

Implementation of the European directive on pig welfare: a comparative study of four member states



J. Kuenzler^{a,*}, C.S. Vogeler^b

^a University of Applied Sciences and Arts Northwestern Switzerland, 4052 Basel, Germany

^b German University of Administrative Sciences, Chair of Comparative Public Administration and Policy Analysis, 67324 Speyer, Germany

ARTICLE INFO

Article history:

Received 18 December 2024

Revised 13 June 2025

Accepted 13 June 2025

Available online 19 June 2025

Keywords:

Animal welfare

Customisation

European Union

Pigs

Qualitative document analysis

ABSTRACT

Farm animal welfare is an important component of the transition towards sustainable food systems. The success of the recent European Citizen's Initiative "End the Cage Age" has shown that animal welfare is also a public concern. Yet, despite the existence of European Union (EU) legislation on farm animal welfare, little is known about how member states implement these laws, leading to potential enforcement gaps. This raises the question of how member states customise EU animal welfare policies and what drives these variations. Our study investigates this issue by analysing the implementation of a European pig welfare directive in four member states: Denmark, France, Germany, and Spain. Drawing on the concept of customisation, we assess differences in the density and restrictiveness of national regulations compared to EU standards and explore potential drivers, such as public opinion and political party positions. Our findings reveal significant variation, with Denmark and Germany exceeding EU standards through stricter and denser regulations, while France and Spain adhere more closely to the minimum requirements. These differences align with varying public and political priorities at the national level. The results highlight the critical role of national contexts in shaping the implementation of EU policies and provide insights for designing more effective animal welfare legislation. Our study underscores the need for a deeper understanding of the interplay between public opinion, political dynamics, and regulatory frameworks to enhance the welfare of farmed animals across the EU.

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Implications

This study examines how four European Union member states – Denmark, France, Germany, and Spain – implemented the European directive on pig welfare. We find substantial variation: Denmark and Germany adopted stricter and more detailed rules, while France and Spain largely followed the minimum requirements. These differences are linked to national political dynamics and levels of public engagement. Understanding these drivers can help policymakers anticipate where stronger regulations are more likely to be adopted. For the livestock industry, stricter standards may offer opportunities to build consumer trust and improve market positioning through higher animal welfare performance.

Introduction

Farm animal welfare (FAW) is an important component of the transition towards sustainable food systems (Fesenfeld et al.,

2023). While the recent success of the European Citizen's Initiative "End the Cage Age", managing to collect 1.4 million signatures (European Commission, 2021) has shown that animal welfare is a relevant public concern in the European Union (EU), our knowledge of the dynamics of policymaking in this area is limited. Up until now, only a small number of empirical studies have been published that aim to explore and understand FAW policymaking (Vogeler, 2019b; Vogeler et al., 2020; Hårstad and Vik, 2022; Hårstad, 2023; Hus and McCulloch, 2023).

The existing studies have in common that they focus on the policy process and mostly on the stage of agenda-setting or decision-making. Several studies have investigated party political positions in selected EU member states as well as at the European Parliament level. However, we know close to nothing about the actual implementation of FAW policies, especially when it comes to the implementation of EU law in the member states (Dusel and Wieck, 2023). This is problematic because inspections in several member states have revealed a dramatic failure of enforcement and have in some cases resulted in legal proceedings (Vogeler, 2019a). As a first important step of implementation, EU directives need to be transferred to national law (Thomann, 2019). The study

* Corresponding author.

E-mail address: johanna.kuenzler@fhnw.ch (J. Kuenzler).

at hand investigates this crucial aspect of FAW member state implementation by analysing both varying degrees of implementation and potential drivers behind these variations.

Theoretically, our study builds on dynamically evolving literature on customisation. Customisation conceptualises how member states transfer EU law to national law and aims to measure the extent to which they change EU rules in this process (Thomann, 2019). In contrast to the concept of compliance, which focuses on transgressions, customisation stresses that member states also have a legal leeway in changing the law from the EU level (Zhelyazkova et al., 2024). To render EU law compatible with national contexts, member states may for example impose stricter rules than what the EU dictates. Customisation scholars have developed two measures to capture such changes, restrictiveness and density. While restrictiveness “refers to changes in content, i.e. raising or lowering a regulatory standard” (Brendler and Thomann, 2024), density “measures the quantity or amount of regulatory measures” (Brendler and Thomann, 2024). Hence, member states may customise EU law to be more strict or lax (restrictiveness) and customise it to contain more or less rules (density). First comparative studies show that EU member states make extensive use of their rights to customise, which results in high variation of national regulations referring to the same EU regulation (Thomann and Zhelyazkova, 2017; Thomann, 2019).

