

Legitimizing European Food Governance of Avian Influenza: Reflecting on the UK and Dutch Public Debates

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*Paper prepared for the Sustainable Consumption and Alternative Agri-food Systems
Conference, Arlon, May 27-30 2008*

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Abstract

In autumn 2005, highly pathogenic avian influenza (bird flu) entered European public and governance arenas as the next significant food-related threat facing Europe. As the avian influenza virus was detected in increasingly close proximity to and eventually within Europe, questions arose whether measures intervening in European food production processes and consumption practices were required. But did, and if so, why did the avian influenza threat require food governance measures in Europe? And at what level (EU, Member State or other) was it to be governed, by whom (state, market, civil society), and with which policy instruments? Starting from the premise that governance involves not only struggles over solutions for factual problems, but also struggles over definitions of problems for which solutions are to be found, this paper will analyse problem definitions and their interrelation with policy legitimization of food governance of avian influenza in the EU member states the UK and the Netherlands. It will do so via qualitative media analyses of the UK and Dutch debates on food governance of avian influenza as unfolded in the public arenas of two national newspapers each in these countries. Results of the qualitative media analyses will be corroborated via quantitative analyses. The paper will discuss how differences in socially and historically rooted problem definitions in the UK and the Netherlands relate to differences in policy making processes and their outcomes in these countries. Moreover, it will reflect on how these differences have distinct and significant ramifications for the involvement of different governance actors in European food governance, including governmental authorities, scientists, food supply chain actors, and consumers.

Introduction

Avian influenza – popularly referred to as ‘bird flu’ – is an infectious disease of birds that occurs globally, and is thought to be able to infect all bird species. Many wild bird species can carry avian influenza viruses without evident symptoms; others, including domesticated species, develop disease after becoming infected. In poultry, two forms of the virus have been identified. The common, low pathogenic variant causes disease with predominantly mild effects on birds’ well being. The highly pathogenic form, on the other hand, can cause

bird mortality rates as high as 100% within two days after introduction of the virus in a poultry flock (Cutler 2006; WHO 2006).

While most influenza viruses never jump the species barrier, a limited number of avian influenza strains are known to have infected humans, causing mostly moderate forms of disease.¹ The highly pathogenic strain H5N1 is exceptional in this regard, having caused by far most bird-to-human infections of all avian influenza strains, resulting in multiple human cases of severe disease and deaths (WHO 2006). During 2005, this avian influenza strain progressively gained prominence in European media as the next significant health and food-related threat facing Europe. Early that year, when the strain was still largely spatially confined to Asia, a suspected case of human-to-human transmission of the virus sparked media attention. Focus was placed on how to govern an impending human pandemic that would start off once the virus had acquired the capacity to not only spread from bird-to-bird and from bird-to-human, but also efficiently and sustainably among humans (Nerlich and Halliday 2007).

In the following months, media interest further augmented as the virus was found in increasingly close proximity to European borders. Simultaneously, a shift in focus took place towards the growing chance that the avian influenza virus would infect European poultry, and, via this route, would put Europeans coming into contact with and having interests in poultry at risk. Herewith, the avian influenza threat entered the realm of European food governance, as questions arose whether measures intervening in European food production processes and consumption practices were required. But did, and if so, why did the avian influenza threat require food governance measures in Europe? And at what level (EU, Member State or other) was it to be governed, by whom (state, market, civil society), and with which policy instruments?

This paper starts from the premise that food governance should not only be studied as processes in which actors struggle to devise solutions for 'objective' problems, but additionally as processes in which actors struggle to define problems such that they can handle them (cf. Hajer 1995). This starting point has been opted for based on the observation that, while science used to possess a monopoly position as supplier of trustworthy information on food governance issues, multiple risks and accidents – including animal disease-related food scares as BSE and foot-and-mouth disease – triggered a 'disenchantment of science'. The public became aware that: (i) the firmness of scientific evidence was debatable, as scientists disagreed among themselves what evidence was correct or relevant (ii); science does not only solve problems, but contributes to risks as well; and (iii) science in itself does not justify political, value-laden choices (Beck 1994; Beck *et al.* 2003; Oosterveer 2002). Consequently, policy makers can no longer trust being able to publicly legitimate policies by applying the conventional science-based risk analysis model. Due to the absence of this *a priori* trustworthy source of information, the food governance process has opened up for different actors with different rationalities to enter a struggle with the scientific rationality (Mol and Bulkeley 2002). Herewith, not only risk management issues, but also the risk assessment question concerning the definition of a food-related problem may enter the domain of public contestation – a question that is pertinent, given that the terms in which problems are discussed influence perceptions of possibilities to act, as well as ideas about responsibilities of different actors at different governance levels to act (Dean 1999; Hajer and Versteeg 2005).

