-0.949**	0.387**
							(0.416)	(0.161)
Calves							-2.318***	0.098***
							(0.469)	(0.046)
Pigs							-0.815*	0.443*
							(0.460)	(0.204)
Slaughter or killing							-0.399	0.671
							(0.290)	(0.194)
During transport							-0.944***	0.389***
							(0.364)	(0.142)
Constant	0.629	1.876	0.576	1.780	0.214	1.239	0.693*	2.000*
	(0.400)	(0.750)	(0.359)	(0.638)	(0.429)	(0.531)	(0.375)	(0.751)
Alpha	-0.461	0.631	-0.472	0.624	-0.508	0.602	-0.621***	0.537***
	(0.403)	(0.254)	(0.386)	(0.241)	(0.375)	(0.225)	(0.222)	(0.119)
Observations	76	76	76	76	76	76	76	76
Pseudo R^2							0.052	0.052

Robust standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

difficulty by 49%. Figure 18 displays the expected number of countries experiencing significant implementation problems across the range of values for the number of norm states, holding the other variables constant at their means. Both control variables are significant, with fewer countries experiencing problems for new issues but more countries experiencing them for official controls issues (both variables significant at $p < 0.05$).

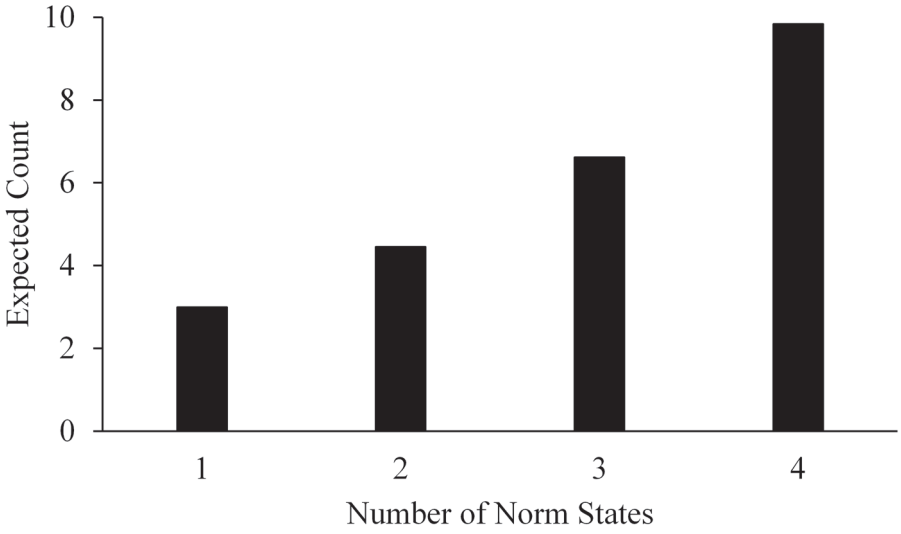

Figure 18: Expected number of countries experiencing significant implementation problems by number of norm states (holding all other variables constant), Model 11

Model 12 introduces the dummy variable for issues that delegate significant authority to the member states, and as in the analogous model for the first dependent variable, the effect for this variable is insignificant. Model 13 adds the interaction effect and in this model the raw coefficients for the main effects of norm states and the delegation variable plus their interaction effects are significant (at $p < 0.05$), however, neither these raw coefficients nor their significance can be interpreted alone. Disaggregating the effects, the incidence rate ratio for issues that do not grant delegation to the member states is 1.81 while that for issues that do is 1.51 (both are significant at $p < 0.05$ as an incidence rate ratio of 1, the null case, lies outside the 95% confidence interval). In other words, the number of norm states increases the number of countries experiencing some implementation difficulty regardless of the presence of delegated authority, but the effect of norm

states is larger when an issue delegates no authority. In both Models 12 and 13, the effects of the new issue and official controls dummy variables remain significant.

In the final model (Model 14), the standard errors are no longer clustered by policy subsector and policy subsector dummy variables are included (except for the official controls dummy variable, so that official controls issues are the base case). The effects of the subsector dummy variables are similar to those in Model 6. Issues from the hens, calves, pigs, and transport subsectors have a number of countries that experience significant implementation problems that is significantly lower than official controls issues. The dummy variable for new issues is no longer significant, again because of the likely spurious correlation between it and the transport subsector dummy variable. Turning to the interaction effects, although only the raw coefficient for the main effect of the norm states variable is significant, the calculations of conditional effects provide more evidence that the effect of norm states is conditional on whether an issue grants discretion to the member states. If an issue does not delegate authority, then the incidence rate ratio for the effect that norm states has on the number of countries that experience significant implementation problems is 2.17 (significant at $p < 0.01$). If an issue does delegate

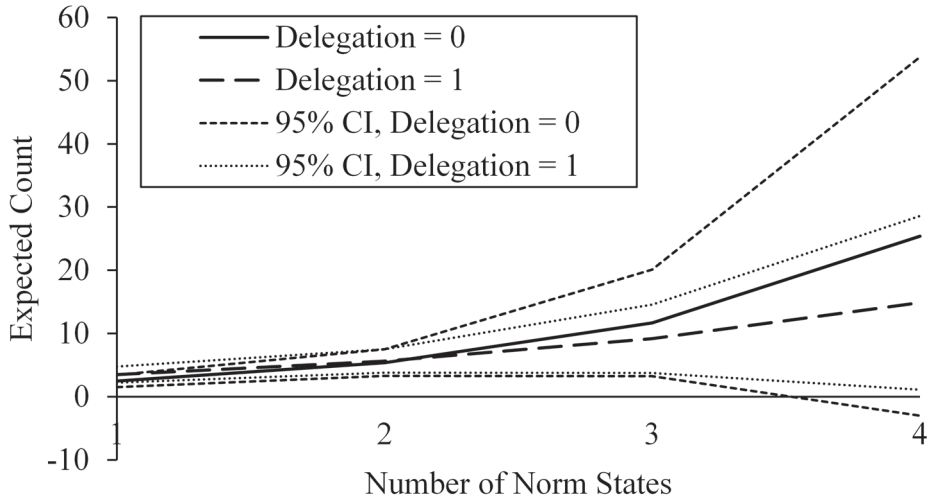

Figure 19: Expected number of countries experiencing significant implementation problems by number of norm states and different levels of delegation (holding all other variables constant), Model 14

authority, then the incidence rate ratio is 1.62 (also significant at $p < 0.01$). Thus adaptation pressure leads to significant problems in implementation more often in issues that do not delegate authority to the member states than it does in issues that do grant discretion. Figure 19 displays this interaction effect by plotting the expected number of countries experiencing significant implementation difficulty across the number of norm states, for issues that do grant authority to the member states (Delegation = 1) and issues that do not (Delegation = 0), along with their 95% confidence intervals. The plot of predicted probabilities against observed frequencies is indistinguishable from that in Figure 11, so it is not presented here.

Conclusion

In this chapter I have examined the implementation of farm animal welfare policy in the EU from a policy-level perspective (that is, the unit of analysis is the issue, and country level factors are left out). I have done this with statistical models of both the number of countries per issue that experience some implementation difficulty and the number of countries per issue that experience significant difficulty. Note that the former incorporates the latter, but it is likely that different processes give rise to each. I find some support for the two issue-level hypotheses at this level of analysis. Firstly, adaptation pressure contributes to implementation difficulty, in both a general sense and when looking at significant implementation problems. Thus the results give substantial evidence for the adaptation pressure hypothesis (H1). Whereas amendments seem to have the greatest effect when looking at significant implementation problems alone, phased in requirements contribute more toward any implementation problem (minor and significant). Secondly, discretion plays a role in influencing implementation, but only through its interaction with adaptation pressure. For both dependent variables, adaptation pressure has a significant effect for issues that do not delegate authority but has a smaller effect or no significant effect for issues that do grant discretion to the member states. This provides evidence for the interactive discretion hypothesis (H2).

CHAPTER 10

Analyzing the Implementation of Farm Animal Welfare Policy in the EU Across Countries and Issues

In the previous chapter, I tested the adaptation pressure and interactive discretion hypotheses (H1 and H2, respectively) at the issue level. That is to say, I assumed a top-down approach in which issues varied in the degree to which countries implemented them successfully. More precisely, issues varied in the number of countries that implemented them with deficiency or with significant deficiency, and I modeled this variation using issue-level characteristics. The amount of adaptation pressure (and the source of that pressure) and the presence of discretion (measured as whether an issue delegated authority to the member states) were both found to have an important role in influencing implementation outcomes for these issues. Thus, I found support for both the adaptation pressure and the interactive discretion hypotheses at the issue level.

In this second quantitative analysis chapter, I expand in the analysis in two ways. The first shifts the unit of analysis to a lower level. Whereas the previous chapter considered the adaptation pressure and interactive discretion hypotheses from an issues-level perspective, the analyses in this chapter adopt an issues-within-country approach. This is the smallest level of analysis considered in this thesis. Recall that the case study chapters examined the implementation of each of the policies at a general level (welfare on farms, during transport and at slaughter or killing) within a select number of countries. Individual issues within these policies for the selected countries were cited as examples of successful and unsuccessful implementation. Thus for the chapter on animal welfare during transport policy, I selected Austria and Slovenia to highlight successful implementation of this policy. In describing Austria's implementation, I highlight its efforts regarding the issue of checklists for welfare during transport inspections. I evaluated the issue of welfare during transport inspection checklists (part of the welfare during transport policy) for Austria. The analyses in this chapter consider all possible evaluations of issues for each country. With seventy six issues observed in twenty seven countries, the number of observations for the analyses in this chapter is theoretically 2,052, however, because some countries have little to no calf farming, this number is slightly lower at 2,037.[9]

Analyses could be performed on yet a smaller level of analysis – time. All variables could be coded not only for issues within countries, but also given a score for each year. For many cases, however, the dependent variable would not change during the entire ten year period, and for several of the independent

[9] 76 issues × 27 countries = 2,052 issue-countries; 2,052 issue-countries – 15 countries with little to no calf farming = 2,037 issue-countries (observations) in the dataset

variables, the values would change even more rarely. Chapter 5 presents some evidence of this stability. The introduction of time as a dimension, although technically feasible, would increase the complexity of the analyses exponentially. Thus the unit of analysis in this chapter remains at the issue-within-country level, with an implementation score given for the entire ten year period (as detailed in the first case study chapter). For the independent variables, one score is given for the entire ten year period based on the situation in place for the longest time.

The second way that this chapter expands on the analyses of the previous chapter is by introducing the remaining hypotheses. Unlike the adaptation pressure and interactive discretion hypotheses, the institutional and transposition delay hypotheses (H3 and H4, respectively), cannot be tested at the issue-level. The institutional characteristics assumed relevant for influencing implementation vary both cross-nationally and across issues. That is to say, institutional factors vary from one country to another and also from one issue to another within the same country. Similarly, the amount of transposition delay varies by country and by issue. It varies by issue because the issues are taken from multiple pieces of legislation, each with its own transposition deadline. As a result, both these hypotheses can only be tested at this lower level of analysis.

This chapter will proceed as follows. Like the previous chapter, it begins with a discussion of the dependent and independent variables. By shifting the level of analysis downwards, the dependent variable (though originating in the same coding described in Chapter 5) changes, although it still measures the degree of implementation deficiency. New independent variables at the country- and country-within-issue levels will be introduced (as controls and to test the institutional and transposition delay hypotheses); the independent variables carried over from the analyses in the previous chapter will not be described again. The discussion of variables is followed by a description of the methodological approach, including the justification for the modeling strategy and the way in which it will be implemented. Next, I present the results of the analyses before concluding.

The dependent variable

The level of implementation deficiency serves as the dependent variable for the analyses that follow. In order to motivate the case selection in the qualitative case study chapters, Chapter 5 described in detail the coding for this variable. The reader will recall that I coded each issue (where an issue is an article or article-like part of a directive or regulation containing one major requirement) based on Food and Veterinary Office (FVO) mission reports. I gave a score of zero to an issue without implementation deficiency in the country in question, a score of one to an issue with minor deficiencies, and a score of two to an issue with significant and persistent problems of implementation (major deficiencies).

Table 9: Frequency Distribution of Implementation Deficiency

	Frequency	Percent
No deficiency	1,236	60.68
Minor deficiency	488	23.96
Major deficiency	313	15.37
Total	2,037	

Table 9 provides a frequency distribution for the dependent variable (implementation deficiency). Most issues (61%) are implemented without deficiency, but a relatively large share of issues are implemented with minor or major deficiency. The tables displayed in chapters six to eight provide more information about the dependent variable by breaking down this variable by policy and country.

The independent variables

The adaptation pressure and discretion variables have been discussed at length in the previous chapter. The first set of analyses will replicate those of the previous chapter and so will make use of the variables that indicate the number of specifications, amendments, and phased in requirements, as well as the composite variable representing the number of norm states for a particular issue.

The analyses in this chapter introduce institutional factors through a number of variables that represent different aspects of the organization of implementing

farm animal welfare policy in a country. All these characteristics have been coded from the Country Reports generated for each country by the FVO. These Country Reports describe the organization of official controls in each country for all EU food safety and animal welfare requirements whose enforcement is supervised by the FVO. Because the organization of controls varies from one sector to another, each country report contains a sector-by-sector description of the organization of official controls: the ministry or ministries responsible for transposition and implementation, the hierarchical and geographic division of each implementing ministry or agency, etc. In the case of on farm animal welfare, the organization of controls may vary within a country depending on the policy subsector: on farm, during transport, or at slaughter or killing. Additional details about the organization of official controls have in some cases been obtained from FVO mission reports.

In some cases, the organization of official controls has undergone restructuring during the ten year period under investigation here. The case study chapters provide several examples of these events, which are often followed by improved levels of implementation. The welfare during slaughter or killing chapter notes the influence of interest group advocacy and government change on the organization of official controls in Sweden, showing that some reorganization efforts may be short-lived. Because of the cross-sectional approach to data analysis in this chapter, a single score must be given for each institutional variable for the entire ten-year period. The score that is given is that which represents the situation in the country/policy for the longest period between 2000 and 2010. I consider the consequences of measuring the institutional variables in this way in the description of the variables (by noting the prevalence of change in each variable across the 27 countries in the period studied) and in the results (by noting whether the significance of each institutional variable is sensitive to an alternative specification based on values averaged across all years for each issue-country).

The theory chapter discusses several institutional factors that may potentially influence the post-transposition application of EU policy. The first links directly to the transposition phase and refers to the number of ministries and other actors responsible for transposing directives in the member state for the policy under investigation. The number is taken from the FVO country profiles, which names the authority or authorities responsible for transposition. For a given country, this number may be the same for all subsectors or different for each. In 93% of cases, there is a single ministry responsible. This may be either the same authority

responsible for application, or a legal ministry responsible for transposition in several policy areas. In the animal welfare field, multiple actors are responsible for transposition in only two countries: the UK and Spain. For the UK, each of the devolved authorities (England, Wales, Scotland, and Northern Ireland) enact their own transposing legislation for all policy subsectors. In Spain, the seventeen autonomous communities, plus the central government, and in some policy areas an additional central government ministry, are each responsible for transposition legislation. The number of transposing actors changed in two countries during the period of investigation: dropping from 9 to 1 for Austria in 2005 (except in the transportation subsector, where the federal level was already responsible for transposition) and increasing from 18 to 19 for Spain in 2002 for the transposition of during slaughter or killing legislation.

The second administrative factor refers to the horizontal dimension for implementing animal welfare policy in the member states. This is a count of the number of agencies and authorities that coordinate as equals in implementing these policies, and again is described in the FVO country reports (both in text and as an organizational diagram). As with the number of authorities responsible for transposition, this number varies both across countries and across policies within a country. Thus implementing welfare during transport policy often involves coordination between the agricultural ministry or veterinary authority and the police or a transportation ministry. The veterinary authority may be named as the central competent authority, but the FVO report notes that it must coordinate with separate authorities to implement policy. In the dataset analyzed here, 43% of issues are implemented by two administrative authorities acting as equals. In approximately one quarter (25%) of the observations, a single actor has responsibility. The number is as high as 311 actors for Sweden, in which each municipality has exclusive authority for applying animal welfare legislation within its jurisdiction but must coordinate with the central authorities. The results of the analysis are sensitive to this outlier, so I note the consequences for the results with Sweden excluded. Between 2000 and 2010, this number of actors changed in one or more subsectors in Austria, Belgium, Bulgaria, Germany, Sweden, and the United Kingdom, but the difference in values was greater than one in only two cases: in Sweden from 311 to 1 or 23 (depending on the subsector) in 2009, and in the United Kingdom from 2 to 5 in 2005 (for the implementation of on farm and during transport legislation).