With customisation constituting a comparatively young field of research, investigations into the phenomenon’s causes are still at the beginning. In an introduction to a special issue, Zhelyazkova et al. (2024) propose that domestic politics might influence customisation: Depending on domestic power constellations, member states may face the need to customise EU law. We pick up this argument by investigating the role of the two interrelated factors public opinion and political parties in customisation. Political parties’ positions are shaped by various motivations, which have been described in the literature with policy-seeking, vote-seeking and office-seeking. Policy-seeking includes the implementation of ideological goals and preferences of party members or politicians, whereas vote-seeking is influenced by public opinion on an issue (Tosun and Varone, 2021; Töller, 2022; Wenzelburger, 2023). We expect that the more favourable these aspects are concerning the issue of farm animal welfare in a country, the more said country will customise its regulation to enhance animal welfare.

Given the complexity of species-specific animal welfare legislation – the EU currently features four different species-specific directives, namely for laying hens (Council of the European Union, 1999), broilers (Council of the European Union, 2007), pigs (Council of the European Union, 2008b), and calves (Council of the European Union, 2008a) –, we select the directive on pigs for our analysis (Council of the European Union, 2008c). Pigs represent the largest livestock category in the European Union and are reared in intensive production systems (Albernaz-Gonçalves et al., 2021; Brajon et al., 2024). In a recent comprehensive evaluation, the European Food Safety Authority identified a host of highly relevant welfare problems in European pig farming systems, such as high mortality rates in piglets or abnormal behaviour like tail-biting that leads to serious injuries (Nielsen et al., 2022). Because of the documented and widely spread welfare problems, the directive on the protection of pigs can be seen to be insufficient to guarantee minimum welfare. Thus, also from the perspective of pig welfare, an in-depth analysis of this directive is highly relevant.

Our research design comprises the four member states Denmark, France, Germany, and Spain. The selection of case studies is based on several criteria: one commonality among the four countries is their substantial livestock sectors, as this increases the policy area’s importance and magnifies the implications of animal welfare policies. Another commonality is their long-standing EU membership: all four countries were already members when

the EU began adopting farm animal welfare directives and regulations in the 1970s, with Spain joining in 1986. The species-specific regulations, significantly impacting production structures, were adopted only after Spain’s accession (e.g., concerning fattening pigs, calves, and laying hens). Beyond these shared characteristics, the four cases can be divided into two groups: Germany and Denmark have notably comprehensive national animal welfare legislation, whereas France and Spain have few laws beyond the mandatory EU framework and are considered laggards in animal welfare (Vogeler, 2019a, 2019b). Hence, we expect to see variance also regarding the implementation of the pig directive. In addition to finding out how the directive is implemented, we are also interested in explaining possible differences in the implementation. Under what conditions do member states go beyond EU law?

Material and methods

We proceed with an overview of the four case study countries, followed by a description of our data and methods for the two steps of analysis (degrees and drivers of customisation). Table 1 displays the size of pig populations in the case study countries and calculates the percentages of the total pig population in the EU.

Case study countries

Denmark

In Denmark, the legal protection of animals has a long tradition. Already in 1916, the Danish Act on the Protection of Animals was adopted, and since then continuously expanded (Ministeriet for Fødevarer, Landbrug og Fiskeri, n.d.). Since 2020, Danish law has recognised all animals as sentient beings. A peculiarity of the Danish case is – as exemplified by the recent plan on animal welfare, which was passed consensually in the Danish Parliament in February 2024 (Socialdemokratiet, Venstre, Moderaterne et al., 2024) – the comparatively high consensus regarding the importance of the issue in general. There is a constant attempt to engage in dialogue with industry and society to find consensual solutions together. This is partly because pig farming – by far the largest livestock sector – has a long tradition in Denmark (Danish Agriculture & Food Council, 2024). The sector is thus a major source of income and can count on – but is also reliant on – public acceptance to keep up: This concerns animal welfare as well as environmental challenges related to the industry. Already in 2014, the government got together with industry and animal welfare organisations to solve existing welfare problems in pig farming, such as the high mortality of piglets. As a result, the Pig Welfare Action Plan was passed (Ministeriet for Fødevarer, Landbrug og Fiskeri, 2014). The plan comprises measures to solve major welfare problems, such as tail-docking, confinement systems, and more transparent choices for consumers. In 2017, the government and industry together launched an animal welfare label. However, this only applies to the locally sold production. As in other countries, deficiencies regarding the implementation of existing laws remain,

Table 1
Overview of pig populations in case study countries in 2023.

Item	N (in thousands)	Percentage of European Union pig population
European Union	133 599.91	100%
Denmark	11 368.00	8.51%
France	11 794.05	8.83%
Germany	21 223.70	15.89%
Spain	34 451.65	25.79%

Source: eurostat (2024) and own calculations.

e.g., regarding tail-docking, one of the most common challenges in many EU member states with intensive pig production systems.