¹ In total, four avian influenza A virus strains have, as far as known, caused human infections, being H5N1, H7N3, H7N7, and H9N2.

Such contestations on risk assessment and management issues are increasingly reflected in the mass media (Mol 2008). Media make publicly visible food-related hazards that escape everyday sensory experiences of most Europeans, where these hazards are undetectable save with technological aids available only to scientific experts, and have sources distant in space and time (Adam 1998; Beck 1999). Herewith, media play important roles in setting the stage for discussions on food-related hazards that would otherwise remain hidden for the public. Additionally, media mediate different expert perspectives on such hazards, and discuss political processes and their present and potential social effects in forms (more readily) understandable for large lay audiences (Adam 1998). Especially in cases of relatively new issues, such as the threat of avian influenza where “much remains speculative about how influenza viruses emerge and spread” (Morens et al. 2004, p. 247) and ideas on the subject have not yet been shaped out, the media have been found to incorporate in their coverage information on such issues as brought to the fore by different scientific, societal and political actors (Allen 2002; Jensen 2003). Due to the above-described disenchantment of science, such information has become increasingly important, as “only this [information] will allow consumers, citizens, and producers to make informed decisions, and states and science to legitimate their ‘rulings’” (Mol 2006, p. 503). Consequently, media have become pivotal arenas for governance actors aiming to gain public legitimation for their preferred perspectives on problem definitions and policy options to deal with these problems.²

In what way, then, and with the use of which arguments did food-related problems of avian influenza become defined in the public arenas of media in different EU countries? Which actors were involved in defining these problems as such? And how did these definitions interrelate with governance measures taken to deal with food-related avian influenza threats, and with the division of responsibilities of different actors at different governance levels to handle these problems? This paper will investigate these questions by analysing problem definitions and their interrelation with policy decisions on food-related avian influenza issues as covered by the two national newspapers each in two EU Member States, being the UK and the Netherlands. It will do so by applying a discourse analytical framework, which will be elaborated upon in the following section. Next, we will expound further on our methodology. After that, the UK and Dutch public media debates on food-related avian influenza issues and their interrelation with governance measures taken will be described and analysed. Finally, we will reflect on these debates, and discern implications for future research.

Legitimizing food governance of avian influenza: analytical framework

For reasons discussed above, the avian influenza threat escapes everyday experiences of the general European public. Following Beck (1999, p. 143), this “social invisibility means that, unlike many other political issues, risks must clearly be brought to consciousness; only then can it be said that they constitute an actual threat, and this includes cultural values and symbols [...] as well as scientific arguments” (p. 143). This vantage point entails that not the fact that the avian influenza virus was detected in increasingly close proximity to Europe has explanatory value concerning which governance measures would or would not be required

² This importance of the media as an arena for political struggles is also put forward strongly by Castells, where he claims that: “Outside the media sphere there is only political marginality. What happens in this media-dominated political space is not determined by the media: it is an open social and political process” (1997, p. 312). Albeit this view seems to neglect the influence of business and personal interests of media corporations and journalists in the provision of information in the media, in the case of coverage of a new issue, as discussed above, this view is rather accurate.

according to European policy makers, but that rather the ‘translation’ of these events into public knowledge of the threat must be put at the centre of analysis: “‘Risk’ and the ‘(public) definition of risk’ are one and the same” (Beck 1999, p.135). As knowledge is contextually constituted, tied to the symbols and history of one’s culture, a particular risk may be translated very differently in different countries (Beck 1999; Douglas and Wildavsky 1983). To study possible differences in this translation in the UK and the Netherlands, we will aim to gain insight in UK and Dutch discourses on avian influenza.

A discourse, in its most simple definition, is a shared way of understanding reality (Dryzek 2005). Rooted in language, it consists of a set of ideas, concepts and categorisations concerning social and natural realities that are produced, re-produced and changed in communicative practices (Hajer 1995). It allows those who subscribe to it to interpret information based on its constructions of meanings and relationships. Political power can be related to discourses in terms of actors aiming to exert power by gaining acceptance for their understanding of reality; and discourses can embody power by shaping perceptions of those subjected to them, promoting certain interests while suppressing others (Dryzek 2005).

Importantly, political power related to a discourse does not lie in its internal consistency, but is primarily derived from its multi-interpretability (Hajer 1995). When different actors subscribe to one particular discourse, this ‘discourse coalition’ is not necessarily based on coherent integration in the discourse of all specific knowledge or interests of these actors. Rather, discourse coalitions are often formed in relation to ‘story-lines’, being “narratives on social reality through which elements from many different domains are combined and that provide actors with a set of symbolic references that suggest a common understanding” (Hajer 1995, p. 62). These story-lines operate as metaphors that facilitate a reduction of discursive complexity, allowing actors to demonstrate how their knowledge fits in with knowledge beyond their own expertise or experience. This reduction of discursive complexity is necessarily accompanied by loss of meaning, as the conditionality of original knowledge and experience gets lost, or becomes re-interpreted, in the process in which different actors aim to gain insight into the ‘full picture’ and their place in it. Combined with the perceived degree of credibility, acceptability and trustworthiness of actors enacting a story-line in their communicative practices, it can exactly be this loss of meaning and the resulting multi-interpretability of a story-line that makes a story-line powerful (Hajer 1995).