A third factor refers to the vertical division of authority within the central competent authority and is based on the geographic division of actors responsible for implementation. Two count variables have been constructed for this factor: a count of the number of primary geographic divisions of the central competent authority and a count of the number of secondary divisions. In order for a division to be included in this number, there must be a separate office located there, and it must have responsibility for administering animal welfare policy in that jurisdiction. The number of primary geographic divisions ranges from one (a score given to Luxembourg and Malta, whose central competent authority is not divided into regional offices) to 290 (Sweden), with an average of 27. Between 2000 and 2010, this number changes in three countries, dropping from 12 to 3 for Denmark in 2007, 13 to 6 for Finland in 2010, and 290 to 22 for Sweden in 2009. The number of secondary divisions ranges from zero (in 44% of the observations, there is no further geographic division than the primary level) to 469 for the UK and has an average of 94. The results of the analysis are sensitive to extreme values in both of these variables, so I note the consequences for the results of excluding issue-countries with extreme values. During the period of investigation, this number changes from 0 to 10 for Denmark in 2007, 347 to 289 for Greece in 2005, 197 to 195 for Italy in 2009, and 0 to 290 for Sweden in 2009.

The fourth factor relates to the way in which implementation is shared between the central and regional levels. One key aspect in the enforcement of animal welfare policy in the member states is the inspection plan drafted each year in each country. Both the subsector directives and regulation and the official controls regulation stipulate requirements for inspection planning. Each country is then free to organize its inspection program within these constraints: choosing the criteria for sampling farms and means of transport, setting targets for inspection (the percent of holdings to be inspected in each area, for example), and the actual selection of holdings. The creation of this plan is an important element in the distribution of authority for implementation within a member state, as in some countries, the entire plan is created at the central level while in others responsibility is more decentralized. Based again on FVO reports, a categorical variable has been constructed (and recoded as dummy variables for the analysis) to indicate the way in which inspection plans are created in a country for a particular policy. In 18.5% of cases, plans originate completely in the central office and are dictated to the regions (if they exist). In 63% of cases, targets and selection criteria are

determined at the central level, and actual selection occurs in the regions. In the remaining 18.5% of cases, plans are created entirely by the regional offices. Between 2000 and 2010, the organization of inspection planning changed in three countries: Austria in 2005, Spain in 2003, and Italy in 2001. While the latter two occur early in the period under investigation, the change in Austria midway through the period suggests that giving a single score to Austria is problematic. Because these are dummy variables, taking the average across the period is an inappropriate solution, so instead I check the robustness of the results (not shown) for these two variables by re-estimating the models giving Austria a score based on the organization of planning in place for 2000-2004 (the main results are based on the organization of planning in Austria in place for 2005-2010).

Besides the issues-level and institutional factors described above and in the previous chapter, the theory chapter also speculated on the effect of transposition delay on application. Transposition delay is measured here as the number of months between the day a measure should have been transposed in a member state (either through a date of entry for the legislation or through accession by the country into the EU) and the day in which correct transposition measures went into effect in the member state. This variable has also been constructed from FVO reports, which include a description of the legal measures in place in each country and any problems with those measures. In 56% of cases, there was no delay. In the remaining cases, delay ranges from eighteen days to ten years (the entire period under investigation).

Control variables

In addition to the issue-level control variables introduced in the previous chapter, two country-level control variables are used. The first is a dummy variable indicating whether a country acceded to the EU between 2000 and 2010. These countries began implementing EU animal welfare policy later than the old member states. Although the case study chapters provide examples of new member states that began implementing EU requirements several years before accession, the old member states still had several years to slowly adapt their laws and administration to the changing animal welfare policy from the early 1990s into the 2000s.

The second variable controls for administrative capacity. This is the Worldwide

Governance Indicator's measure of government effectiveness, which "measures the quality of public services, the quality of the civil service and its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to its stated policies".[10] The Worldwide Governance Indicators are produced by researchers associated with the World Bank and the Brookings Institution. The indicator itself is a combination of a number of relevant items taken from public, expert, and enterprise surveys as well as data provided by public institutions. Thus government effectiveness includes (among other things) perceptions of the quality of bureaucracy from the Economist Intelligence Unit (a survey of commercial entities), satisfaction with education and transportation system from the Gallup World Poll (a household survey), and the coverage area of drinking water, electricity, and basic health services from the French Ministry of Finance's Institutional Profiles Database.

Methodology

I conduct the analyses that follow using multinomial logistic regression. The decision to use this maximum likelihood approach to model estimation is based on the nature of the dependent variable. The dependent variable – the level of implementation difficulty – has both ordinal and nominal characteristics. In the ordinal sense, the degree of deficiency increases with each level of the variable (from no difficulty, to some and then severe difficulty). In another sense, however, the absence of implementation difficulty is qualitatively different from deficiency of any level of severity. In the interest of parsimony and reducing the technical complexity of the analyses, each was first estimated using ordinal logistic estimation (known as logit). Ordinal logit estimates a single regression coefficient for each independent variable, under the assumption that the effect of the independent variable on the dependent variable is the same when moving "up" one category regardless of the starting point. This assumption (the proportional odds assumption) is empirically testable, and in the fully specified models estimated below, tests revealed that the assumption was not tenable. As a result, all models are estimated using multinomial logit.

Multinomial logistic regression is essentially the simultaneous estimation of binary logistic regressions for each pairwise comparison in the dependent

[10] http://www.mcc.gov/pages/selection/indicator/government-effectiveness-indicator

variable. Given that the dependent variable takes on one of three values, there are only three such comparisons in the models that follow. Thus the results present estimated coefficients for each independent variable when comparing no deficiency vs. some deficiency, no deficiency vs. severe deficiency, and some deficiency vs. severe deficiency. The raw coefficients represent changes in the log odds ratio for a one unit change in the independent variable. Because these coefficients are difficult to interpret, the results for each model are accompanied by illustrations of the substantive effects: the marginal change in the probability of observing one outcome vs. another for a one unit change in the independent variable (holding all other variables constant at their mean). For binary variables, the substantive effect is indicated for a one unit change in the independent variable.

Thus for each model, the effect of each variable is indicated by three raw coefficients (one for each pairwise comparison) and three marginal effects (one for each coefficient). With six statistics reported for each independent variable in each model it is not possible to include several models in a single table as in the previous chapter. Given that I describe the results of ten models, the amount of information conveyed in tables becomes too wieldy for readers less interested in the technical aspects of the analysis. For this reason, I include all the regression results tables for the analyses of this chapter in Appendix C, although I refer to them directly in this chapter. To highlight particularly interesting results, I display additional figures that plot changes in predicted probabilities and I include these figures directly in this chapter instead of the appendix.

Results

The results section proceeds in three stages. To establish a baseline and as additional robustness checks for the adaptation pressure and interactive discretion hypotheses, I first replicate the analyses of the previous chapters at the issues-within-country level. The replication introduces additional control variables that were not part of the original models because they could not be included at the issues-level. In the second stage, the effects of institutional factors on implementing the policies will be examined to test the institutional hypothesis (H3). Several administrative factors related to the organization of implementation of the policy in a country will be included. Like in the previous chapter, I examine this hypothesis

in isolation before testing it alongside the other hypotheses. The final set of analyses introduces transposition delay in order to test all four hypotheses simultaneously. As stated earlier, the actual regression results tables are included in Appendix C. Instead of interpreting each regression coefficient, I begin with those that are significant in the first model and build on these interpretations (noting similarities and differences) in the models that follow.

Stage 1: replication at the issues-within-country level

In the first stage of the analysis, I replicate the issue-level analyses from the previous chapter for the lowest level of analysis. That is, the unit of analysis has shifted from the 76 issues in the analyses in the previous chapter to 2,037 issue-countries. There are 2,037 observations in this chapters' models: 76 issues implemented by 27 countries yields 2,052 issue-countries, but several issues are irrelevant for some Member States, leading to the slightly smaller figure of 2,037 issue-countries. I replicate the models from the previous chapter in order to retest the adaptation pressure and interactive discretion hypotheses while controlling for country-level factors. Controlling for country-level factors was not possible in the previous chapter because there were no unique observations for each country. Additionally, such a replication provides a baseline for introducing additional country-level variables and comparing the relative strengths of the issue-level and country-level hypotheses. These replication models proceed in a stepwise fashion analogous to the two stages in the previous chapter (that is, beginning first with the adaptation pressure hypothesis before adding the variables needed to test the interactive discretion hypothesis). Although country-level control variables are not added until the second model, all models in this chapter are estimated using robust standard errors that are clustered at the member-state level. This clustering adjusts the standard errors for the regression coefficients for within-country homogeneity. Without such an adjustment, the standard errors for country-level factors would be artificially low and thus make it more likely to reject the null hypothesis and find a significant effect (Moulton, 1990).

I begin by modeling implementation deficiency as a function of adaptation pressure alone. Table 12 presents the results of a multinomial logistic regression model (Model 1) in which the severity of implementation deficiency is regressed on the three kinds of dynamic adaptation pressure (phased-in requirements,

amendments, and specified requirements). As mentioned in the methodology section above, there are three sets of coefficients: one for each pairwise comparison in the values of the dependent variable. In the absence of controls, the model shows strong support for the adaptation pressure hypothesis, thus conforming to the results of the previous chapter. Each of the three sources of adaptation pressure have a statistically significant effect for two of the three comparisons. What this means is that the presence of each type of adaptation pressure raises the probability of observing at least one level of implementation deficiency relative to another. According to this model, each source of adaptation pressure in an issue significantly influence implementation outcomes.

I next describe in detail the specific effects obtained in Model 1 for each source of adaptation pressure. First, phased-in points increase the probability of observing both minor deficiency and major deficiency relative to no deficiency ($p < 0.01$ in both cases). The marginal effect of phased-in points on no deficiency is -0.17; thus holding all other variables constant at their means, the instantaneous rate of change for additional phased-in points is a decrease in the probability of observing no deficiency by 17%. Corresponding changes in the probability of observing a minor deficiency and a major deficiency are increases of 12% and 5%, respectively. Put differently, a maximal increase in the number of phased in points (going from zero to two phased in requirements) while holding all other variables constant leads to a 34% decrease in observing no deficiency, a 26% increase in observing a minor deficiency, and a 7% increase in observing a major deficiency. Second, specified points have an analogous effect: they increase the probability of observing both minor and major deficiencies against that of observing no deficiency ($p < 0.01$ for both), although the marginal effects are somewhat smaller than those for phased-in points. The instantaneous rate of change for additional specified points decreases the probability of observing no deficiency by 10%, and increases the probability of observing a minor or major deficiency by 6% and 4%, respectively. A maximal increase from zero to two specified points decreases the probability of observing no deficiency by 10% and increases the probabilities of observing minor and major deficiencies by 6% and 3%, respectively. Finally, the effect for amendment points is somewhat different in that it has a significant effect on distinguishing major deficiencies from both minor and no deficiency cases ($p < 0.01$ for both). The presence of an amendment (the maximum observed number of amendments here is one) increases the probability of observing major

deficiency by 7% while decreasing the probabilities of observing no and minor deficiencies by 5% and 1%, respectively.

These results, by conforming to those in the previous chapter, show additional confirmation for the adaptation pressure hypothesis, and show that there are some differences in the relative effects of each source. Most importantly, amendments behave differently from phased-in points and specified points by making major deficiency more likely relative to the other two outcomes. This echoes observations in the previous chapter and in the case study chapter for welfare during transport policy, a much-amended policy area that experienced many instances of significant implementation difficulty. The pseudo-R2 fit statistic of 2% is quite small and is unsurprising given the very spare model estimated here.

In the second model, I test the adaptation pressure hypothesis again using a different indicator of adaptation pressure and a set of control variables. Table 13presents the results for Model 2, which replaces the three adaptation pressure point variables with the single variable incorporating these three components – the norm state variable introduced in the previous chapter. I add control variables at the issue- and country-level: whether an issue is a new one or an official controls issue for the issue-level (these two variables were included as control variables in the previous chapter), and whether a country is a new member state and the effectiveness of its administration at the country-level (these two variables are new to this chapter and are described above). The first two control variables put the test of the adaptation pressure hypothesis on an at least an equal footing, in terms of statistical control, with the corresponding models in the last chapter. Besides shifting downward the unit of analysis, the model also includes additional controls that could not be introduced at the higher level of analysis in the previous chapter. This therefore makes a stricter test of the hypothesis.

In general, the results provide additional support for the adaptation pressure hypothesis. Looking at the results of this model in detail, the norm states variable is significant for all three pairwise comparisons ($p < 0.01$ for no deficiency vs. minor deficiency and no deficiency vs. major deficiency, $p < 0.05$ for minor deficiency vs. major deficiency). The marginal effects indicate that, holding all other variables constant at their means, the instantaneous rate of change for the norm states variable is a decrease of 11% in the probability of observing no deficiency and an increase of 5% and 6% in the probability of observing a minor

or major deficiency, respectively. The maximal increase (from one to four norm states) decreases the probability of observing no deficiency by 35%, while increasing the probability of observing minor deficiency by 10% and major deficiency by 25%.

Because the effect of norm states is significant for all three pairwise comparisons, and because additional norm states raise the probability of observing minor deficiency relative to no deficiency and major deficiency relative to minor deficiency, the effect that norm states have on implementation deficiency is increases monotonically. Although the dependent variable is not, strictly speaking, modeled ordinally, the results of Model 2 conform to an ordinal expression of the adaptation pressure hypothesis. Put simply, additional norm states increase the severity of implementation deficiency, exactly as predicted in the adaptation pressure hypothesis.

I next describe some additional results from Model 2. Several of the control variables are statistically significant and therefore suggest additional explanations for the differences across country-issues. As in the previous chapter, new issues are less likely to experience significant implementation difficulty ($p < 0.05$ for the difference between no deficiency and minor deficiency, and $p < 0.01$ for that between no deficiency and major deficiency). If an issue is a new one, it is 4% less likely (than an older issue) to experience minor deficiency, 6% less likely to experience major deficiency, but 10% more likely to experience no deficiency. Official controls, issues, however, are implemented with more difficulty. An official controls issue is 7% less likely (than other issues) to experience no deficiency, 2% less likely to experience minor deficiencies, and 9% more likely to experience major deficiencies. Both of these results conform to the differences between the number of countries experiencing some implementation deficiency and the number of countries experiencing significant implementation deficiency modeled in the previous chapter.

The country-level factors show interesting results as well. Most interestingly, the effect of new member states on implementation is significant for the comparison between no deficiency and major deficiency and between minor deficiency and major deficiency. In other words, new member states are clearly distinguished from the old member states in that they are 15% less likely to experience major implementation difficulties. Note that the effect for new member states is not reflective of the effectiveness of their administration, which

is included as an additional control variable. The effect of government effectiveness is less surprising: better governments also lead to a decrease in the probability of observing major deficiencies ($p < 0.01$ for both no deficiency vs. major deficiency and minor deficiency vs. major deficiency). The marginal effect for this variable indicates that the instantaneous rate of change in government effectiveness leads to an increase of 10% in the probability of observing no deficiency, an increase of 4% for minor deficiency, and a decrease of 15% in the probability of observing a major deficiency. Both country-level variables have large effects relative to the other variables by decreasing the probability of observing one outcome by 15%. In summarizing the results of Model 2 with respect to the country-level control variables, new member states are less likely to observe significant implementation deficiency, once government effectiveness is taken into account. The latter, unsurprisingly, reduces the likelihood of implementation deficiency.

Before testing the interactive discretion hypothesis (H4) in Model 4, Model 3 in Table 14 introduces the presence of discretion (measured as whether an issue delegates significant authority to the member states with respect to the way in which they can implement the issue). I estimate this model to follow the convention that before modeling an interaction effect, one generally models the components of that effect first without their interaction. Although the effect of this variable is significant for the difference between no deficiency and major deficiency ($p < 0.05$), the substantive effect is the smallest relative to the other variables. The presence of delegating authority decreases the probability of observing no deficiency by 4% while increasing the probabilities of observing minor and major deficiencies by 1% and 3%, respectively. The effects of the remaining variables are nearly identical as those in the previous model and will not be discussed further. In short, introducing the main effect for discretion does not diminish the effects of the other variables. At the same time, it shows that the presence of discretion moderately increases the likelihood of some kind of implementation deficiency.