In the face of the remaining challenges, at the beginning of 2024, the government, along with six political parties, reached a consensus on an animal welfare action plan for 2024–2027, which also includes demands from business and animal protection organisations. The plan includes six points regarding pig welfare, including bans on the fixation of sows for farrowing and the castration without anesthesia for male piglets (Socialdemokratiet, Venstre, Moderaterne et al., 2024). This action plan again exemplifies the attempt to find joint solutions and the involvement of actors from different sectors and from different ideological backgrounds. The six political parties involved in the design of the action plan represent the heterogeneity of the party-political spectrum and were nevertheless able to reach a consensus here.

France

In France, first legal efforts for animal welfare occurred in 1976 with the definition of animals as sentient beings in the country's rural code (Code rural et de la pêche maritime, L214-1). In 1980, the office for animal protection was created within the French Ministry of Agriculture (Carrié et al., 2023). In the following decades, policies concerned with animal welfare were introduced only sparsely, with most legislation consisting of transferred EU directives (Vogeler, 2019a). The EU Commission launched several proceedings against France for non- or delayed transferring of binding EU law (Buller and Cesar, 2007; European Commission, 2013). 2016 saw the first national policy dedicated to animal welfare, namely the "National Plan for Animal Welfare 2016–2020". Containing several measures aimed at the promotion of animal welfare, the plan led to the creation of the National Reference Center for Animal Welfare, a national research institution (Carrié et al., 2023). Furthermore, in 2021, the office for animal protection was renamed to "office for animal welfare" (Carrié et al., 2023).

Germany

Germany's animal welfare regulations often exceed EU directives, positioning the country among those with the highest legal standards globally. Since the enactment of the first animal welfare regulations in 1933 and the inclusion of animal protection in the German constitution in 2002, Germany has developed detailed species-specific regulations for various farm animals, including poultry, laying hens, pigs, calves, dairy cows, rabbits, and fur animals. However, regulations for sheep, goats, beef cattle, ducks, and geese are notably absent, with voluntary agreements sometimes substituting formal regulations (Vogeler, 2019a).

Despite these advanced regulations, significant controversies persist regarding their sufficiency. For instance, the use of farrowing crates for sows and the castration of male pigs without anesthesia remain contentious. The latter practice was prohibited in 2013 but saw a transitional extension due to economic concerns from farmers, highlighting the frequent prioritisation of economic interests over animal welfare. In 2022, Germany was the first country to legally ban the mass culling of male chicks. The decision followed a 2019 ruling by Germany's Federal Administrative Court, which determined that animal welfare concerns outweigh the economic interests of farmers (Bundesministerium für Ernährung und Landwirtschaft, 2023a). In 2023, a government animal welfare label was introduced, which aims to provide consumers with transparent information about the conditions in which farm animals are raised (Bundesministerium für Ernährung und Landwirtschaft, 2023b).

Spain

In Spain, animal welfare policymaking has primarily been shaped by the need to comply with EU regulations, with little addi-

tional national legislation exceeding these requirements (Vogeler, 2019b). In addition, enforcement of these regulations in Spain has been weak, leading to multiple proceedings by the EU due to issues such as non-compliance in slaughter practices, the use of battery cages for laying hens, and inadequate pig keeping standards (European Commission, 2011). The lack of systematic monitoring further exacerbates these enforcement challenges. Consequently, Spain's approach to animal welfare remains closely aligned with EU standards but struggles with effective implementation and enforcement. Though in 2023, Spain introduced a comprehensive animal welfare law that, among other measures, increased penalties for animal mistreatment, with high fines, the law does not include specific improvements for farm animals (Keeley, 2023).

Data and methods for degrees of customisation

For the analysis of the degree of customisation in the selected member states, we first identified the relevant bodies of law on the EU level and in the four countries, namely the EU directive and the corresponding regulations on the member state level:

- EU: "COUNCIL DIRECTIVE 2008/120/EC of 18 December 2008 laying down minimum standards for the protection of pigs"
- France: "Arrêté du 16 janvier 2003 établissant les normes minimales relatives à la protection des porcs [Order of 16 January 2003 establishing minimum standards for the protection of pigs]"
- Denmark: "Bekendtgørelse om dyrevelfærdsmæssige mindstekrav til hold af grise" [Executive Order on minimum animal welfare requirements for keeping pigs]
- Germany: "Verordnung zum Schutz landwirtschaftlicher Nutztiere und anderer zur Erzeugung tierischer Produkte gehaltener Tiere bei ihrer Haltung (Tierschutz-Nutztierhaltungsverordnung)" [Ordinance on the protection of farm animals and other animals kept for the production of animal products during their husbandry (Animal Welfare Farm Animal Husbandry Ordinance)]
- Spain: "Real Decreto 1135/2002, de 31 de octubre, relativo a las normas mínimas para la protección de cerdos" [Royal Decree 1135/2002, of 31 October 2002, on minimum standards for the protection of pigs]

Table 2 provides an overview of the five regulations. All were in force on 31 March 2024.