Story-lines consist of narratives on the nature of a problem that put abstract facts such as the emergence of avian influenza in scientific, historical, cultural and political contexts (cf. Hajer and Versteeg 2005). Moreover, story-lines position actors in relation to this problem and its possible solutions, creating a social order in which actors are either regarded “as victims [...], as problem solvers, as perpetrators, as top scientists, or as scaremongers” (Hajer 1995, p. 65). In this way, they help to construct and legitimate specific problem definitions and their solutions to be enacted by specific actors, and to de-legitimate others – either informally through internalisation of a story-line by actors, or formally when a discourse becomes institutionalised in politics and institutional arrangements.

Based on this analytical framework, we can now reformulate our research questions as follows. Firstly, which story-lines on food-related avian influenza issues have emerged in the UK and the Netherlands; in which context did the problem become framed, and which actors became positioned in relation to the problem and its solution in what way? Secondly, which actors were involved in the discourse-coalitions subscribing to these story-lines, and with which motivations? Thirdly, did different story-lines exist, and if so, which story-line gained dominance, and why? Fourthly, did story-lines become institutionalised in food governance and institutional arrangements, and if so, which and why? And finally, did

differences in story-lines and their institutionalisation in food governance arrangements exist between the UK and the Netherlands, and if so, why, and how are these differences integrated in EU food governance of avian influenza?

Methodology

To study these questions, we have analysed the public debates on food governance of avian influenza as unfolded in two national newspapers each in the UK and the Netherlands from autumn 2005 to autumn 2006. In this paragraph we will discuss the reasoning underlying the methodological choices concerning this research design.

Avian influenza is yet another in the series of food-related threats causing much public discussion. Whereas food scares in the 1980s and 1990s have triggered transformations in the EU food governance framework (European Commission 2000; Knowles *et al.* 2007), avian influenza emerged in governance and public arenas after the new regulatory regime had largely become operative. Lacking discursive and institutional routinisation due to its relative newness in these arenas, the avian influenza case signifies a key moment of power struggle over food governance (Hajer and Versteeg 2005), providing the possibility to gain insight in the discursive and institutional functioning of the transformed EU food policy framework. The study includes the UK and the Netherlands, with the aim to gain insight in possible differences in the discursive and the interrelated institutional handling of the food-related avian influenza threat in these countries, as well as in the relation between food governance at Member State and EU level. The countries of choice are particularly interesting to study in this regard, as previous research has indicated country-specific differences between their handling of previous food-related threats (Oosterveer 2002), allowing for an evaluation of whether and how such differences are incorporated in the EU regulatory regime.

Following from our analysis that the mass media have become pivotal arenas in which struggles on the legitimacy of European food governance are reflected, we have studied debates on avian influenza as mediated in national newspapers – the choice for this mass medium being based on the practical availability of full-text newspaper articles via the internet-based archive LexisNexis. For the UK case, the national newspapers *The Guardian* (henceforth abbreviated as *G*) and *The Times and Sunday Times* (henceforth *T*) have been selected; for the Dutch debate, this selection included the national newspapers *De Volkskrant* (henceforth *VK*) and *NRC Handelsblad* (henceforth *NRC*). These newspapers have been opted for so as to include possibly diverging views on the governance of avian influenza, as in both countries these national broadsheets are traditionally positioned respectively left and right of the centre of the political spectrum. Full-text articles were selected with the use of LexisNexis by searching for articles including the synonyms *bird flu*, *avian flu* or *avian influenza* in the UK broadsheets archive; in the Dutch broadsheets archive the search terms *vogelgriep* (bird flu), *vogelpest* (bird plague) and *aviaire influenza* (avian influenza) were used.

For this initial selection, articles published between August 11, 2005 and one year later, August 11, 2006 were included.³ At the former time, reported outbreaks of the highly pathogenic H5N1 strain of avian influenza in poultry in the Russian Federation and Kazakhstan portended the prominent entrance of a substantial discussion in the Netherlands, and herewith also in the UK (for reasons discussed in the following paragraph), on how to

³ The initial selection of Dutch newspaper articles yielded 276 documents in *De Volkskrant* and 350 documents in *NRC Handelsblad*. The initial selection of UK newspaper articles resulted in 93 articles in *The Guardian* and 135 articles in the *Times and Sunday Times*.

deal with the threat of avian influenza outbreaks in poultry in Member States. Herewith, debates on avian influenza came to include a focus on food governance of avian influenza within the EU.