A test of the interactive discretion hypothesis at the issue-within country level is possible in the fourth model (Table 15) which interacts the delegation variable with the norm states variable. With the inclusion of the interaction, the coefficients for the delegation and norm states variables are significant for all three comparisons. This indicates that the effect of norm states is significant when issues do not delegate authority (as in the previous chapter) and that the effect of

delegation is significant when there is only a single norm state. The significance of the main effects was illustrated in the previous model, but additional figures are necessary to illustrate the interaction effects. Figure 20, Figure 21, and Figure 22 display the predicted probabilities of observing each of the three outcomes for changes in the number of norm states for both provisions that delegate and those that do not. The interaction effect appears to be significant only for comparing no deficiency cases to major deficiency cases. Provisions that do not delegate authority are more likely than delegating provisions to experience no deficiency when the number of norm states is small. As the number of norm states increases, the relationship switches. Provisions that delegate authority are more likely than non-delegating provisions to experience no deficiency when the number of norm states is large. This can be seen in Figure 20, in which the 95% confidence intervals for low and high values of norm states do not overlap. The lines in Figure 21 only barely cross and their 95% confidence intervals almost completely overlap. The pattern in Figure 21 is the reverse of that seen in Figure 20, although there is more overlap in the 95% confidence intervals. Viewing the interaction from an alternative perspective, the effect that norm states has implementation difficulty is slightly larger for those issues that delegate authority than for those that do not, in accordance with the results from the previous chapter. In other words, the

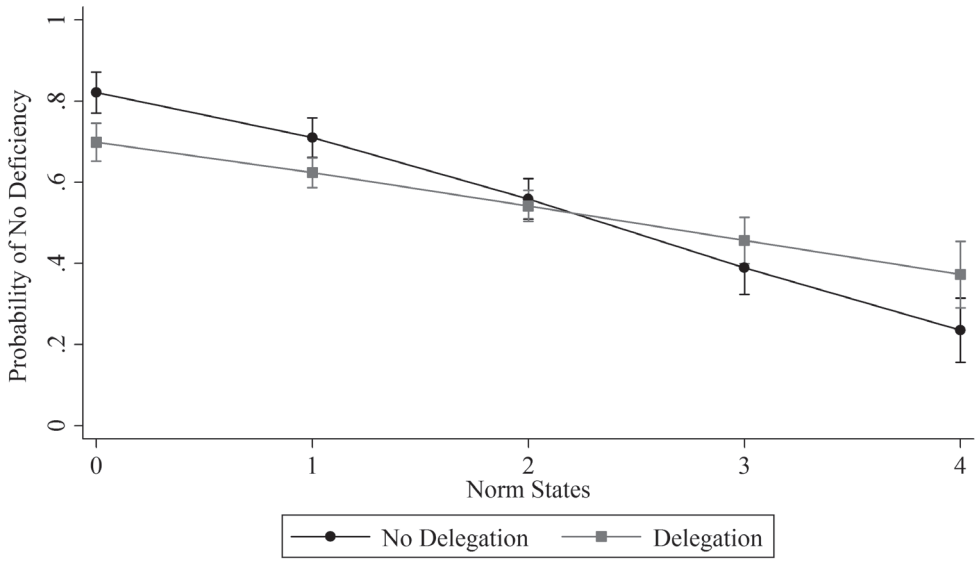

Figure 20: Predicted probabilities of observing no deficiency for changes in norm states with their 95% CIs

interactive discretion hypothesis is confirmed both at the issue-level (the previous chapter) and at the issue-within-country level. Adaptation pressure increases the likelihood of observing implementation deficiencies in the absence of discretion. When countries have the flexibility to meet requirements in their own way,

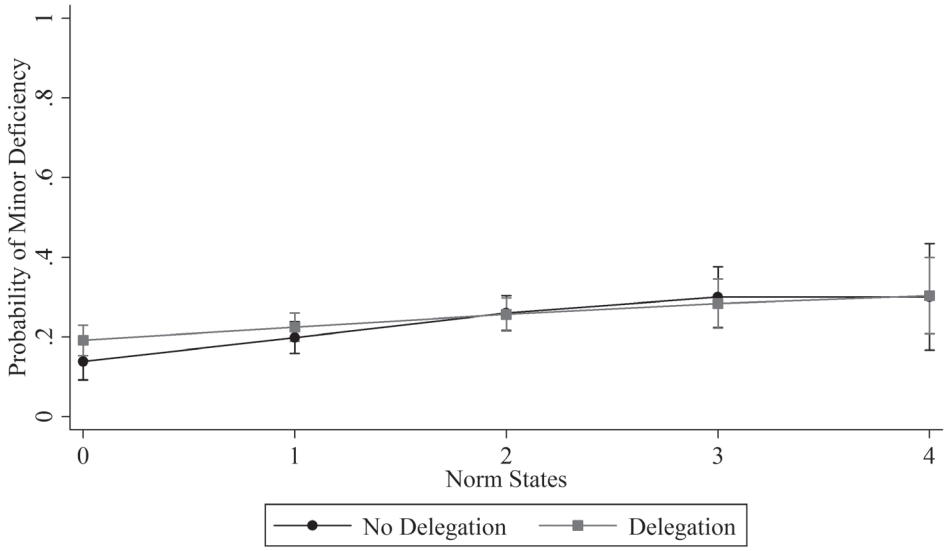

Figure 21: Predicted probabilities for observing minor deficiency for changes in norm states with their 95% CIs

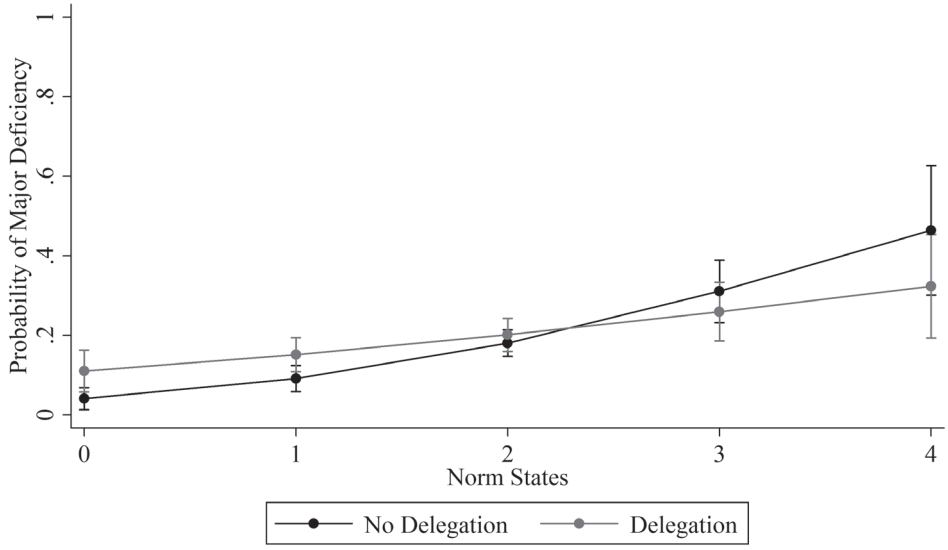

Figure 22: Predicted probabilities for observing major deficiency for changes in norm states with their 95% CIs

adaptation pressure has a smaller effect on implementation deficiency than when countries lack this flexibility.

The final model in this stage (Table 14) replicates the previous model but uses different issue-level controls to explore the differences among the types of issues being implemented. This corresponds to an alternative set of control variables first introduced in the previous chapter, and is presented here as an additional robustness check for the adaptation pressure and interactive discretion hypotheses. With this robustness check, both hypotheses hold. The norm states and delegation variables, as well as their interaction remains significant and in the direction predicted by their respective hypotheses.

This model also demonstrates cross-policy differences that could not be observed in Models 1-4. Concentrating on these factors in particular and using official controls issues as the base case, we see that issues from the hens sector are significant for the distinction between no deficiency and major deficiency, and between minor deficiency and major deficiency ($p < 0.01$). Issues from this sector are 9% less likely than official controls issues to experience significant deficiencies, but 9% more likely to experience minor deficiency. Issues from the calf sector are also less likely to experience major deficiency (13% less than official controls issues) but are more likely to experience no deficiency (10% more relative to official controls issues). Issues from the pig sector are 26% more likely than official controls issues to experience minor deficiency but are less likely to experience no deficiency or major deficiency (18% and 8% respectively). Slaughter issues are only slightly different from official controls issues, being 6% less likely to experience significant deficiency. Finally, transport issues are significantly more likely to experience no deficiency (33% more likely than official controls issues), and less likely to experience minor or major deficiencies (20% and 13% respectively). As in the previous chapter, it should be remembered that this exceptionalism of the welfare during transport subsector exists only once the number of norm states is taken into account (which is relatively large in the transport subsector).

To summarize the results of this chapter so far, models 1 through 5 tested the adaptation pressure and interactive discretion hypotheses at the lowest unit of analysis possible in this thesis. Even in the presence of additional country-level controls, both of these hypotheses survived the stricter testing. Tests of the adaptation pressure hypothesis were particularly convincing because of their monotonicity. That is, increasing adaptation pressure was associated with the

increased severity of implementation deficiency. At the same time, the models demonstrated the difference between new and old member states: with government effectiveness controlled for, implementation was more deficient in the old member states than in the new.

Stage 2: testing the institutional hypotheses

In this second stage, I test the institutional hypotheses (H3A-D) alone. Like in the previous chapter in which I tested the adaptation pressure hypothesis by itself, I begin testing the institutional hypotheses in the absence of control variables. Table 17 contains Model 6, which includes all institutional factors (the organization of inspection planning, the number of first- and second-level regional offices in the central competent authority, and the number of transposing and implementing actors) and no other variables. The three significant variables in the model provide some evidence for two of the four institutional sub-hypotheses.[11] Most notably, the number of transposing actors increases the likelihood of a major deficiency relative to both minor and no deficiency (H3A). Spreading the organization of inspection plans between the central and regional levels decreases the likelihood of a minor deficiency (H3D). On the other hand, the number of regional offices (first- and second-level) is not significant (H3C), while the additional implementing actors decreases the likelihood of major implementation deficiency (running counter to H3B). This effect is probably a statistical artifact, however, given that Sweden has the largest number of implementing actors (each municipality has jurisdiction for farm animal welfare), and Sweden is one of the most progressive countries with respect to animal welfare legislation.[12]

I next describe in more detail the substantive significance of the findings from this model. With respect to the organization of planning inspection controls, and using centralized planning (e.g., targets are set and farms or inspected entities are selected at the central level) as a base case, dividing the tasks of setting targets and selecting entities for inspection between the central and regional offices leads has a statistically significant effect ($p < 0.05$) on the difference between no

[11] When using the ten-year average in place of the mode for the number of primary geographic divisions, there is a significant difference between no deficiency and major deficiency (with more such divisions increasing the likelihood of major deficiency), but the variable is no longer significant when control variables are added, as in models 7 to 10.

[12] Excluding Sweden from this model does in fact render this variable insignificant.

deficiency and minor deficiency (the effect for the other comparisons is not significant).[13] Dividing this responsibility decreases the probability of experiencing no deficiency by 8%, while raising the probability of minor deficiency by 10%. The geographic organization of responsibility variables have no effect on implementation difficulty.

Some evidence is given for the horizontal division of authority.[14] The number of implementing actors has a slightly significant effect on the difference between no deficiency and major deficiency, slightly reducing the probability of the latter (which runs counter to theoretical expectations). The number of transposing actors has a more noticeable effect, however. The effect is significant ($p < 0.01$) for the difference between no deficiency and major deficiency and between minor deficiency and major deficiency.[15] In other words, the larger the number of actors responsible for transposing animal welfare legislation, the greater the probability that implemented issues experience significant implementation deficiencies. The marginal effect indicates that an instantaneous rate of change in this variable increases the probability of observing major deficiency by 1%. Viewed differently, a one standard deviation increase in this variable centered on the mean increases the probability of observing significant implementation deficiency by 4%.

Introducing the issue- and country-level variables in Model 7 (Table 18) renders the effect of the number of implementing actors insignificant, as expected. On the other hand, even with these controls, the effect of the number of transposing actors on implementation remains significant and in the same direction as the previous model. The effects of the control variables are generally of the same nature and significance as in stage 1. Model 8 (Table 19) replaces the issues controls with dummy variables for each of the issue types (as in Model 6). The main difference between this model and its counterpart in the previous section is that the inclusion of the institutional variables has rendered the difference between official controls issues and transportation issues insignificant. Otherwise, the significance and magnitudes of the remaining variables are similar to those in previous models.

[13] The effect of this variable remains significant in this model (and in the models that follow) regardless of the value given to Austria for the ten year period (see the above discussion regarding assigning a single value to Austria).

[14] Neither vertical authority variable is significant, whether I use the mode or the ten-year average. This holds even when issue-countries exceeding 100 for either variable are excluded from the analysis, and persists for the remaining models.

[15] The effect of this variable remains significant in this model (and the models that follow) when the ten-year average is used in place of the mode.

To summarize the results of this stage briefly, both models 6 and 7 provide some support for two of the three institutional hypotheses (namely, H3A and H3D). The variables that correspond to these hypotheses (the number of transposing actors and the dummy variable that differentiates mixed inspection planning from centralized inspection planning) are both significant with and without control variables. Neither model finds support for the implementing actors hypothesis (H3B) and the vertical division of authority hypothesis (H3C).

Stage 3: the complete model of implementation deficiency

In the final stage of the analysis, I combine the institutional and issues-level variables (plus controls) in order to simultaneously test the three hypotheses that have been tested so far. The final theoretical variable, transposition delay, is also added to test the final hypothesis (H4). This final stage includes two models, each corresponding to a different set of control variables (and thus corresponding to the sets of control variables used in the models up to this point). In Model 9 (Table 20), I use new issue and official controls issue dummy variables, while in Model 10 (Table 21) I replace these with subsector dummy variables.

With all variables combined in Model 9, the adaptation pressure, interactive discretion, and two of the four institutional hypotheses remain unfalsified. The number of norm states increases the severity of implementation deficiency (monotonically), corresponding to the adaptation pressure hypothesis (H1). The effect is significant for issues that do not delegate authority (issues without discretion), and the presence of discretion reduces the substantive effect that norm states have on implementation deficiency severity (H2). Like in stage 2, the number of transposing actors increases the severity of implementation deficiency (like the effect of norm states, this increase is also monotonic), corresponding to H3A. Planning inspections at both the central and regional levels increases the likelihood of deficiency relative to complete centralization of planning (H3D). The effect of transposition delay, however, is not significant, thus providing no support for H4. In sum, the hypotheses that were confirmed on their own remain strong when tested together.

I now describe in more detail the significance of the variables and their substantive effects. In Model 9, we see that the number of norm states remains a significant variable even in the presence of the institutional variables. The effect is

significant for all three comparisons for issues that do not delegate authority (for the differences between no deficiency and minor deficiency and between no deficiency and major deficiency this effect is very significant at $p < 0.01$; for the difference between minor deficiency and major deficiency this effect is moderately significant at $p < 0.05$). The marginal effects indicate instantaneous rates of change that decrease the probability of observing no deficiency by 16%, increase the probability of observing a minor deficiency by 7%, and increase the probability of observing a major deficiency by 10%. Of the institutional factors, only mixed planning and the number of transposing actors are significant. Mixed planning has a significant effect on the difference between no deficiency and minor deficiency: its presence decreases the probability of observing no deficiency by 9% relative to completely centralized planning, while increasing the probability of observing minor deficiencies by 10%. Having a large number of transposing actors increases the probability of observing significant deficiencies relative to both no deficiency and minor deficiency. While transposition delay appears to have no effect on implementation difficulty, the effect of delegation (conditional upon the number of norm states) remains similar to that seen in model 4. The control variables have roughly the same effects and levels of significance as in the previous models.