To render the case study countries' regulations comparable with the EU directive, we translated the texts into English with the translator DeepL (DeepL, 2024). In the following, we identified all rules in the five texts that aim at behavioural change of pig farmers. We excluded rules addressing the European Commission and the member states' public administrations from the analysis, as they are usually not subject to customisation by member states.

The comparison of rules between the EU and the four case study countries Denmark, France, Germany, and Spain was conducted manually by one researcher, with analogous rules being matched and then compared regarding their restrictiveness. When no match could be identified for an EU rule on the member state level, additional member state regulations and sources were consulted to determine whether the EU rule is integrated in another body of law (Bundesministerium der Justiz, 2022; Pig Research Centre, 2012; Imhäuser, 2014). In cases where this search did not yield any results, the EU rule was coded as "not transposed into member state law".

Subsequently, the density level in the member state regulations was assessed by determining the number of rules that did not feature an analogous rule in the EU regulation. To ensure that these

Table 2
Comparative depiction of the European, French, Danish, German, and Spanish pig husbandry regulations.

Item	European Union	France	Denmark	Germany	Spain
Original Title	COUNCIL DIRECTIVE 2008/120/EC of 18 December 2008 laying down minimum standards for the protection of pigs	Arrêté du 16 janvier 2003 établissant les normes minimales relatives à la protection des porcs	Bekendtgørelse om dyrevelfærdsmæssige mindstekrav til hold af grise	Verordnung zum Schutz landwirtschaftlicher Nutztiere und anderer zur Erzeugung tierischer Produkte gehaltener Tiere bei ihrer Haltung (Tierschutz-Nutztierhaltungsverordnung)	Real Decreto 1135/2002, de 31 de octubre, relativo a las normas mínimas para la protección de cerdos
English Translation	.	Order of 16 January 2003 establishing minimum standards for the protection of pigs	Executive Order on minimum animal welfare requirements for keeping pigs	Ordinance on the protection of farm animals and other animals kept for the production of animal products during their husbandry (Animal Welfare Farm Animal Husbandry Ordinance)	Royal Decree 1135/2002, of 31 October 2002, on minimum standards for the protection of pigs
Original publishing date	18 December 2008	16 January 2003	30 November 2020	22 August 2006	20 November 2002
Latest update	14 December 2019	31 December 2021	–	29 January 2021	8 March 2023
Number of coded rules	59	71	178	126	86

“unique” rules were crafted on the member state level and did not emanate from another EU regulation, they were additionally compared with the three EU regulations that contain rules for animal welfare independent of different species: The EU’s law on farm animal welfare (Council of the European Union, 1998), the regulation concerning animal transport (Council of the European Union, 2005), and the regulation concerning the killing of animals (Council of the European Union, 2009).

The results of the comparison were checked by a second researcher and critically discussed with the first researcher in cases of differences in assessment until agreements were reached.

Data and methods for drivers of customisation

For the exploration of potential customisation drivers, we relied on the Eurobarometer and on party political programs. In 2023, a representative Eurobarometer survey was published on the attitudes of European citizens towards the specific issue of animal welfare (European Union, 2023). The advantage of the Eurobarometer survey as compared to other, national, surveys is that the questions are formulated in the same way in all countries and are thus directly comparable.

Concerning party political programs, we examined the latest electoral programs of parties in the four case study countries as well as party programs and the webpages of the parties for content regarding animal welfare on farms. As the subtopic of pig welfare is only addressed very rarely by political parties, we rely on general perceptions and policy positions on farm animal welfare to find out whether the issue is salient in party programs and which parties make pledges regarding the issue. The analysis covers the latest national election and is limited to the parties represented in parliament, with a vote share of at least 5%. See Kuenzler and Vogeler (2024) for a full compilation of investigated sources.

Results

We first present the results of our analysis regarding different degrees of customisation found in the four case study countries’ pig husbandry regulations, followed by findings concerning factors potentially driving these differences.

Customisation of pig husbandry regulations

In the following, we give an overview of the findings of the comparison of national pig regulations with the EU directive. In the first

step, we present the content of the EU directive. Subsequently, we discuss the four case studies’ regulations regarding changes in restrictiveness and density.

Content of the European Union (EU) directive

The EU’s “COUNCIL DIRECTIVE 2008/120/EC of 18 December 2008 laying down minimum standards for the protection of pigs” was published in 2008 and last updated in 2019. It contains 59 rules aimed at pig farmers. These rules concern pigs’ housing conditions, feed, and water, as well as medical treatment. The regulation also lays out rules that apply only to subgroups of pigs, such as boars, sows, or piglets.