Finally, model 10 replicates model 9 but uses subsector dummy variables. All hypotheses that were significant in Model 9 remain so. In this model there also appears some evidence that transposition delay, the geographical distribution of authority, and the number of implementing actors all have some effect on implementation. The effect of the former, however, runs counter to the transposition delay hypothesis (H4). That is, instead of increasing the likelihood and severity of implementation deficiency, transposition delay slightly increases the likelihood of observing no deficiency. Although transposition delay is itself a form of implementation deficiency, the evidence here suggests that transposition delay improves post-application implementation for delayers. Additional implementing actors increase the likelihood of minor implementation deficiency (providing some support for H3B). With respect to the vertical division of authority hypothesis, H3C, the model has mixed results. Additional first-level offices increase the likelihood of no implementation deficiency (relative to minor deficiency) and the likelihood of major deficiency (relative to minor deficiency). Second-level offices still have no effect.

I turn now to a more detailed description of the significance and substantive effects. Transposition delay slightly decreases the probability of observing no implementation deficiency ($p < 0.05$), but the effect is very small. Similarly, an increase in the number of first-level regional offices decreases the probability of observing no implementation difficulty ($p < 0.05$), while increasing the probability of observing minor deficiencies, but this effect is also small in substantive terms. The effect of the number of implementing actors also appears significant here and this time in accordance with theoretical expectations. Additional implementing actors increase the probability of observing minor deficiencies relative to both no deficiency and major deficiency ($p < 0.01$). This effect is also substantively small. The number of transposing actors continues to have a significant effect on implementation difficulty, with a large number of such actors increasing the probability of observing major difficulties relative to both no deficiency and minor deficiency ($p < 0.01$). The effects of norm states (conditional on delegation) remain robust, as are the effects of the control variables.

The results from this stage generally conform to those from the previous two stages and the analyses of the previous chapter. The adaptation pressure and interactive discretion hypotheses (H1 and H2) remain uncontested even in the presence of institutional factors. Several of the institutional hypotheses are confirmed (H3A and H3D as in the previous stage) even when tested alongside the adaptation pressure and interactive discretion hypotheses. Using subsector dummy variables, mixed support is given for the remaining institutional hypotheses (H3B and H3C). The transposition delay hypothesis (H4), introduced for the first time in this stage, is not confirmed.

Conclusion

In this second quantitative chapter, I have extended the analyses of the previous chapter by shifting the level of analysis from the issue-level to issues within countries. The chapter began with a replication of the previous chapter's analyses that introduced country-level control variables. The results of the previous chapter were confirmed by these replications, despite the introduction of country-level controls. That is, the degree of adaptation pressure required by an issue contributes to implementation difficulty. The interaction term showed that this effect is particularly strongly for those issues that do not delegate discretionary

authority to the member states. Hence the adaptation pressure and interactive discretion hypotheses (H1 and H2) were both confirmed.

The analyses were further extended by including institutional factors. These factors varied both from country to country and from subsector to subsector within a single country. The analyses showed some evidence for a small number of these institutional effects. First, the number of actors responsible for transposing a directive negatively influenced implementation. Additional actors led to more difficulty (H3A). Second, the organization of planning inspection programs had some influence on implementation (H3D). When responsibility for these plans was divided between the central competent authority and its regional offices (that is, the former develops selection criteria and targets while the latter selects the farms or slaughterhouses for inspection), more implementation deficiency occurred than when plans were developed completely at the central level. Other institutional factors such as the number of implementing actors and the geographic division of the authority had little impact. These institutional factors as a whole mattered less for implementation than the issue-level factors explored first in the previous chapter, as evidenced by their lower statistical significance and their sensitivity to different model specifications. Country-level control variables, such as government effectiveness and whether a country had recently acceded to the EU, were also important in determining implementation outcomes. Interestingly, new member states were less likely than others to experience significant implementation problems.

CHAPTER 11

Conclusions

In this thesis, I have attempted to explain cross-national and cross-policy variation in the post-transposition implementation of EU regulatory policy by deriving and testing a set of hypotheses from the transposition literature. I tested these hypotheses quantitatively on a novel dataset describing how twenty-seven countries implemented EU farm animal welfare policy from 2000 to 2010. I constructed this dataset from the mission reports of the Food and Veterinary Office (FVO) and used these same reports (plus supporting material) to construct a set of case studies that aimed at establishing the plausibility of these hypotheses, while inductively uncovering additional interesting sources of variation in implementation success and failure. Among the hypotheses, I found support for the effect of adaptation pressure and for a conditional effect of discretion (conditional on adaptation pressure). I found mixed support for the importance of institutional factors. Beyond the initial hypotheses, I also found a notable difference in implementation outcomes between the new and old member states, with the former slightly outperforming the latter. Although much of the variation I observed remains unexplained, the evidence that I found for several of the hypotheses contributes both theoretically and empirically to the field of EU implementation studies.

In this concluding chapter I will begin by revisiting each of the hypotheses advanced in the theory section in light of the qualitative and quantitative evidence presented in the previous chapters. After evaluating each of the hypotheses, I will summarize the empirical, theoretical, and methodological contributions of the dissertation with respect to existing scholarship on transposition and EU policy application. Finally, I will discuss the normative implications of the findings and possible directions for future research.

Synthesis of empirical findings

The first hypothesis examined the impact of policy misfit or adaptation pressure on post-transposition implementation. In the theory chapter, I have noted that the intuitive appeal of such an explanation combined with its relative empirical success over the years makes it a difficult kind of explanation to ignore. Without denying the contribution of static components of adaptation pressure (those preexisting conditions within a given member state that either must be adjusted to make way for new requirements or that spare some countries from

adjustments that others must make), the primary focus was on so-called dynamic sources of adaptation pressure. These sources reflect the continuing evolution of a policy once countries begin the post-transposition phase, and as such, exist at the policy level. I hypothesized that additional sources of dynamic adaptation pressure for a given issue increase the probability that the issue is implemented with some or significant difficulty.

Before turning to the evidence found for this hypothesis in the quantitative analyses chapters, it is worth noting that the static components of adaptation pressure appear as relevant as ever from the case study chapters. Besides having a population wholly in favor of stringent animal welfare requirements, Sweden benefitted from introducing and enforcing such stringent requirements earlier than most other member states. As such, it needed fewer adjustments to bring its animal welfare laws and their application in line with the requirements of EU legislation. Another example of national circumstances (reflective of a static conception of adaptation pressure) pre-empting or easing dynamic sources of adaptation pressure can be found in Slovenia with respect to animal welfare during transport legislation. Given both its central location on key transit routes within the EU (after its accession) and from the EU to third countries (after Slovenia's accession but before Croatia's in 2013) and its small size, the country was able to implement EU welfare during transport requirements before accession. Not only did this give the country a head start, it also sowed the seeds of an adaptive welfare during transport policy subsector.

Regarding dynamic sources of adaptation pressure, which have been divided into three kinds: amendments, specifications, and phased-in requirements, the case studies provide some indirect support for the hypothesis that these contribute to implementation difficulty. Because the case studies were conducted at the policy-within-country level, the focus tended to be on cross-national differences. Cross-issue factors were only summarily discussed. Nevertheless, the evidence here points towards confirmation of this hypothesis.

Examples can be cited for all three sources contributing to implementation difficulty. In the farm animal welfare sector, one of the most widespread problems concerns the lack of manipulable material for pigs in pig holdings. This requirement was introduced as an amendment to existing EU legislation for the welfare of pigs on farms. The main problems concerning welfare during transport reflected the difficulties that many countries had in adjusting their policy regime for the new

requirements introduced by Regulation 1/2005 (EC). Because these requirements were introduced fairly late in the period under investigation here, they had not been subject to the same degree of monitoring as requirements contained in the other subsectors. I suspect that extending the analysis to the present would reveal significant and persistent problems in this area. Specifications (although relatively uncommon as compared with the other two sources) also contributed to implementation difficulty in the on farm welfare and welfare during transport subsectors. The detailed requirements for egg labeling systems was a thorn in the side of many member states' farm animal welfare regimes. Phased-in requirements were among the most difficult issues for the member states. While not every country had problems implementing the phased in requirements for laying hens kept in battery cages, a large majority had minor or significant problems.

By contrast to those issues that evolved in one or more ways over the duration of the period under investigation, those issues that did not change experienced fewer problems. Within on farm animal welfare and welfare during transport, those issues that changed the least experienced the fewest implementation difficulties. Although some issues in welfare during slaughter were problematic, most of these issues experienced very few instances of significant implementation deficiencies. This sector experienced the fewest number of changes during the period under investigation here (although EU legislation in this area has since been overhauled).

The findings in the quantitative analyses chapters also support this hypothesis. Looking solely at the issue-level analyses presented in Chapter 9 first, the coefficients for one or more sources of adaptation pressure remains significant in models of implementation deficiency, whether modeling any problem or significant problems. Before combining the three components into a single indicator of adaptation pressure, the individual contribution of each source was assessed. Additional phased-in requirements increase the number of countries experiencing implementation difficulties for a given issue. Amendments are particularly influential when examining severe problems alone. Individually these factors are only relevant once issue-level controls are included, but they remain so when issue-level dummy variables are added. When all sources are combined into a single indicator (the number of norm states that an issue passes through in the time period), the hypothesis sees its most resounding confirmation. The norm states variable is significant in all those models in which it is present. It remains a

significant predictor of implementation difficulty in chapter 10, when the level of analysis is shifted downwards and country-level controls have been introduced. Relative to other significant theoretical variables, its marginal effect is very large in these results, being exceeded by only some of the issue characteristics (whether an issue is a new one and several of the issue dummies).

Thus, taking both the qualitative and quantitative evidence together, I find support for the notion that adaptation pressures (and specifically those that evolve over time) make post-transposition application more difficult for the member states. Although the analyses presented in the preceding chapters have not exhausted all possible sources of policy misfit, many of which are immeasurable, they suggest the need to pay attention not only to the traditional "static" components of misfit (as in Knill, 1998; Knill & Lenschow, 1998, 2001), but also to the dynamic sources developed here.

The second hypothesis concerned the complex relationship between discretion and adaptation pressure. I posited a conditional hypothesis specifying that discretion will ease implementation when adaptation pressures are great. Or in other words, adaptation pressure has a more negative effect on implementation quality in the absence of discretion. Member states can adjust to the demands of difficult and evolving policies when they have greater flexibility to do so. In policies with a high degree of adaptation pressure, discretion will increase the likelihood of implementation success. By contrast, discretion should have either no effect on implementation when adaptation pressure is low or it should increase the likelihood of implementation difficulties.

The plausibility of this hypothesis (or one of its main effect variants) is difficult to establish in the qualitative case studies. Food and Veterinary Office (FVO) mission reports are more likely to note when differences in interpretation of EU legislation lead to respect of the requirements in some countries but failure to do so in others than they are to note the variety of interpretations that are compliant with EU rules. The conditionality of the hypothesis also makes it difficult to note in the case study chapters, particularly as the FVO focuses less on issue-level factors (like discretion or adaptation pressures) than it does on country-level institutional factors when considering the performance of each country.

Nevertheless, there is at least one observed instance where discretion appears to lead to implementation deficiencies. Countries are granted significant discretion with respect to the frequency and size of penalties applied to farmers, transporters,

and other operators who violate animal welfare legislation. These differences are a major source of implementation difficulty in the member states. This suggests both a main effect and a conditional effect for discretion, as provisions related to penalties have changed little in each of the policy subsectors under investigation during the time period in question. That is, they are issues that have experienced low levels of adaptation, a high level of discretionary authority for the member states, and consequently many implementation difficulties. Such an observation is not as convincing as would be observing an instance of great adaptation pressure, no discretion, and few implementation difficulties, but it nevertheless does not contradict the conditional hypothesis.

More convincing evidence for this hypothesis can be found in the quantitative chapters. Like the actual hypothesis for the main effect of discretion on implementation, the empirical evidence is equivocal. In the issue-level analysis, this main effect is not significant for the model predicting implementation deficiency generally and significant problems in particular. There is some evidence in the subsequent chapter, which indicates that the presence of discretion increases the probability of observing a major deficiency relative to observing no deficiency. Support for the conditional hypothesis is less equivocal, however, in both chapters. In all models that include this interaction effect, the significance and direction of interaction supports the hypothesis. In the issue-level analysis, I have shown that norm states increase implementation difficulty when issues do not delegate authority (or in other words, delegation decreases the probability of observing deficiency when there are greater sources of adaptation pressure). In the analyses discussed in the subsequent chapter, this story is largely repeated, with an additional nuance. At low levels of adaptation pressure, greater discretion is associated with implementation difficulties. At higher levels of adaptation pressure, the relationship is reversed. For these issues, which require significant modifications by the member states over time, the flexibility provided by greater discretion improves implementation outcomes. In the middle of the range, there is no significant difference between the two (as should be expected in such a relationship).

Next I turn to the four institutional hypotheses. The first concerns the number of actors responsible for transposition and posits that the more numerous these actors, the more likely that implementation deficiencies will result. The case studies provide numerous instances of this effect. In Spain, each of the regions

has responsibility for transposing animal welfare legislation. As a result, the regions vary significantly in the stringency of their rules (particularly in relation to the size of penalties that may be applied). Spain is not the only example, however. In Austria, prior to shifting responsibility for animal welfare from the provinces to the federal level, each province had its own set of animal welfare laws (with the exception of those for animal welfare during transport). The centralization of authority led to a marked improvement in applying EU animal welfare policy in this country.

The quantitative analyses in Chapter 10 support this hypothesis, with the number of transposing actors significantly increasing the probability of experiencing significant implementation difficulty relative to no deficiency. These analyses likely underestimate the importance of this (and other) institutional factors, however, as giving one score to a country for the entire ten-year period masks the effect that institutional changes may have in bringing about better implementation. Thus although the case of Austria appears clearly in the transport case study chapter, it does not exert its influence in the quantitative analyses, where Austria appears to have few actors responsible for transposition. Putting this shortcoming aside, however, we still see some confirmation for this hypothesis in the quantitative analyses.

The second institutional hypothesis concerned the number of coordinating actors responsible for implementing animal welfare legislation once national transposition measures had gone into effect. This hypothesis took the same form as the previous: more actors of this kind will increase the likelihood of implementation difficulty. Again we see qualitative evidence for this effect from the FVO mission reports. Problems of coordination between coequal ministries, as between Ministries of Transport and veterinary authorities have been cited in more member states as being problematic for implementing welfare during transport legislation. Other cases clearly contradict the hypothesis however. In Sweden, prior to institutional reform, each municipality had sole jurisdiction for implementing animal welfare within its territory, and yet Sweden had one of the best implementation records for this period. The quantitative analyses show very little support for this hypothesis as well, with the variable being significant only when control variables have not been included.

The third institutional hypothesis looked at the vertical dimension of authority within the central competent authorities responsible for implementing animal

welfare legislation in the member states and is analogous to those above. The greater the number of regional offices, the greater the likelihood of implementation difficulty. Very little evidence was found for this hypothesis in either the case studies or the quantitative analyses. FVO reports contain little information suggesting that there is a link between the number of regional offices and implementation difficulty. While countries with many regional divisions performed poorly (as in Bulgaria, Spain, and Greece), so too did countries without many such divisions (Lithuania and Malta to some extent). Conversely, countries with many regional offices performed well (Germany, Sweden, and Slovakia) and countries without them also performed well (Cyprus being a notable example). In the quantitative analyses, the coefficients for the variables representing this factor were always insignificant.

The final institutional hypothesis concerning the division of responsibility between the central and regional levels of the competent authorities posited that greater decentralization increased the likelihood of implementation difficulty. In contrast to the previous two institutional hypotheses, there seems to be some support for this final institutional hypothesis. Both the qualitative and quantitative data provide some evidence. For example, the Italian case shows that implementation problems in on farm welfare persisted largely because of coordination problems between the different levels of the central competent authority. The case study notes that depending on the region, sometimes the region selects targets for inspection while sometimes the district (the level below the region) selects targets. The effect is shown to be modest in the quantitative analyses. Mixed responsibility for inspection plans (cases in which the central authority develops criteria and targets while the local levels select entities for inspection) were slightly more likely to experience minor implementation deficiencies than were instances in which plans were entirely developed at the central level.

One final hypothesis concerned the relationship between transposition delay and implementation difficulty. I posited that increased delay in transposing EU requirements into national law would increase the likelihood of implementation difficulty. Observing such an effect in the case studies proved difficult, as delays in transposition were cited as problems of transposition and not of application. Once transposition had occurred, the timeframe for the FVO to observe post-transposition application had been shortened. This reduced the likelihood of

finding a link. For the same reason, it was difficult to find a link in the quantitative analyses, which are based on human coding of the FVO reports. Thus in no instance was the coefficient for the transposition delay variable significant in predicting implementation difficulties. As a result, no evidence was found in this analysis linking transposition delay and implementation difficulty.

It is finally worth noting that some of the control variables were significant in the quantitative analyses and thus allude to other important explanations for the differences in implementation quality. Unsurprisingly, administrative capacity increased the likelihood of observing no deficiencies. This idea is also reflected in the case study chapters, in which countries with high administrative capacity, like Finland and Sweden, performed relatively well, while countries with low capacity, like Bulgaria and Greece, performed poorly. Two other control variables were significant, but their importance may be a function of the research design. New issues and new member states were both less likely to exhibit implementation problems by virtue of the fact of their newness – there was simply less time for the FVO to observe implementation deficiency. This could also be interpreted differently, however. The FVO may purposefully grant more leeway when observing new issues. The reason that new member states performed better than the old may also be seen in a different light, as intense pre-accession monitoring of these countries forced them to bring their implementation into compliance prior to accession, or these were extra vigilant in application of the legislation so that potential implementation problems would not be seen as a hindrance to their upcoming accession. The old member states, secure in their position within the EU, did not face similar monitoring and only the uncertain threat of infringement proceedings for their implementation failures. Despite being outside the theoretical focus of this dissertation, they remain important determinants of implementation success and failure for the cases described here.

Taken as a whole, these explanations add up to only a portion of the explained variation in implementation quality. As a result, a significant amount of variation remains unexplained, potential sources of which will be discussed in the following sections. There are additional explanations that may be more policy-focused, national-focused, or both. However, the explanations discussed in the results above are significant and interesting contributions to providing insight into the reasons for implementation success or failure across countries and issues.

Empirical contribution

In the narrowest sense, this dissertation has described the implementation of EU farm animal welfare policy (including on farm welfare, welfare during transport, and welfare at slaughter or killing) in 27 countries for the years 2000-2010. Seventy-six distinct issues have been identified in this policy area and each of these seventy-six issues has been examined in all 27 countries. The degree to which each country has successfully or unsuccessfully applied each of these issues has been assessed, creating a window onto the entire policy area that allows cross-national and cross-policy comparisons, both separately and simultaneously. Through the coding of these issues and the subsector-by-subsector summaries provided at the beginning of each case study chapter, I have shown that differences exist from country to country and from issue to issue. The figures at the beginning of each case study chapter give an overview of these country-level and policy-level differences in implementation success for each policy subsector. Some countries successfully apply most issues, regardless of their content. In contrast, others perform poorly when implementing most issues. Some issues are successfully implemented by most countries, others by very few. The case study chapters also reveal that where issues are poorly applied, countries generally (if belatedly) make improvements to achieve successful implementation. Still, some countries do not improve the situation and face infringement proceedings as a result. That is, the willingness and ability to adapt varies from one country to another. In short, the implementation of farm animal welfare policy in the member states exhibits a range of outcomes, but on the whole there is a trend toward successful implementation.

Both the case studies and the quantitative analyses have attempted to bring some order to this great variability, by applying lessons learned from the (primarily quantitative) transposition literature. Policy-level and national-level (or more precisely, institutional-level) explanations were examined qualitatively in the case studies, which described the implementation of each of the three subsectors in four countries each, for a total of twelve cases. These cases explored the plausibility of the mechanisms that underlie the explanations derived from the transposition literature. Additional factors that fell outside the main hypotheses were also identified inductively in these cases, attesting to the limits of positing solely generalizable statements about implementation. As discussed in the previous section, some kinds of explanations were easier to observe than others in these

cases, in part because the cases were based on the reports of an agency within the Commission tasked with monitoring implementation. Institutional factors like the horizontal and vertical division of implementation authority within the member states appeared highly relevant for explaining the variety of implementation outcomes from these case studies. Although presented from the perspective of institutional veto players, the case descriptions suggested that coordination of implementation among actors tasked with similar responsibilities presented greater challenges for implementation than conflict among actors in different ministries or departments with diverse preferences.

The quantitative analyses, both at the issue-level, and at the issue-within-country level, painted a slightly different picture. The importance of the institutional factors mentioned above receded. In other words, while the case studies showed that these factors were important in some cases, their generalizability was limited. Of the institutional factors, only the number of transposing actors and the division of authority for the creation of inspection plans emerged as general patterns. Instead, policy-level factors played a role in determining implementation outcomes that could be more easily discerned from country to country and from issue to issue, a notion that has been argued and tested elsewhere (notably in Steunenberg, 2006, 2007). Most notably, adaptation pressure, in the form of amendments, specifications, and phased-in requirements made post-transposition implementation difficult, echoing earlier findings based on quantitative analysis of transposition that use a different conceptualization of adaptation pressure (Kaeding, 2006; König & Luetgert, 2009; Steunenberg & Toshkov, 2009; Thomson, 2007). It's important to note that the conception of adaptation pressure presented here is seen solely from the perspective of the policy in question and not a "misfit" for any country-policy pair. The possibility that this latter notion of misfit played a role in these cases remains unexplored, but the variety of such factors that have been explored in previous research may help account for the mixed success of this type of explanation (Toshkov, n. d.). The dynamic adaptation pressure examined here is of a more general kind and easily reproducible in quantitative analyses of post-transposition application.

A second important empirical contribution made through the quantitative analyses has been to show that delegating authority to the member states influences the quality of implementation, but this effect is conditional on adaptation pressures. That is, as adaptation pressure increases, discretion

improves implementation outcomes. While evidence for the main effect of adaptation pressure has been found elsewhere (although not everywhere), this conditional finding is a new one and hence an important discovery made in this dissertation. It may help reconcile the conflicting findings in the literature on the effects of discretion for the timeliness of transposition. Through quantitative analyses on a relatively small number of directives (though with a large number of countries), several scholars have found that discretion, by slowing down decision-making, delays transposition (Steunenberg & Toshkov, 2009; Thomson, et al., 2007). Looking at only a selection of labor market directives, Thomson finds the opposite effect (2007). The analyses presented in this thesis suggest that discretion may either improve or derail implementation efforts, depending on the degree to which a policy requires significant adaptation from the member states. This might also account for an earlier finding on post-transposition application in which infringements were more common for directives that granted little discretion (Thomson, et al., 2007).

The hypotheses tested in the empirical chapters do not add up to a full explanation of differences in the implementation of this policy field (note the low levels of explained variation in the quantitative analyses), however, they echo the idiosyncratic features found in the case studies. Nevertheless, the empirical regularities detected bring some order to this vast puzzle of post-transposition implementation. In addition to the hypotheses discussed above, I have also described an interesting finding resulting from one of the control variables. In the analyses that included country-level variables, I showed that the New Member states were less likely than others to experience significant implementation problems. While in earlier findings within the transposition literature, the countries of Central and Eastern Europe were not different from the others with respect to the timeliness of transposition (Steunenberg & Toshkov, 2009), the finding here shows that they are in fact different. After controlling for administrative capacity (which is, admittedly, lower in the new member states), new member states are still less likely to experience major implementation deficiencies.

Theoretical contribution

A major aim of this dissertation has been to integrate findings from the transposition literature into a set of explanations for post-transposition

implementation. In doing so, I have made three important contributions. First, I have defined the concept of adaptation pressure in more precise terms that set it apart from the more traditional notion of policy misfit, which is a function of both policy and national circumstances, and I have shown that adaptation pressure is an important factor in explaining variation in implementation outcomes. Adaptation pressure, in contrast to the traditional notion of policy misfit, is inherent to the policy itself and has dynamic components. Because it is inherent to the policy itself, it can be applied without making pairwise comparisons between each country and the policy under investigation. This feature makes it easy to apply within a single policy area, as has been done here. Knowledge about the situation and circumstances in each country is not necessary to assess its importance empirically. Such knowledge is needed when the more traditional sources of policy misfit are examined, which makes cross-national comparisons of implementation costly in time and resources. Moreover, the sheer variety of sources of policy misfit stands in the way of parsimonious and generalizable explanations for implementation success and failure.

The dynamic component of this conceptualization allows a more realistic interpretation of the difficulties that evolving policies pose for countries that must adjust to them. Earlier case study work on policy misfit contained descriptions of how EU countries' responses to a static set of adaptation pressures emerged and responded over time (Knill & Lenschow, 2001). The case studies presented in this thesis have also shown such adjustments. The conceptualization here goes one step further, however, by allowing countries to adjust to policies while the requirements of these policies are themselves changing over time. This more fully captures the notion of dynamics than has been done in the earlier works on "dynamic" policy misfit.

Besides developing this new conceptualization of adaptation pressure from a theoretical standpoint, I have shown its importance for understanding post-transposition implementation. The case studies and quantitative analyses provided evidence for an explanation linking implementation outcomes with the shifting pressures that a policy exerts over time. As noted above, the degree of policy misfit is a factor that cannot be ignored in studies of top-down implementation. This seems to be the case in this thesis as well, where one or more misfit variables were significant in explaining implementation variation across policies.

It is important to note that adaptation pressure is developed here not as a replacement for policy misfit, but as a complement to it. Its importance for this policy area was shown in the quantitative analyses, but the qualitative analyses also showed the importance of other non-dynamic sources of adaptation pressure that result from a mismatch between incoming policies and national circumstances. Because of the large number of potential factors of this kind, these were not included systematically in the case studies nor in the quantitative analyses. Including such factors may provide a more comprehensive explanation of the observed variation. The low model fit in each of the quantitative analyses suggests room for additional explanations, perhaps of this kind.

The second major theoretical contribution has been to include discretionary authority granted to the member states as a factor that influences post-transposition implementation. Scholars of discretion have focused on its determinants, in both the American and EU contexts (Epstein & O'Halloran, 1999; Franchino, 2000, 2001, 2007). The transposition literature has examined the role that discretion plays in delaying the transposition of EU directives (Steunenberg & Toshkov, 2009; Thomson, 2007; Thomson, et al., 2007). Few have looked beyond to the effects of discretion on subsequent implementation (but see Thomson, et al., 2007; Versluis, 2007). I have looked directly at this phase by hypothesizing that discretion also influences the application of EU policy, and its effect is conditional on adaptation pressure. That is, whether discretion increases the chances for successful implementation depends on the extent to which a policy introduces additional requirements over time (hence, exerting greater adaptation pressure). Support for this conditional hypothesis was found in the quantitative analyses. The greater the adaptation pressure, the more important discretion is for easing the adaptation by the member states to these new demands. As stated above, the conditional effect of discretion may help reconcile some of the conflicting empirical findings extant in the literature.

When hypothesizing that discretion delays transposition, scholars have largely relied on the argument that such discretion slows decision-making, because there are more decisions to be made about several alternatives policy formulations, each compliant with EU requirements (Steunenberg & Toshkov, 2009; Thomson, et al., 2007). It is the larger range of permissible policy formulations that improves post-transposition implementation, according to Thomson, et al. (2007). I adopt a more nuanced view and show some evidence for it. I do not dispute the basic

logic that discretion slows decision-making and hence delays transposition. I do not examine the transposition of the policies under investigation here and so cannot corroborate this argument. Because I find no effect for transposition delay on implementation, the effect of discretion on transposition is less relevant. But I do look for and find a link between the degree of discretion granted to the member states and post-transposition implementation. Rather than seeing discretion as a passive medium that simply widens the set of permissible outcomes, I see discretion as granting the member states flexibility for coping with an evolving and demanding set of policy requirements.

Previous investigations into the influence of discretion on transposition and implementation use the directive as the unit of analysis. I use issues within directives and regulations as the unit of analysis and still find evidence for a link between discretion and post-transposition application. The conditional hypothesis that I posit (which also relies on a policy's degree of adaptation pressure) does not require a shift to this lower level of analysis, however, so it can also be tested using data at the level of legislation. Nevertheless, focusing on the issue instead of the overall legislation brings the analysis closer to the unit through which I argue the actual mechanism occurs. That is, countries apply EU legislation by implementing a set of requirements that define "issues". The set of requirements for these issues changes over time (through amendments, specifications, and phased-in requirements) and the member states are granted more or less discretion in implementing each set of requirements. Hence within a single piece of legislation, there is variability with respect to both of these factors, and this variability may be lost when issues are aggregated up to the level of legislation. If the degree of discretion granted to the member states within issues is negatively related to the amount of adaptation pressure those issues impose, then legislation-level analysis will fail to see the relationship that I show to exist at the issue-level, regardless of the method of aggregation.

Finally, I have shown that while institutional factors remain important for post-transposition implementation, the mechanisms are different enough that explanations originating in the transposition domain do not provide a compelling guide for differences observed during this next phase. The number of actors responsible for transposition may influence the subsequent steps, but the impact is modest if it exists at all. I did not have strong expectations regarding this hypothesis. I relied on institutional veto player explanations of transposition

timeliness, which predict that as the number of ministers required for transposition increases, transposition will be delayed (Mastenbroek, 2003). I showed that there is no link between transposition delay and post-transposition implementation. The direct link between the number of transposition veto players and application is not so obvious. Thus the mixed findings with respect to this hypothesis are unsurprising. The number of implementation veto players (including both the number ministries, agencies, and departments that share responsibility as well as the number of geographic divisions within ministries) did not have a significant effect on differences in implementation. Several observations in the FVO reports, however, seem to contradict this particular negative finding. That is, FVO mission reports themselves refer to the difficulty of coordinating across geographic divisions in several member states. Either these findings are anecdotal, or more likely, the count of veto players does not adequately capture the mechanism. In addition to possessing the ability to block or complicate transposition and implementation, veto players also have preferences that may direct their attention to exercising (or not) this ability to block (Steunenberg, 2006, 2007).

Instead, institutional factors related to the policy area in question may be more relevant, particularly those that are related to the organization of compliance. This conforms to earlier findings by Versluis that looked at a single directive applied in a small set of countries (2007). The quantitative analyses showed that the organization of authority with respect to inspection plans had some influence on implementation success. Those plans developed centrally had a greater chance of resulting in favorable implementation outcomes than those that were developed entirely by regional offices. Not all policy areas are structured by inspection plans, however, this specific organizational characteristic points toward the more general concept of the centralization of administrative decision-making. This degree of centralization will likely take on a variety of empirical manifestations, depending on the policy under investigation, and will have some influence on implementation success (as suggested by the preliminary evidence presented here).

Methodological contribution

This dissertation was designed as a mixed methods, systematic approach to improving our understanding of post-transposition implementation in the EU

member states. Rather than relying on expert interviews to assess the quality of implementation, I have systematically coded the implementation of 76 issues by 27 countries through dozens of reports written by the Commission's Food and Veterinary Office following their missions to assess compliance in each country. This approach has allowed me to assess both national- and issue-level explanations for differences in implementation quality. Few studies of implementation in the EU have investigated an entire policy area as it is implemented by all member states.

The qualitative and quantitative aspects of this approach complement each other, leading to results that are greater than the sum of their parts. The qualitative case studies, though unable to test systematically the relative importance of multiple explanations across all cases, have helped demonstrate the plausibility of particular explanations. Moreover, the semi-inductive nature of this component (the hypotheses presented in the previous chapter suggested a direction for the case descriptions but did not cover my eyes before other potentially interesting explanations) means they have helped identify additional factors that could be relevant in future studies of implementation. The quantitative sections, in contrast, have allowed the systematic testing of the hypotheses, although some important factors could not be included in the models because observation of them was difficult or too time-consuming.

Together, these different components highlight the usefulness of a mixed methods approach in social science research more generally, though with a caveat. I do not dispute the power of case studies for inductively deriving a set of potential explanations for some phenomenon of interest. The case studies presented in this dissertation have suggested a number of potential explanations that may prove useful in later research. I also relied on the case studies as plausibility probes for the hypotheses tested systematically in the quantitative analyses. For the direct adaptation pressure hypothesis, the case studies provided ample evidence of the underlying mechanism. For more complex, conditional hypotheses, like that involving both adaptation pressure and discretion, however, the case studies were not useful for establishing plausibility. One might respond that a better case study design could have achieved this aim, but then that would involve designing case studies and case selection to more closely "test" the hypotheses. The inductive value would be lost. In short, there is a tension between relying on case studies for one purpose (for discovering unconsidered

explanations) or another (for plausibility probes of complex hypotheses).