As the EU regulation’s title indicates, the rules are conceived as minimum standards for pig husbandry in the EU. Article 12 specifies that the member states are free to “maintain or apply within their territories stricter provisions for the protection of pigs than those laid down in this Directive”. Thus, the possibility of customizing the rules towards less animal welfare is excluded. A deviation downwards would be a failure to comply with EU law – which of course can occur, see the extensive research on compliance (e.g., Thomson et al., 2020; Börzel and Buzogány, 2019) – but does not fall into the scope of customisation analysis. Accordingly, the directive only leaves room for deviation upwards, meaning that stronger customisation implies stricter rules towards more animal welfare.

Density in the case study countries

Table 3 displays the density values of the pig husbandry regulations in Denmark, France, Germany, and Spain. As may be seen in Fig. 1, all case study countries increased their regulations’ density by adding more rules to the corpus of the EU directive. Whereas France and Spain display moderate values of increased density ($n = 18$ and $n = 31$, respectively), Germany almost doubled the number of rules contained in the EU directive ($n = 58$). With 85 additional rules, Denmark supersedes the other case study countries by far.

When investigating the added rules in a more in-depth manner, it becomes apparent that density was increased in two ways. On the one hand, single rules were added to the regulations, for example, in Denmark, where Article 22 of Chapter 5 established a ban on the use of electrocuting instruments. On the other hand, groups of rules were inserted into the regulations, such as in France, where eight rules contain additional requirements for the castration of pigs. Other areas that were targeted by the case study countries with a multitude of rules include the characteristics and quality

Table 3
Density of rules in the case studies' pig husbandry regulations.

Country	Rules added to the member state regulation (more density than the European Union directive)	Rules apparently ¹ omitted from the member state regulation (less density than the European Union directive)
France	18	1
Spain	31	0
Germany	58	3
Denmark	85	2

¹ These are only tentative results as the authors cannot fully exclude the possibility that the rule was transposed within another regulation not under investigation here (see also discussion in the main text).

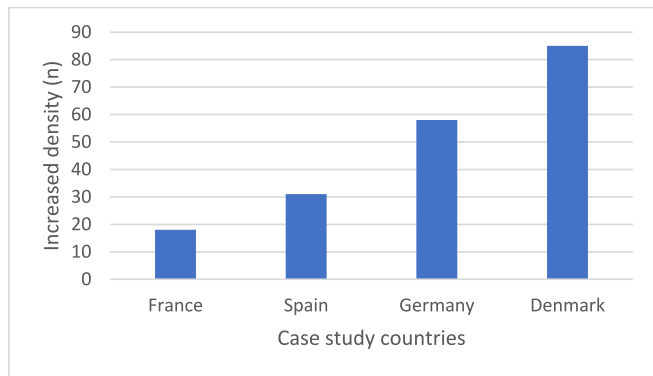


Fig. 1. Density values of member states' pig regulations. Increased density refers to the number of rules that were added to the set of rules presented in the European Union directive.

of materials to be provided to pigs for investigation and manipulation (additional rules identified in France and Spain), specified minimum temperatures for lying areas of suckling piglets (Germany), or requirements regarding the keeping of pigs outdoors (Denmark).

Table 3 also shows that for all case study countries except Spain, a limited number of rules specified in the EU Directive were apparently omitted from the member state regulations. Specifically, this concerns four EU rules that are missing in one to two case study countries each:

- A rule requiring a certificate for animals that are imported from a third country: missing in France and Germany
- A rule requiring the availability of training courses focusing on animal welfare aspects: missing in Denmark
- A rule requiring the immediate investigation of causes and the taking of measures when signs of severe fighting appear among pigs: missing in Germany
- A rule limiting the use of tranquilizing medicaments to facilitate the mixing of different pig groups to exceptional conditions and only after consultation with a veterinarian: missing in Denmark and Germany

With the EU Directive specifying minimum requirements, such omitted rules (or, in terms of customisation: decreases in density) technically constitute cases of non-compliance. However, the author team did not reach a definitive conclusion here: Despite extensive research efforts, we cannot fully exclude the possibility that these rules appear in other regulations not consulted by the author team, such as pharmaceutical or trade-specific regulations.

As the focus of this article lies on customisation and not on compliance, we did not pursue this topic any further.

Restrictiveness in the case study countries

Table 4 displays the restrictiveness of rules in the case study countries' pig husbandry regulations. The percentage values of EU rules being transferred with unchanged, additional, or less restrictiveness are depicted in Fig. 2.

As is evidenced by Table 4, all case study countries transferred most EU rules to their own regulations with unchanged restrictiveness. However, beyond this basic commonality, there are fundamental differences. As above for the measure of density, Denmark stands out with the highest number of changes to the EU rules. 22 rules were adopted in a more restrictive manner, for example, regarding the practice of tail docking. In the EU regulation, tail docking is allowed, with the specification that it should not "be carried out routinely but only where there is evidence that injuries to [...] pigs' [...] tails have occurred." It is also mentioned that other measures that may prevent tail biting should be implemented first. While Denmark adopts these rules, the regulation additionally restricts tail docking to the second to fourth day of a pig's life and to cases where there is written documentation on tail bites, to "be presented to the supervisory authority upon request". The Danish regulation also requires that "[t]he tail shall be docked as little as possible" and that "no more than half of the tail shall be docked".