Normative implications

The conclusiveness of the findings with respect to adaptation pressure and the conditional role of discretionary authority suggests an important implication for policy design. Adaptation pressure itself is unavoidable. The amendments, specifications, and phased-in requirements that pose obstacles for member state implementation are a necessary part of policymaking in the EU. They reflect both the reality of political compromises and the necessity of introducing requirements in such a way that gives member states time to anticipate and adjust. Nevertheless, the results show that such pressure is difficult for the member states to bear equally. As an ameliorating factor, the conditional role of discretionary authority has shown that when adaptation pressure is high, granting member states greater flexibility can help them more easily adjust to the new demands. As such, it may be useful to explore additional ways of granting member states flexibility for coping with these demands.

The inconclusiveness of the findings regarding institutional factors are not as troublesome as they may appear at first glance. While it would have been useful to identify institutional designs that could achieve greater implementation success in the member states, institutions are difficult to change, and moreover, doing so often has unintended consequences. Thus null findings regarding the effect that the number of coordinating ministries or geographic divisions have on implementation is somewhat of a relief. Reorganizing the geographic divisions of authorities within member states' administrations or reallocating policy implementation responsibility across different ministries would have significant distributional consequences. Moreover, if such reorganization were perceived to be imposed or urged top-down by the EU, it would contribute, rightfully, to Euroskepticism.

Other institutional factors are likely to be important, but these have not been subject to systematic testing in this dissertation. In looking at the various institutional set-ups that characterize the implementation of farm animal welfare in the member states, the case studies observed that coordination and administrative capacity were relevant for determining implementation quality in some instances. Efforts aimed at improving both coordination and capacity have

been and should continue to be an important part of the Commission's strategy for assuring the uniform application of EU policy in the member states.

Regarding the finding that new member states were on average more successful at implementing these policies than others, the normative implications depend on the mechanism through which this difference operates. Because this finding emerged in the quantitative analyses through a control variable, I did not have any expectations (and hence any clearly defined mechanisms) as to its direction. It could be that accession to the EU focused the attention of administrators in these countries onto successfully implementing EU policies. This additional attention did not occur in the old member states, and hence they were on average less successful (importantly, after controlling for administrative capacity and the theoretical variables).

Directions for future research

Although the dissertation has presented interesting findings regarding the implementation of regulatory policy in the EU, much work remains to fully understand this domain. First, I have presented a dynamic conception of adaptation pressure that could be further specified and subjected to more rigorous testing in the future. Although the case studies enabled me to explore the dynamic component qualitatively, the cross-sectional nature of the quantitative analyses limited the ways in which this explanation for implementation could be applied. Cross-sectional time series analysis of implementation data is one way that this concept could be utilized in later research. Without expanding the number of policies under investigation (this could also be done, but doing so necessarily increases the costliness of such an undertaking), a future study might explore the variation in implementation outcomes explicitly over time. Another possibility lies in developing more specific hypotheses on the ways in which adaptation pressures (and specifically, those stemming from the sources investigated here) influence different processes during post-transposition application. This can be achieved through carefully constructed case studies designed for theory building.

Second, I have explored the conditional impact of discretionary authority in determining implementation outcomes. Discretion remains a difficult and contested concept, one that defies simple operationalization. The extent of

discretionary authority present in EU legislation may not always be easily detectable through textual analysis of legal documents (as was done here). It may prove fruitful in the future to spell out additional sources of discretionary authority and to observe directly the ways in which discretionary authority is exercised. The previous two paragraphs provide some suggestions for future research with respect to one major independent variable in this study; they could easily accommodate this second major independent variable in an analogous fashion (although the degree of discretion is more stable than dynamic adaptation pressure). Direct observation of the means through which discretionary authority is exercised may begin with a textual analysis of national implementing legislation, rather than stopping at EU legislation as in this dissertation.

Third, the institutional explanations derived from the transposition literature proved inadequate for understanding post-transposition implementation. Further theory-building must spell out additional institutional explanations that are relevant for post-transposition implementation in particular. The qualitative case studies point toward several potential directions for this pursuit: the quality of coordination among implementing actors and the organization of implementation planning, for example. Future research could be designed with the aim of adequately conceptualizing "administrative coordination" and developing suitable survey-based measures of this concept. The extent to which administrative decision-making is decentralized could be traced throughout the implementation phase in order to assess the importance of this factor. The work of Versluis on regulatory enforcement is one example of this kind of research (2007).

Finally, this dissertation was limited to exploring the implementation or EU regulatory policy within a single policy area. Although this policy area was comprised of three very different subsectors, each with a different set of actors and organization, and those subsectors themselves were comprised of very different issues, the particularities of this single policy area may stand in the way of general explanation. Further research could subject the two major findings discovered above to testing over a larger set of observations. Although scoring implementation quality was time-consuming, and will likely always defy an easy approach, the two main theoretical variables – discretionary authority and adaptation pressure can be operationalized in large-n research without extreme difficulty. This dissertation has shown that these factors are important pieces in

the puzzle of post-transposition implementation of regulatory policy in the EU.

Appendix A: Sample Issues Sheet

The following table is an "issue sheet" providing documentation for each deficiency score given to each member state in a given issue. This "issue sheet" corresponds to the general requirements for keeping laying hens (Article 3 of the Laying Hens directive). There are 76 issue sheets in total, the one provided below is an example.

Table 10: Issue sheet for Article 3 of the Laying Hens directive

MS	Initial Source	Text Indicating Deficiency	Deficiency Score	# Recs	Text Indicating Followup	Year of Completion
AT	2006 MR	*No deficiencies noted. (European Commission, 2006d)*	**0**		ND	ND
BE	2006 MR	*No deficiencies noted. (European Commission, 2006o)*	**0**		ND	ND
BG	2005 MR	*The following conclusion resulted in a recommendation to ensure that beak trimming occurs before 10 days of age:* "The CA has not carried out checks to ensure whether beak trimming is always performed before 10 days of age (point 8 of the Annex to Directive 99/74/EC) " (European Commission, 2005j, p. 11)	**1**	1	*Satisfactory:* "The check-list for the checks in poultry breeding holdings is to be developed in accordance with the new Ordinance, taking into account mission's recommendations. All the requirements of this Ordinance are to be introduced into the check list in accordance with the requirements of Commission Decision 2000/50/EC. When developing the instructions on effecting checks and during the training to be rendered to the inspectors, special attention will be paid to all the recommendations provided by the mission." (European Commission, 2005j, p. 20)	2006

CY	2009 MR	*The following conclusion led to a recommendation to ensure that certain requirements are complied with (beak trimming):* "The CA is carrying out regular inspections to monitor compliance with the provisions of Article 8(1) of Directive 1999/74/EC. Practices to restrict the feed and water requirements of laying hens and not in compliance with point 14 of the Annex to Directive 98/58/EC had not been detected by the CA and were therefore not addressed. Enforcement action in the laying hen sector is being taken by the CA but is not effective in relation to claw shortening devices and the late beak trimming of birds. Deadlines for remedial action were given by the CA but were not in all cases respected by premises operators and not effectively enforced. Training is not sufficient to ensure inspectors can effectively perform all aspects of official controls on laying hen premises. There has been little improvement since the previous inspection in 2006." (European Commission, 2009d, p. 4)	**1**	1	*No follow-up yet.*	NY
CZ	2005 MR	*No deficiencies detected.* (European Commission, 2005g)	**0**		ND	ND
DE	2004 MR	*No deficiencies detected.* (European Commission, 2004a)	**0**		ND	ND

DK	2004 MR	*The following conclusion led to a recommendation to ensure that there are devices for inspecting cage systems of more than two tiers:* "Training and guidance is satisfactory and as a result inspections are generally thorough and methodical. Apart from failing to indicate the necessity for devices for inspection where there are more than two tiers of cages (Point 6 of the Annex of Directive 99/74/EC), checklists were comprehensive." (European Commission, 2004g, p. 9)	**1**	1	*Action taken:* "(2) To address recommendations 2, 3 and 4, the VFA issued a letter on 26.3.2004 to the regional VFCAs indicating: (a) Further interpretation of the new rules. (b) The need for equipment to inspect the third tier of cages and examples of solutions." (European Commission, 2004g, p. 10)	2004
EE	2005 MR	*No deficiency noted. (European Commission, 2005c)*	**0**		ND	ND
ES	2004 MR	*No deficiency noted. (European Commission, 2004j)*	**0**		ND	ND
FI	2007 MR	*No deficiency noted.* (European Commission, 2007c)	**0**		ND	ND
FR	2004 MR	*The following conclusion led to a recommendation to ensure that blinkers are prohibited:* "The application of blinkers ("spectacles"), which penetrate the nasal septum is a form of mutilation and is therefore prohibited by French and EU legislation (Chapter C(12) of Arrêté of 01.02.2002 and point 8 of the Annex to Directive 1999/74/EC), but this was not accepted as such by the CA." (European Commission, 2004h, p. 10)	**1**	1	*Action taken:* "In relation to the recommendation concerning the use of blinkers piercing the nasal septum, the CCA issued a note on 25.4.2005 reminding the local CAs that this procedure is forbidden by national and community legislation." (European Commission, 2006g, p. 11)	2005
GR	2007 MR	*No deficiencies detected.* (European Commission, 2007d)	**0**		ND	ND
HU	2004 MR	*No deficiency noted.* (European Commission, 2004b)	**0**		ND	ND
IE	2006 MR	*No deficiencies noted.* (European Commission, 2006i)	**0**		ND	ND

IT	2005 MR	*The following conclusion led to a recommendation to ensure that forced molting is not tolerated:* "Insufficient guidance also resulted in practices, such as forced moulting, which the CCA agrees does not comply with EU requirements, being tolerated in many regions." (European Commission, 2005d, p. 11) *The following conclusion led to a recommendation to ensure that staff receive training in order to perform checks satisfactorily:* "The laying hen sector in Italy is not making any concerted effort to replace unenriched cages in the lead-in to the ban on unenriched cages in 2012. Inspections are being regularly carried out on laying hen premises but inspectors were not sufficiently well informed or trained to detect and record all deficiencies noted during the mission. The CCA has not sufficiently communicated its view of enforcement policy on forced moulting to the regional CAs and there had been no change in the view of one region visited since the last FVO inspection in 2005." (European Commission, 2010d, p. 18)	**1**	2	*No follow-up yet.*	NY
LT	2003 MR	*No deficiencies detected.* (European Commission, 2003e)	**0**		ND	ND
LU	2005 MR	*No deficiencies detected.* (European Commission, 2005i)	**0**		ND	ND
LV	2003 MR	*No deficiencies detected.* (European Commission, 2003d)	**0**		ND	ND
MT	2003 MR	*No deficiencies detected.* (European Commission, 2003f)	**0**		ND	ND
NL	2005 MR	*No deficiencies detected.* (European Commission, 2005f)	**0**		ND	ND

PL	2004 MR	*No deficiencies detected.* (European Commission, 2004l)	**0**		ND	ND
PT	2005 MR	*The following conclusion led to a recommendation to ensure that forced moulting is not tolerated.* "Acceptance by the CA of forced moulting does not take account of Article 3 of Council Directive 99/74/EC and points 11, 14, 15 and 16 of the Annex of Council Directive 98/58/EC, which makes such a practice contrary to EU law." (European Commission, 2005e, p. 9) *The following conclusion led to this recommendation being repeated:* "The inspection activity performed by the CA does not provide adequate monitoring of compliance with the provisions of Directive 99/74/EC as shortcomings on laying hen farms, such as forced moulting, are either not recognised or not enforced." (European Commission, 2009g, p. 4)	**1**	2	*Action taken:* "During the visit to the farm the inspector was familiar with the records to be checked in order to identify if the practice of forced moulting is carried out; however, the flock in the house was very young. The inspector correctly pointed out that the checks on mortality and egg production to detect this practice would not be relevant for birds of this age. The house visited was overall in compliance with the requirements of Directive 1999/74/EC. The audit team saw evidence at one DSVR office that action (administrative procedure, conta-ordenacção) was recently initiated against a farmer for forced moulting." (European Commission, 2011d, p. 3)	2011

RO	2006 MR	*The following conclusion led to a recommendation to ensure that documented procedures facilitate adequate inspection of requirements:* "The training and guidance provided to official veterinarians have been insufficient to ensure the proper identification of other serious deficiencies, such as the non respect of the minimum space allowance (Article 5(1)(1) of Directive 99/74/EC), the inadequacy of feed for the purpose of forcing moulting (points 14 and 15 of the Annex to Directive 98/58/EC) and the inadequate state of cleaning (point 4 of the Annex to Directive 99/74/EC)." (European Commission, 2006n, p. 9) *The following conclusion led to this recommendation being repeated:* "Documented procedures have been provided as required by Article 8.1 of Regulation (EC) No 882/2004, and the evaluation sheet provided by the Animal Welfare Department of the CCA was useful for inspections. However, checks were not always carried out following this procedure and when Inspection Departments carry out checks on their own, the checklist used did not provide a complete list of the EU requirements. Neither checklist provided sufficient guidance on how to assess certain requirements, despite a recommendation in report 8053/2006, such as measuring the height of cages." (European Commission, 2007j, p. 13)	**1**	2	*Action taken:* "The new inspection form mentioned under recommendation no. 1 above provides self-explanatory guidance. On 3-4 December 2007, CSVFSD officers responsible for animal welfare inspection were trained on the correct completion of the inspection form and on the methodology of reporting on the controls carried out." (European Commission, 2008b, p. 83)	2007
SE	2007 MR	*No deficiencies detected.* (European Commission, 2007f)	**0**		ND	ND
SI	2007 MR	*No deficiencies detected.* (European Commission, 2007e)	**0**		ND	ND

SK	2004 MR	*No deficiencies detected.* (European Commission, 2004e)	**0**		ND	ND
UK	2004 MR	*No deficiencies detected.* (European Commission, 2004f)	**0**		ND	ND

Appendix B: Correspondence Table for Transportation

Table 11: Correspondence table for transportation legislation

Issue	Old	New
Fitness for transport	Art. 3(b) and (c), Annex Chapter I 1., 7., Annex Chapter IV	Annex I, Chapter I
Means of transport	Annex Chapter I A2(c) and A5	Annex I, Chapter II
Transport practices	Annex Chapter I A4, I A6-8	Annex I, Chapter III
Additional provision for livestock vessels	Annex Chapter I D	Annex I, Chapter IV
Water and feeding intervals, journey times, and resting periods	Art. 5A(2)(f-h), and Annex Chapter VII	Annex I, Chapter V
Additional requirements for long journeys	Council Regulation (EC) No 411/98	Annex I, Chapter VI
Space allowances	Art. 3(1)(aa), Chapter I 2(a), Chapter VI	Annex I, Chapter VII
Route plans/journey logs	Art. 5A(2)(b-e)	Annex II
Certification	NA	Annex III
Training courses	NA	Annex IV
Definitions	Art. 2	Art. 2
No undue suffering during transport	Art. 5(1)(b)	Art. 3
Accompanying documentation	Art. 4	Art. 4
Authorization of transporters	Art. 5(1)(a)	Art. 6
Assembly centers	NA	Art. 9
Requirements for transporter authorizations	NA	Art. 10
Long journey transporter authorizations	NA	Art. 11
Issue of authorizations	NA	Art. 13
Checks on journey logs	Art. 8(1)(c)	Art. 14
Checks at any time of journey	Art. 8(1) (a-c)	Art. 15
Training of competent authority on equipment	NA	Art. 16
Training of personnel	NA	Art. 17
Certificate of approval of means of transport by road	NA	Art. 18
Certificate of approval of livestock vessels	NA	Art. 19
Livestock vessel inspection on loading and unloading	Art. 8(1) (a)	Art. 20
Checks at exit points and BIPs	Art. 11	Art. 21

Avoiding unnecessary delay	Art. 7	Art. 22
Emergency measures in the event of non-compliance	Art. 9	Art. 23
Mutual assistance	Art. 18(4)	Art. 24
Penalties	Art. 18(2)	Art. 25
Infringements and notification of infringements	Art. 18(1) (3)	Art. 26
Inspections and inspection reports	Art. 8	Art. 27

Appendix C: Multinomial Regression Results Tables (Chapter 10)