With 11 and 14 rules, respectively, Germany and Spain are similar regarding the number of rules formulated more restrictively than the EU. Both countries provide pigs with more space than prescribed by the EU, and they have more specific requirements for the feed given to pregnant pigs. Moreover, Germany has stricter provisions regarding the lighting of pig stalls, and Spain defines more explicitly how tails should be docked, if the procedure proves necessary.

Notably, Germany is the only case study country that formulates a rule in a less restrictive manner than the EU. The rule in question is about the mixing of pig groups. While both the EU and Germany state that this should be avoided whenever possible, the EU additionally specifies that if it is not possible, this should be done at as young an age as possible, and that pigs should be provided with opportunities to escape and hide from other pigs when mixed. These specifications are absent from the German regulation.

With as little as five rules being formulated in a more restrictive manner, France remains closest to the rules specified in the EU directive. Thus, the regulation for pig husbandry in France closely resembles the minimum standards that apply throughout the EU.

Potential drivers of customisation

In the following, we explore potential drivers of the varying degrees of customisation that our analysis revealed for France and Spain on the one hand and Denmark and Germany on the other hand: Why is the legal context for pig farming more restricted and

Table 4
Restrictiveness of rules in the case studies' pig husbandry regulations.

Country	Unchanged restrictiveness	More restrictive than the European Union directive	Less restrictive than the European Union directive
Denmark	35 (61.4%)	22 (38.6%)	0 (0%)
Germany	44 (78.6%)	11 (19.6%)	1 (1.8%)
Spain	45 (76.3%)	14 (23.7%)	0 (0%)
France	53 (91.4%)	5 (8.6%)	0 (0%)

Absolute numbers, percentage of total transposed rules per country in brackets.

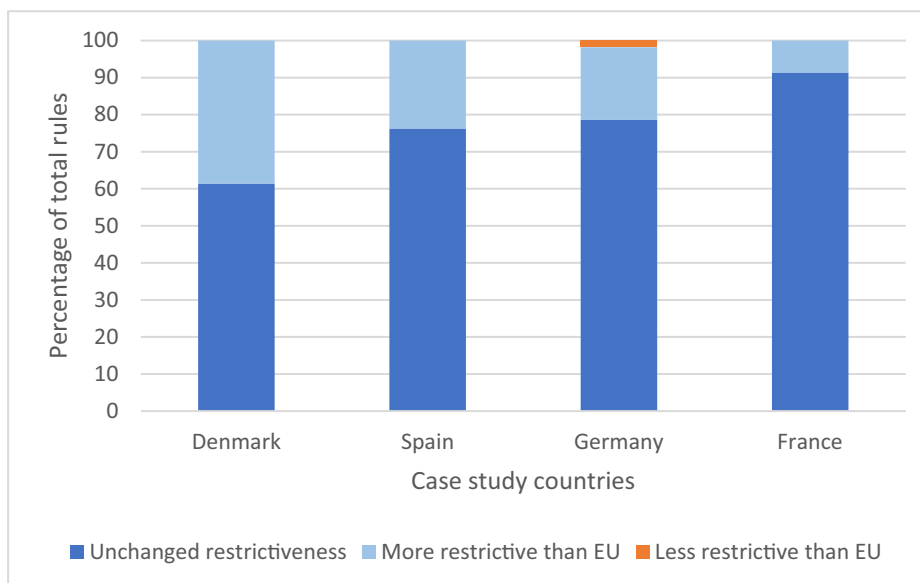


Fig. 2. Changed and unchanged restrictiveness of rules in the Danish, French, German, and Spanish pig husbandry regulations vis-à-vis the rules presented in the European Union (EU) directive (percentage of total transposed rules per country).

denser in Denmark and Germany as compared to France and Spain and also as compared to the general EU law? The ensuing discussion does not aim to establish causalities but to provide first hints that add to the explanation of the different degrees of customisation in the four cases. The findings should be transferred and tested in future studies, e.g., including other farm animal welfare directives and additional member states or complemented with further potential drivers.

Public opinion

The Eurobarometer survey reveals that in France, 64% of the French population consider it “very important” that farmed animals should “have decent living conditions”. Almost a third (32%) consider this “somewhat important”. Furthermore, 59% state that farmed animals in France should be better protected. This is 14% above the European average (45%).

With only 45% of the respondents to the Eurobarometer survey stating that they consider the protection of farmed animals’ welfare to be “very important”, the respondents in Spain come in last among the four case study countries. Also, the willingness to pay more for products sourced from animal welfare-friendly production is significantly lower than in Denmark, Germany, and France, with only 48% of respondents confirming such an intention.