Table 12: Multinomial logistic regression, Model 1

	Multinomial Logit Estimates			Marginal Effects		
Independent Variables	No Deficiency vs. Minor Deficiency	No Deficiency vs. Major Deficiency	Minor Deficiency vs. Major Deficiency	No deficiency	Minor Deficiency	Major Deficiency
Phased-in Points	0.77***	0.59***	-0.18	-0.17	0.12	0.05
	(0.10)	(0.16)	(0.15)			
Amended†	0.03	0.51***	0.48***	-0.05	-0.01	0.07
	(0.09)	(0.12)	(0.13)			
Specified Points	0.43***	0.39***	-0.03	-0.10	0.06	0.04
	(0.12)	(0.15)	(0.15)			
Constant	-1.10***	-1.70***	-0.59***			
	(0.10)	(0.19)	(0.20)			
(N = 2037)						
X^2 (df=6) = 115.02						
Pseudo R^2 = 0.02						

Robust clustered standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

† Dichotomous variable for which the discrete change from 0 to 1 is displayed in marginal effects

Table 13: Multinomial logistic regression, Model 2

Independent Variables	Multinomial Logit Estimates			Marginal Effects		
	No Deficiency vs. Minor Deficiency	No Deficiency vs. Major Deficiency	Minor Deficiency vs. Major Deficiency	No deficiency	Minor Deficiency	Major Deficiency
Norm states	0.37*** (0.06)	0.67*** (0.14)	0.29** (0.15)	-0.11	0.05	0.06
New issue†	-0.32* (0.18)	-0.66** (0.27)	-0.34 (0.25)	0.10	-0.04	-0.06
Official controls †	0.05 (0.15)	0.72** (0.28)	0.67** (0.27)	-0.07	-0.02	0.09
New member state †	0.18 (0.25)	-1.30*** (0.30)	-1.48*** (0.35)	0.08	0.07	-0.15
Government effectiveness	-0.01 (0.21)	-1.26*** (0.19)	-1.25*** (0.30)	0.10	0.04	-0.15
Constant	-1.57*** (0.36)	-0.64 (0.51)	0.93 (0.66)			
(N =2037) X^2 (df=10) = 199.71 Pseudo R^2 = 0.05						

Robust clustered standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

† Dichotomous variable for which the discrete change from 0 to 1 is displayed in marginal effects

Table 14: Multinomial logistic regression, Model 3

Independent Variables	Multinomial Logit Estimates			Marginal Effects		
	No Deficiency vs. Minor Deficiency	No Deficiency vs. Major Deficiency	Minor Deficiency vs. Major Deficiency	No deficiency	Minor Deficiency	Major Deficiency
Norm states	0.37*** (0.06)	0.64*** (0.13)	0.27* (0.14)	-0.11	0.05	0.06
New issue†	-0.34* (0.19)	-0.73*** (0.27)	-0.40 (0.25)	0.10	-0.04	-0.06
Official controls †	0.07 (0.15)	0.76*** (0.28)	0.69** (0.27)	-0.08	-0.02	0.10
New member state †	0.18 (0.25)	-1.30*** (0.30)	-1.48*** (0.35)	0.08	0.07	-0.15
Government effectiveness	-0.01 (0.21)	-1.27*** (0.18)	-1.25*** (0.30)	0.10	0.04	-0.15
Delegation†	0.11 (0.13)	0.27** (0.11)	0.17 (0.16)	-0.04	0.01	0.03
Constant	-1.60*** (0.37)	-0.71 (0.51)	0.90 (0.66)			
(N =2037) X^2 (df=12) =247.35 Pseudo R^2 = 0.05						

Robust clustered standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

† Dichotomous variable for which the discrete change from 0 to 1 is displayed in marginal effects

Table 15: Multinomial logisitic regression, Model 4

Independent Variables	Multinomial Logit Estimates			Marginal Effects		
	No Deficiency vs. Minor Deficiency	No Deficiency vs. Major Deficiency	Minor Deficiency vs. Major Deficiency	No deficiency	Minor Deficiency	Major Deficiency
Norm states	0.51*** (0.10)	0.99*** (0.17)	0.48** (0.20)	-0.16	0.06	0.10
New issue†	-0.32* (0.19)	-0.70** (0.27)	-0.38 (0.26)	0.10	-0.04	-0.06
Official controls †	0.14 (0.16)	0.95*** (0.29)	0.81*** (0.30)	-0.11	-0.01	-0.12
New member state †	0.17 (0.25)	-1.31*** (0.30)	-1.48*** (0.36)	0.08	0.07	-0.15
Government effectiveness	-0.01 (0.21)	-1.27*** (0.19)	-1.26*** (0.30)	0.10	0.04	-0.14
Delegation†	0.49** (0.21)	1.21*** (0.25)	0.72** (0.35)	-0.18	0.05	0.13
Delegation * Norm states	-0.24** (0.11)	-0.53*** (0.14)	-0.29 (0.19)	0.08	-0.03	-0.05
Constant	-1.85*** (0.40)	-1.34*** (0.56)	0.51 (0.76)			
(N =2037) X^2 (df=14) = 258.30 Pseudo R^2 = 0.05						

Robust clustered standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

† Dichotomous variable for which the discrete change from 0 to 1 is displayed in marginal effects

Table 16: Multinomial logistic regression, Model 5

Independent Variables	Multinomial Logit Estimates			Marginal Effects		
	No Deficiency vs. Minor Deficiency	No Deficiency vs. Major Deficiency	Minor Deficiency vs. Major Deficiency	No deficiency	Minor Deficiency	Major Deficiency
Norm states	1.34*** (0.16)	1.41*** (0.20)	0.07 (0.23)	-0.32	0.20	0.12
New issue†	0.97*** (0.22)	-0.08 (0.28)	-1.05*** (0.31)	-0.17	0.21	-0.04
New member state †	0.17 (0.26)	-1.33*** (0.30)	-1.50*** (0.36)	0.08	0.07	-0.15
Government effectiveness	-0.02 (0.21)	-1.27*** (0.19)	-1.25*** (0.37)	0.11	0.04	-0.14
Delegation†	1.64*** (0.27)	1.52*** (0.28)	-0.13 (0.37)	-0.37	0.25	0.12
Delegation * Norm states	-1.29*** (0.19)	-0.84*** (0.17)	0.45* (0.25)	0.54	-0.39	-0.15
Hens†	0.35 (0.22)	-0.91*** (0.27)	-1.26*** (0.34)	-0.01	0.09	-0.09
Calves†	-0.06 (0.36)	-2.53*** (0.62)	-2.47*** (0.61)	0.10	0.02	-0.13
Pigs†	1.09*** (0.31)	-0.59* (0.34)	-1.68*** (0.32)	-0.18	0.26	-0.08
Slaughter†	0.02 (0.18)	-0.63* (0.37)	-0.65* (0.35)	0.04	0.02	-0.06
Transport†	-1.45*** (0.25)	-1.59*** (0.38)	-0.14 (0.39)	0.33	-0.20	-0.13
Constant	-2.53*** (0.41)	-0.78* (0.41)	1.75*** (0.59)			
(N =2037) X^2 (df=22) = 794.14 Pseudo R^2 = 0.08						

Robust clustered standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

† Dichotomous variable for which the discrete change from 0 to 1 is displayed in marginal effects

Table 17: Multinomial logisitic regression, Model 6

Independent Variables	Multinomial Logit Estimates			Marginal Effects		
	No Deficiency vs. Minor Deficiency	No Deficiency vs. Major Deficiency	Minor Deficiency vs. Major Deficiency	No deficiency	Minor Deficiency	Major Deficiency
Mixed planning†	0.57** (0.26)	-0.05 (0.45)	-0.62 (0.63)	-0.08	0.10	-0.03
Decentralized planning†	0.31 (0.33)	-0.12 (0.61)	-0.42 (0.78)	-0.04	0.06	-0.03
First-level regional offices	0.01 (0.01)	0.02 (0.01)	0.01 (0.02)	-0.00	0.00	0.00
Second-level regional offices	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00	-0.00	0.00
Implementing actors	-0.01 (0.01)	-0.02* (0.01)	-0.01 (0.01)	0.00	0.00	0.00
Transposing actors	-0.01 (0.01)	0.10*** (0.02)	0.12*** (0.02)	-0.01	-0.01	0.01
Constant	-1.48*** (0.29)	-1.81*** (0.52)	-0.33 (0.71)			
(N =2037)						
X^2 (df = 12) = 74.84						
Pseudo R^2 = 0.02						

Robust clustered standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

† Dichotomous variable for which the discrete change from 0 to 1 is displayed in marginal effects

Table 18: Multinomial logistic regression, Model 7

Independent Variables	Multinomial Logit Estimates			Marginal Effects		
	No Deficiency vs. Minor Deficiency	No Deficiency vs. Major Deficiency	Minor Deficiency vs. Major Deficiency	No deficiency	Minor Deficiency	Major Deficiency
Mixed planning†	0.54** (0.24)	0.08 (0.31)	-0.47 (0.49)	-0.09	0.09	-0.01
Decentralized planning†	0.29 (0.34)	0.16 (0.42)	-0.13 (0.60)	-0.06	0.05	0.01
First-level regional offices	0.01 (0.01)	-0.00 (0.00)	-0.01 (0.01)	-0.00	0.00	-0.00
Second-level regional offices	0.00 (0.00)	0.00 (0.00)	-0.00 0.00	-0.00	0.00	-0.00
Implementing actors	-0.01 (0.01)	0.00 (0.01)	0.01 (0.01)	0.00	-0.00	0.00
Transposing actors	-0.01 (0.01)	0.08*** (0.01)	0.08*** (0.01)	-0.00	-0.00	0.01
New issue	-0.63*** (0.18)	-1.29*** (0.23)	-0.66*** (0.22)	0.18	-0.08	-0.10
Official controls	-0.31* (0.02)	0.02 (0.19)	0.32* (0.16)	0.04	-0.05	0.01

New member state	0.26 (0.22)	-1.08*** (0.29)	-1.34*** (0.29)	0.05	0.08	-0.13
Government effectiveness	0.18 (0.14)	-1.27*** (0.21)	-1.44*** (0.24)	0.08	0.08	-0.15
Constant	-1.70*** (0.44)	0.37 (0.42)	2.08***			
(N = 2037) X^2 (df = 20) = 180.13 Pseudo R^2 = 0.05						

Robust clustered standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

† Dichotomous variable for which the discrete change from 0 to 1 is displayed in marginal effects

Table 19: Multinomial logistic regression, Model 8

	Multinomial Logit Estimates			Marginal Effects		
Independent Variables	No Deficiency vs. Minor Deficiency	No Deficiency vs. Major Deficiency	Minor Deficiency vs. Major Deficiency	No deficiency	Minor Deficiency	Major Deficiency
Mixed planning†	0.55** (0.24)	0.08 (0.31)	-0.46 (0.50)	-0.09	0.09	-0.01
Decentralized planning†	0.28 (0.35)	0.16 (0.42)	-0.12 (0.60)	-0.06	0.05	0.01
First-level regional offices	0.01 (0.01)	-0.00 (0.01)	-0.01 (0.01)	-0.00	0.00	-0.00
Second-level regional offices	0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00	0.00	-0.00
Implementing actors	-0.01 (0.01)	0.00 (0.01)	0.01 (0.01)	0.00	-0.00	0.00
Transposing actors	-0.01 (0.01)	0.08*** (0.01)	0.08*** (0.01)	-0.01	-0.00	0.01
New issue	-0.30* (0.17)	-1.25*** (0.22)	-0.95*** (0.22)	0.12	-0.03	-0.10
New member state	0.24 (0.22)	-1.11*** (0.29)	-1.35*** (0.30)	0.05	0.08	-0.13
Government effectiveness	0.17 (0.14)	-1.27*** (0.21)	-1.43*** (0.24)	0.08	0.07	-0.15
Hens	0.72*** (0.18)	0.11 (0.25)	-0.61* (0.32)	-0.13	0.15	-0.01
Calves	0.27 (0.34)	-1.16* (0.66)	-1.43** (0.64)	0.01	0.08	-0.09
Pigs	1.35*** (0.22)	0.91*** (0.31)	-0.44* (0.24)	-0.29	0.25	0.04
Slaughter	-0.30* (0.17)	-0.15 (0.32)	-0.44 (0.30)	-0.03	0.06	-0.03
Transport	-0.02 (0.16)	-0.06 (0.22)	-0.04 (0.20)	0.01	-0.00	-0.01
Constant	-2.00*** (0.44)	0.41 (0.41)	2.38*** (0.58)			

(N = 2037)
X^2 (df = 0.06) =
Pseudo R^2 = 0.06

Robust clustered standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

† Dichotomous variable for which the discrete change from 0 to 1 is displayed in marginal effects

Table 20: Multinomial logistic regression, Model 9

	Multinomial Logit Estimates			Marginal Effects		
Independent Variables	No Deficiency vs. Minor Deficiency	No Deficiency vs. Major Deficiency	Minor Deficiency vs. Major Deficiency	No deficiency	Minor Deficiency	Major Deficiency
Transposition delay (months)	-0.00 (0.00)	-0.00 0.00	0.00 (0.00)	0.00	-0.00	0.00
Norm states	0.53*** (0.10)	1.02*** (0.17)	0.49** (0.20)	-0.16	0.07	0.10
Mixed planning†	0.56** (0.26)	0.09 (0.32)	-0.46 (0.51)	-0.09	0.10	-0.01
Decentralized planning†	0.30 (0.36)	0.17 (0.43)	-0.13 (0.62)	-0.06	0.05	0.01
First-level regional offices	0.01 (0.01)	0.00 (0.01)	-0.01 (0.01)	-0.00	0.00	-0.00
Second-level regional offices	0.00 (0.00)	-0.00 0.00	-0.00 (0.00)	-0.00	0.00	-0.00
Implementing actors	-0.01 (0.01)	0.00 (0.01)	0.01 (0.01)	0.00	-0.00	0.00
Transposing actors	-0.00 (0.01)	0.09*** (0.02)	0.09*** (0.01)	-0.01	-0.00	0.01
New issue	-0.31* (0.19)	-0.70** (0.27)	-0.39 (0.26)	0.10	-0.04	-0.06
Official controls	0.04 (0.17)	0.91*** (0.27)	0.86*** (0.29)	-0.10	-0.02	0.12
New member state	0.21 (0.25)	-1.13*** (0.30)	-1.34*** (0.30)	0.05	0.07	-0.13
Government effectiveness	0.23 (0.15)	-1.27*** (0.21)	-1.50*** (0.25)	0.07	0.08	-0.15
Delegation†	0.53** (0.21)	1.25*** (0.26)	0.72* (0.35)	-0.19	0.05	0.13
Delegation * Norm states	-0.26** (0.11)	-0.55*** (0.15)	-0.29 (0.19)	0.09	-0.03	-0.05
Constant	-2.70*** (0.50)	-1.70*** (0.59)	1.00 (0.72)			

(N = 2037)
X^2 (df = 28) = 232.67
Pseudo R^2 = 0.07

Robust clustered standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

† Dichotomous variable for which the discrete change from 0 to 1 is displayed in marginal effects