In response to the Eurobarometer survey on animal welfare, 56% of respondents in Germany considered it “very important” that the welfare of farmed animals should be protected. 36% regarded this to be “somewhat important”. With almost four-fifths (79%) stating that they would be willing to pay more for products sourced from animal welfare-friendly farming systems, the German respondents exhibit the highest willingness to pay for animal welfare – 19 points above the European average (60%).

Concerning public opinion, interestingly, Denmark scores behind France in the above-cited Eurobarometer survey: Only 58% of the Danish population consider it “very important” that farmed animals should “have decent living conditions” and 31% consider this “somewhat important”. Furthermore, 41% state that farmed animals in Denmark should be better protected, which is below the European average. For the latter, the already high regulatory level as compared to other member states might add to the explanation. Interestingly, three-quarters of the Danish population

are willing to pay more for products sourced from animal welfare-friendly farming systems (European Union, 2023), which shows that there is a general awareness of the issue within society.

Political parties

The results of the comparison of party-political positions on animal welfare in the four case study countries may be accessed in an online repository via Kuenzler and Vogeler (2024). Overall, the analysis shows that, on the one hand, the differences are strongly country dependent. In Germany, farm animal welfare is addressed by all political parties represented in parliament – though to varying degrees. Accordingly, there seems to be a consensus on the importance of the issue across parties. France too exhibits a relatively high number of political parties approaching the issue in their party programs. In Spain, by contrast, animal welfare remains a niche topic, mainly addressed by green or ecological parties. Interestingly, also in Denmark, which exhibits one of the most advanced animal welfare laws in the world, animal welfare is not a major issue of party-political competition – this mirrors the findings regarding public opinion. We suspect that this is due to the generally very high regulatory level of animal welfare in international comparison. Evidence of this is the adoption of the first national animal welfare agreement which was passed by the government and supported by six political parties at the beginning of 2024, as illustrated in section 3.

The analysis reveals several key trends and differences: In France and Germany, there is a more comprehensive and detailed engagement with animal welfare policies across multiple parties. These two countries demonstrate a wider range of positions, from progressive stances advocating for extensive reforms to more conservative approaches balancing animal welfare with economic interests. French parties, particularly those within the progressive alliance “Nouvelle union populaire écologique et sociale” (NUPES), propose specific measures such as banning cruel practices, limiting animal transport times, and recognizing animal rights. German parties, especially the Greens and Die Linke, focus on promoting plant-based alternatives, addressing animal testing, and advocating for comprehensive animal welfare reforms. The positions of Spanish parties are generally broader and less concrete as compared to their French and German counterparts. The “Partido

Socialista Obrero Español" (PSOE) emphasises ethical responsibility towards animals as "sentient beings," while VOX takes a more conservative stance, opposing the "humanisation" of animals. Denmark, based on the available information, appears to have less detailed political discourse on animal welfare compared to the other three countries. The Socialist People's Party stands out with the most comprehensive animal welfare policies, including proposals for EU-wide legislation and the creation of a specific EU commissioner for animal welfare.

Across all four countries, there is a consistent divide between progressive and conservative approaches to animal welfare. Left-leaning and green parties generally advocate for more extensive animal welfare reforms, while conservative parties tend to emphasise balancing animal welfare with economic interests and traditional farming practices. Common themes across countries include improving conditions for farm animals, limiting animal transport times, and addressing factory farming. However, the depth of engagement with these issues varies significantly among countries and parties. In conclusion, while there are shared concerns about animal welfare across these European countries, the political discourse and proposed solutions vary considerably.

Discussion

Our comparison of the customisation of Council Directive 2008/120/EC represents, as to our knowledge, the first in-depth analysis of customisation in the domain of farm animal welfare. The analysis – measured via density and restrictiveness – revealed major differences between the four countries. The French and Spanish regulations remain rather close to the EU demands and only guarantee the minimum welfare requirements set for pig husbandry by the EU. This is in line with what is known about animal welfare policies more generally in France and Spain, which are rather underdeveloped and subordinated towards the goals of intensive and efficient production (Vogeler, 2019a; Carrié et al., 2023). Danish and German regulations, on the contrary, include strongly increased minimum standards for pig husbandry as compared to the EU regulation – the Danish standards going even beyond the German standards. These findings also match with what is known for Danish and German animal welfare policies in general: Animal welfare has been on the agenda in Denmark already for decades and has contributed to an ample legislative framework in both countries (Ministeriet for Fødevarer, Landbrug og Fiskeri, n.d.; Vogeler, 2019a).