Table 21: Multinomial logistic regression, Model 10

Independent Variables	Multinomial Logit Estimates			Marginal Effects		
	No Deficiency vs. Minor Deficiency	No Deficiency vs. Major Deficiency	Minor Deficiency vs. Major Deficiency	No deficiency	Minor Deficiency	Major Deficiency
Transposition delay (months)	-0.00*	-0.00	0.00	0.00	-0.00	-0.00
	(0.00)	(0.00)	(0.00)			
Norm states	1.35***	1.44***	0.08	-0.32	0.20	0.12
	(0.17)	(0.19)	(0.21)			
Mixed planning†	0.57***	0.11	-0.46	-0.09	0.10	-0.00
	(0.20)	(0.19)	(0.24)			
Decentralized planning†	0.29	0.16	-0.12	-0.06	0.05	0.01
	(0.25)	(0.28)	(0.33)			
First-level regional offices	0.01**	-0.00	-0.14**	-0.00	0.00	-0.00
	(0.01)	(0.01)	(0.01)			
Second-level regional offices	-0.00	-0.00	-0.00	0.00	0.00	-0.00
	(0.00)	(0.00)	(0.00)			
Implementing actors	-0.01**	0.00	0.01**	0.00	-0.00	0.00
	(0.01)	(0.00)	(0.01)			
Transposing actors	-0.00	0.09***	0.09***	-0.01	-0.00	0.01
	(0.02)	(0.01)	(0.02)			
New issue	0.98***	-0.08	-1.06***	-0.17	0.07	-0.13
	(0.28)	(0.34)	(0.41)			
New member state	0.18	-1.18***	-1.36***	0.06	0.07	-0.13
	(0.19)	(0.22)	(0.25)			
Government effectiveness	0.19	-1.28***	-1.47***	0.07	0.07	-0.15
	(0.17)	(0.17)	(0.20)			
Delegation†	1.66***	1.54***	-0.11	-0.37	0.25	0.12
	(0.32)	(0.40)	(0.45)			
Delegation * Norm states	-1.30***	-0.85***	0.45*	0.27	-0.21	-0.06
	(0.20)	(0.23)	(0.26)			
Hens	0.43*	-0.86***	-1.29***	-0.03	0.11	-0.08
	(0.24)	(0.32)	(0.35)			
Calves	-0.03	-2.56***	-2.53***	0.10	0.03	-0.12
	(0.34)	(0.58)	(0.61)			
Pigs	1.16***	-0.56	-1.71***	-0.19	0.27	-0.08
	(0.31)	(0.45)	(0.48)			
Slaughter	0.12	-0.56**	-0.68**	0.02	0.04	-0.06
	(0.20)	(0.25)	(0.28)			
Transport	-1.36***	-1.54***	-0.18	0.31	-0.19	-0.12
	(0.26)	(0.28)	(0.34)			
Constant	-3.42***	-1.17***	2.25***			
	(0.42)	(0.44)	(0.51)			
(N = 2037)						
X^2 (df =36) = 311.14						
Pseudo R^2 = 0.09						

Robust clustered standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

† Dichotomous variable for which the discrete change from 0 to 1 is displayed in marginal effects

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Samenvatting

In deze dissertatie wordt voor 27 EU-lidstaten onderzocht hoe de wetgeving over het welzijn van vee wordt toegepast. De zogenoemde 'transpositieliteratuur' vormt daarbij het vertrekpunt. Van daaruit wordt een theoretisch kader ontwikkeld waarin de inzichten uit deze literatuur worden toegepast op de posttranspositiefase van het implementatieproces; de fase waarin lidstaten omgezette richtlijnen en regelgeving toepassen en uitvoeren. Nadat de transpositieliteratuur en andere wetenschappelijke inzichten over implementatie in het algemeen besproken zijn, worden hypotheses geformuleerd om verschillen tussen landen in implementatiesucces te verklaren. De hypotheses zijn geconcentreerd rondom de veronderstelling dat de druk tot aanpassing aan EU-vereisten (welke verschilt van eis tot eis en van lidstaat tot lidstaat) de toepassing bemoeilijkt. Bovendien is deze aanpassingsdruk dynamisch en dwingt deze landen in de loop van de tijd tot aanpassingen wanneer EU-wetgeving verandert. Bij het tegenwicht bieden aan adaptatiedruk, helpt de aanwezigheid van vrijheid – waarbij lidstaten enige vrijheid hebben om eisen aan te passen aan hun nationale situatie – om de problemen die ontstaan door de aanpassingsdruk te verzachten. Aanvullende hypotheses die worden afgeleid van de transpositieliteratuur betreffen de geografische en bestuurlijke decentralisatie van implementatiebevoegdheden en de omvang van vertraging ontstaan voorafgaande aan de toepassing. De hypotheses worden getest door middel van een onderzoeksontwerp dat verschillende methoden omvat. Hierin wordt een set van case studies op elk van de drie belangrijkste onderdelen van het Europese beleid rondom het welzijn van vee (te weten het welzijn op de boerderij, tijdens het transport en tijdens de slacht) gecombineerd met een kwantitatieve analyse van de implementatie van alle belangrijke wetgevingsvereisten op dit beleidsterrein in de 27 lidstaten. De resultaten van het onderzoek ondersteunen de hypotheses over aanpassingsdruk en vrijheid, terwijl weinig bewijs wordt gevonden voor de hypotheses over de decentralisatie van uitvoeringsbevoegdheden.

In het eerste hoofdstuk wordt het onderzoeksprobleem uiteengezet. Kort gezegd is dit de grote variatie in beleidstoepassing die bestaat tussen verschillende beleidsterreinen en landen in een beleidsveld waarin de gehele EU onderworpen wordt aan dezelfde vereisten. Gegeven dit empirische vraagstuk, luidt de centrale onderzoeksvraag van deze dissertatie als volgt: waarom implementeren sommige EU-lidstaten regulerend beleid succesvol, terwijl andere daar niet in slagen? De

dissertatie past de lessen die geleerd zijn over de transpositiefase toe om zo vragen over de toepassing in de posttranspositiefase te beantwoorden.

In het tweede hoofdstuk wordt de literatuur over EU-implementatie in het algemeen in kaart gebracht. Bij de kritische reflectie wordt in het bijzonder gekeken naar de brede transpositieliteratuur. De literatuurbespreking die in dit hoofdstuk wordt gepresenteerd, richt zich op de (empirische en theoretische) ontwikkelingen in het onderzoek over EU-transpositie en posttranspositie toepassing en uitvoering. Ik bespreek de geselecteerde literatuur om inzichten te verkrijgen voor de theoretische benadering die in het volgende hoofdstuk aan bod komt en om hypotheses af te leiden die tegelijkertijd passen binnen de empirische studie en de theoretische discussie. Vanaf het begin heeft het onderzoek over de implementatie van EU-beleid zich ontwikkeld naar een gerichte onderzoeksagenda; een agenda die vele alternatieve verklaringen biedt, maar weinig goed onderbouwde generalisaties. Voor de verklaringen wordt gebruik gemaakt van een verscheidenheid aan politieke, bestuurlijke, landspecifieke en beleidsmatige kenmerken om een verklaring te bieden voor implementatiesucces en -falen. In de afgelopen 10 jaar hebben kwantitatieve analyses van het omzettingsproces het onderzoeksveld gedomineerd. Ondanks de overvloed aan omzettingsanalyses, hebben slechts enkelen posttranspositie toepassing als een relevant onderwerp gezien en nog minder hebben een connectie gemaakt tussen omzetting en toepassing.

Het derde hoofdstuk presenteert de theorieën die getoetst worden en leidt hieruit de hypotheses af. Ondanks dat het domein van de activiteiten die verklaard worden afwijkt van die over transpositie, kunnen verschillende mechanismen logisch afgeleid worden van het transpositieonderzoek en kan de posttranspositie toepassing zo beter begrepen worden. Het doel van dit hoofdstuk is om die factoren eruit te halen die in beide domeinen kunnen worden toegepast. Deze factoren zijn de mate van aanpassingsdruk, de omvang van discretionaire bevoegdheden gedelegeerd naar de lidstaten en de institutionele kenmerken die de uitvoering beïnvloeden. Aan deze drie factoren heb ik het effect van de omzetting zelf op de posttranspositie toepassing toegevoegd. De hypotheses die vervolgens uit deze factoren herleid zijn, vullen elkaar aan in die zin dat elk een effect op de implementatie kan hebben dat onafhankelijk van de anderen is. Desondanks kunnen verschillende van de geïdentificeerde factoren de implementatie in samenhang met elkaar beïnvloeden. Eén van de theoretische

innoviteiten is dan ook de herconceptualisering van aanpassingsdruk als een dynamisch in plaats van een statisch concept.

Het vierde hoofdstuk geeft een overzicht van het beleid over het welzijn van vee in de EU in meer algemene zin en beschrijft meer in detail het specifieke beleid waarop in dit boek gefocust wordt. Parallel lopende ontwikkelingen in de lidstaten, de Raad van Europa en de Europese Economische Gemeenschap (later de EU) worden getraceerd. De belangrijkste historische gebeurtenissen in beleidsformulering en ontwikkeling worden nagegaan en beschreven om zo de lezer bekend te maken met de context van de empirische hoofdstukken die erna zullen volgen. In het vijfde hoofdstuk wordt de methodologie geïntroduceerd die gebruikt wordt bij de case studies. Ook wordt de strategie uiteengezet die in beide empirische delen van deze dissertatie gehanteerd wordt om te meten hoe adequaat de uitvoering heeft plaatsgevonden. In dit hoofdstuk presenteer ik de voornaamste instrumenten die ik gebruik om de daadwerkelijk plaatsgevonden implementatie voor elk van de lidstaten in elk van de drie beleidsonderdelen te evalueren. Ik beschouw implementatie als relatief succesvol wanneer de wetgevingsvereisten gerespecteerd en naar behoren uitgevoerd worden door een lidstaat, haar bevoegde autoriteiten en haar gereguleerde entiteiten. Wanneer dit niet zo is, dan beschouw ik de implementatie als niet-succesvol. Voor ieder issue evalueer ik de mate waarin de implementatie onvolledig is. Dat doe ik voor de gehele 10-jarige periode (2000 – 2010) voor ieder land, gebaseerd op rapporten van de *Food and Veterinary Office* (FVO) van de Europese Commissie die periodiek voor alle vereisten met betrekking tot het welzijn van vee de toepassing in elk van de lidstaten beoordeelt. Deze evaluaties worden gebruikt voor zowel de case selectie als de kwantitatieve analyse, welke samen het empirische deel van de dissertatie vormen.

Het empirische deel van de dissertatie presenteert drie implementatie case studies – één voor elk van de drie subsectoren binnen het Europese beleid over het welzijn van vee – en twee sets van kwantitatieve analyses. Het doel van de case studies is niet om de hypotheses die uit het theoriehoofdstuk zijn voortgekomen direct te toetsen, maar om hun plausibiliteit te beoordelen. Dit wordt gedaan door de implementatie van elk van de belangrijkste beleidsonderdelen in verschillende lidstaten te beschrijven en daarbij het belang van de verklarende factoren uit het theoriehoofdstuk naar voren te brengen. De volgorde van de cases komt overeen met de opeenvolgende stadia die vee

doorloopt van het verblijf op de boerderij (hoofdstuk 6), het transport van de boerderij naar de markt en/of het slachthuis (hoofdstuk 7) naar de uiteindelijke slacht (hoofdstuk 8). Deze case beschrijvingen belichten verschillende mechanismen die ten grondslag liggen aan de hypotheses zoals gepresenteerd in het theoretische hoofdstuk en focussen eveneens de aandacht op andere factoren die bijdragen aan implementatiesucces of –falen.

De hoofdstukken 9 en 10 presenteren de kwantitatieve analyses van de variatie in toepassing, zoals waargenomen tussen zowel beleidsonderdelen als landen. In hoofdstuk 9 onderzoek ik de implementatie van het beleid over het welzijn van vee in de EU vanuit het perspectief van het beleidsniveau. Dit heb ik gedaan met statistische modellen van zowel het aantal landen per issue dat weinig moeilijkheden ondervindt bij de implementatie, als het aantal landen per issue dat significante moeilijkheden ondervindt. Voor dit analyseniveau vind ik enige onderbouwing voor de twee hypotheses op issueniveau. Ten eerste draagt adaptatiedruk bij aan implementatieproblemen, zowel in algemene zin als wanneer gekeken wordt naar significante implementatieproblemen. Ten tweede speelt vrijheid een rol in het beïnvloeden van implementatie, maar alleen door zijn interactie met adaptatiedruk.

In hoofdstuk 10 ligt de analyse-eenheid een niveau lager. De analyses in dit hoofdstuk houden rekening met alle mogelijke evaluaties van issues voor ieder land. De resultaten van het vorige hoofdstuk worden bevestigd, ondanks de introductie van controlevariabelen op het nationale niveau. De analyses worden verder uitgebreid door institutionele factoren mee te nemen. Deze factoren variëren zowel van land tot land als van subsector tot subsector binnen één land. De analyses tonen enig bewijs voor een klein aantal van deze institutionele effecten.

Het laatste hoofdstuk vat de verkregen inzichten samen en levert conclusies voor de studie van EU-implementatie in het algemeen. Eerst brengt het de resultaten van de case studies en de kwantitatieve analyses samen. Een eerste empirische bijdrage is het aantonen dat het delegeren van bevoegdheden naar de lidstaten de kwaliteit van implementatie beïnvloedt, maar dat dit effect conditioneel is op aanpassingsdruk. Op een theoretisch niveau heb ik het concept aanpassingsdruk in specifiekere termen gedefinieerd, waardoor het apart geplaatst wordt van de meer traditionele betekenis van beleids-*misfit* (oftewel het niet doen aansluiten), dat een functie is van zowel beleids- als nationale

omstandigheden. Ik heb laten zien dat het een belangrijke factor is om variatie in implementatie-uitkomsten te verklaren. De dynamische component van deze conceptualisering staat een meer realistische interpretatie toe van de moeilijkheden waarvoor landen zich gesteld zien bij het zich aanpassen aan ontwikkelend beleid. De tweede belangrijke theoretische bijdrage is het toevoegen van aan de lidstaten toegekende discretionaire bevoegdheden als een factor die de posttranspositie implementatie beïnvloedt. Tenslotte heb ik aangetoond dat terwijl institutionele factoren belangrijk blijven voor posttranspositie implementatie, de mechanismen zo verschillend zijn dat verklaringen die hun grondslag vinden in het transpositiedomein geen afdoende leidraad vormen voor de verschillen die geobserveerd worden tijdens de volgende fase.

Het overtuigende bewijs met betrekking tot adaptatiedruk en de conditionele rol van discretionaire bevoegdheden suggereert een belangrijke consequentie voor de opzet van beleid. Adaptatiedruk op zichzelf is onvermijdelijk. De amendementen, specificaties en geleidelijk geïntroduceerde vereisten die obstakels vormen voor implementatie door lidstaten, vormen een noodzakelijk deel van beleidsontwikkeling in de EU. Zij reflecteren zowel de realiteit van politieke compromissen als de noodzaak vereisten zodanig te introduceren dat het lidstaten tijd geeft om te anticiperen en zich aan te passen. Toch laten de hier gepresenteerde resultaten zien dat het voor de lidstaten lastig is hier op dezelfde wijze mee om te gaan. Aanvullend heeft de conditionele rol van discretionaire bevoegdheden laten zien dat wanneer de adaptatiedruk groot is, het toekennen van grotere flexibiliteit aan lidstaten deze kan helpen zich makkelijker aan te passen aan de nieuwe vereisten. Als zodanig maakt dit het zinvol de aanvullende manieren te onderzoeken waarop lidstaten flexibiliteit kan worden toegekend om met deze vereisten om te gaan.

Curriculum Vitae

Brendan John Carroll was born on June 22, 1983 in Woonsocket, Rhode Island, USA. He completed high school (Mount Saint Charles Academy) in 2001. In 2005, he graduated Summa Cum Laude in Environmental Studies (Policy Concentration) from Colby College in Waterville, Maine and received the Environmental Studies department's top academic prize that year. While there he received a Freeman Foundation Grant to intern for an environmental non-profit in Okinawa, Japan and in the summer after graduation worked as a policy intern for the Natural Resources Council of Maine. Brendan continued his studies in the Joint Public Policy PhD program at Indiana University in the School for Public and Environmental Affairs (SPEA) and the Political Science Department and obtained his Masters in Political Science there in 2008. While enrolled in the program he taught undergraduate statistics courses and worked as research assistant for the late Evan Ringquist.

Brendan began his PhD studies at the Institute of Public Administration of Leiden University in 2008 as a PhD researcher and lecturer. In addition to participating in courses organized by the Netherlands Institute of Governance (NIG), he attended the European Consortium for Political Research (ECPR) Analytical Politics summer school in Torino, Italy in 2009. Since 2009 he has taught courses on research design, statistical research methods, public institutions, and bureaucracy. He has also supervised many MA students in the writing of their theses.

He has published articles in *The British Journal of Political Science*, *European Journal of Political Research, Interest Groups & Advocacy,* and the *Journal of Contingencies and Crisis Management*. His publications address a variety of topics, including interest group representation in the EU, the methodology of interest group research, and the dynamics of blame games following political crises. Several of these articles were published as part of the INTEREURO project, an international project with research teams at nine universities (including Leiden) that examines interest group politics and policy in the EU.

Brendan currently works as assistant professor at the Institute of Public Administration at Leiden University where he continues to teach courses in public administration and to research issues of policy implementation, representation, and EU governance.