With regard to explaining these differences and patterns of customisation, we have furthermore explored possible drivers of customisation, in particular party positions and public opinion. The analysis of public opinion regarding animal welfare reveals notable differences and partly surprising findings. Generally, all countries exhibit high levels of concern for animal welfare compared to the European Union average – also Spain and France. The higher level of national regulation in Denmark is mirrored in lower public concern for the protection of farmed animals. Surprisingly, especially French citizens are highly concerned about animal welfare – interestingly, this concern does not make it into national policymaking yet. Spain, on the other hand, shows the lowest concern for animal welfare among the four countries studied, in both public opinion and party statements. Thus, the link between public opinion and customisation is less clear in our analysis than in previous customisation research (Zhelyazkova et al., 2016).

Regarding party political positions, the analysis shows that in Germany, animal welfare is an important issue, with all parliamentary parties addressing it in their platforms. In contrast, Denmark, despite having some of the most advanced animal welfare laws in the world, does not see it as a major topic of political debate. This

lack of political focus in Denmark may be attributed to the already high regulatory standards in place and the consensual approach mirrored also in the latest animal welfare reforms. In Spain and France, animal welfare remains rather a niche political topic, primarily addressed by green or ecological parties. Both countries appear to be at different stages of developing public awareness and political engagement on this issue. Denmark's unique position – high regulatory standards, but less political debate – suggests that the level of political engagement may not always directly correlate with the strength of existing regulations. In Denmark, animal welfare has been on the agenda for a long time and there are continuous efforts of finding solutions for further improvements between industry, government and society. To conclude, regarding party political positions too, our analysis delivers a less clear-cut picture than what might be expected given previous theorizing on customisation drivers (Zhelyazkova et al., 2024). A possible complementation for future research is the investigation of long-standing, national cultural perceptions of farming practices and how these align or contrast with animal welfare initiatives (Bjørkdahl and Lykke, 2023).

The analysis is subject to several limitations. A first one concerns the impossibility to draw causal connections between the different levels of customisation and the analysed public opinion and party data. One reason is the lack of data on the specific sector of pigs – the analysed data deals with farm animal welfare more generally. In order to tackle this challenge, qualitative research in the form of interviews with actors involved in the policymaking processes could be a valid option for future and more in-depth case studies. A second limitation is the fact that the analysis of national law only measures the formal, legal implementation of EU law. In reality, significant deviations from the legal framework exist, partly due to insufficient enforcement and oversight. A third limitation of the present study is that it does not explore whether the observed differences in the legal implementation of animal welfare standards are specific to this policy area or indicative of broader national patterns in legal codification and regulatory practice. Future research could address this gap by conducting comparative analyses with other policy fields, such as environmental regulation, to assess whether certain countries consistently exhibit a stronger tradition of detailed legal codification. This aspect could be elaborated upon via the concept of policy styles (Battaglini and Giraud, 2003; Howlett and Rayner, 2007). Finally, our analysis is limited by the use of an online translator for the translation of directives. However, we consider the risk of misinterpretation limited by the fact that we possess substantial language skills for three of the four case study countries. Furthermore, we have conducted extensive in-person interviews on the topic in all four countries to build a well-founded knowledge base.

The findings underscore the importance of tailoring EU directives to better account for national contexts while encouraging higher animal welfare standards. The identified drivers of customisation—public opinion and political party positions—reveal pathways to strengthen alignment between EU ambitions and member state practices. To support this, fostering public awareness and political commitment to animal welfare remains essential. This study offers a foundation for policymakers to address current gaps and design more effective strategies for advancing humane farming practices across the EU. For example, future EU directives could include mechanisms to encourage customisation towards more animal welfare, such as financial incentives for stricter national standards. Moreover, stronger monitoring and transparency tools – such as harmonised animal welfare labelling schemes – could help responding to public concern with actual regulatory practice. Finally, facilitating knowledge exchange between advanced countries (like Denmark and Germany) and

later-stage adopters (such as Spain and France) might enhance overall animal welfare.

Ethics approval

Not applicable.

Data and model availability statement

The data on party political positions were deposited in the online repository Zenodo (Kuenzler and Vogeler, 2024). Information can be made available from the authors upon request.

Declaration of Generative AI and AI-assisted technologies in the writing process

During the preparation of this work, the authors used DeepL in order to translate the case study countries' regulations to English and ChatGPT in order to draft summarizing sections of the manuscript, such as the abstract or the highlights. After using these tools, the authors reviewed and edited the content as needed and took full responsibility for the content of the publication.

Author ORCIDs

Johanna Kuenzler: <https://orcid.org/0000-0003-3969-7135>.

Colette S. Vogeler: <https://orcid.org/0000-0003-0197-4205>.

CRedit authorship contribution statement

J. Kuenzler: Writing – review & editing, Writing – original draft, Visualisation, Validation, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualisation.
C.S. Vogeler: Writing – review & editing, Writing – original draft, Validation, Supervision, Resources, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation.

Declaration of interest

None.

Acknowledgements

The authors would like to thank Ramiro Berardo and Peter Feindt for useful comments on previous versions of the manuscript.

Financial support statement

This work was supported by the Deutsche Forschungsgemeinschaft [449682494].

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