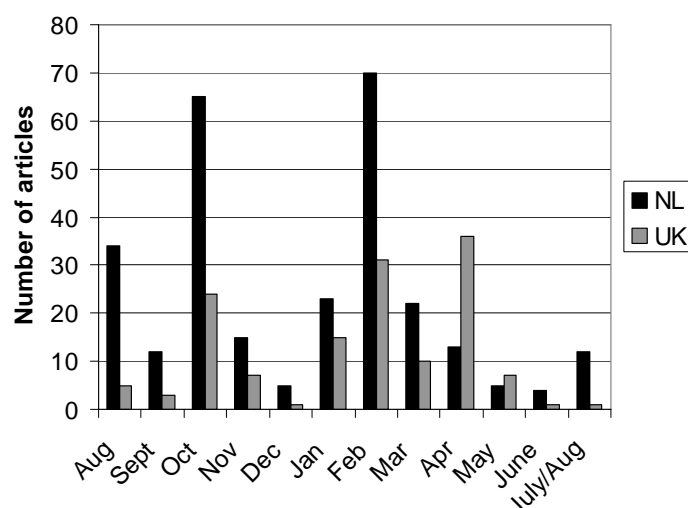
The UK and Dutch public debates on avian influenza were studied by applying the *ethnographic content analysis* method (Altheide 1996). Ethnographic content analysis, or *qualitative document analysis*, is characterised by iterative interaction between the investigator and the processes of concept development, data collection via theoretical sampling, and document analysis. Categories initially steer the study, but others are expected to emerge in the research process. Via “*constant discovery and constant comparison*” (Altheide 1996, p. 16, *italics in original*), explanatory power is derived from clear descriptions to exemplify relevant categories. This qualitative method does not oppose quantitative methods; rather, quantitative data will be used to corroborate categorisations derived from the qualitative analysis.

Based on this iterative method, a final selection of articles to be included in the analysis has been made. In this final selection, the following articles were incorporated: (i) those which contained reasons underlying the emergence and/or (potential) spread of avian influenza to and among poultry, and from poultry to humans; (ii) those which contained food-related definitions of (potential) problems for the UK, The Netherlands or the EU with respect to avian influenza; and (iii) those which contained solutions for (potential) food-related problems for the UK, The Netherlands or the EU with respect to avian influenza.

The articles included in the final selection have been analysed in terms of occurrence of story-lines, and the composition of discourse-coalitions subscribing to them with the aim to answer the first three research questions as defined at the end of the previous paragraph. To answer the fourth research question, we have analysed to what extent these story-lines are related to relevant developments of the institutionalised Dutch, UK and EU policy frameworks concerning food-related measures to control avian influenza. For this analysis, official policy documents have been used as reference sources in addition to newspaper articles. Finally, reasons underlying possible differences in UK and Dutch story-lines and their institutionalisation in food governance of avian influenza will be discerned and discussed in relation to EU food governance of avian influenza.

The UK and Dutch public debates on avian influenza

Application of the above-described selection criteria resulted in the selection of a total of 141



UK newspaper articles, and 280 Dutch newspaper articles. Figure 1 further specifies the number of selected articles according to country per month. Based on these articles, in the following sections we will set forth the Dutch and UK public debates on food-related problems concerning avian influenza and solutions to these problems. After that, we will explicitly analyse and compare these debates.

Figure 1: Number of selected articles according to country per month, from 11 august 2005 until 11 august 2006

The Dutch public debate on avian influenza

Setting the stage: the 'natural threat' of history repeating itself

Late July and early August 2005, the Russian Federation and Kazakhstan reported outbreaks of the highly pathogenic avian influenza virus H5N1 in poultry. These outbreaks were attributed to contact between poultry and infected wild birds (WHO 2005). Reacting on these reports, members of Dutch parliament asked the Minister to issue the requirement to keep all poultry indoors as soon as possible so as to avoid infections of Dutch poultry by wild birds (VK August 12, 2005; NRC August 17, 2005). A sense of urgency was present: as a Dutch member of parliament phrased it, “the situating is threatening, everyday counts” (VK August 12, 2005). Based on this sense of urgency, which was soon communicated by a broad coalition of Dutch actors as will be discussed below, the Minister of Agriculture decided to enact a temporary requirement to keep all commercial poultry indoors or under cover from 22 august onwards (LNV 2005a & b).

Arguments underlying the Dutch precautionary stance regarding the avian influenza threat were for an important part based on references to an avian influenza epidemic that hit the Netherlands in 2003. This avian influenza epidemic involved a highly pathogenic H7N7 virus. To fight the outbreak, 30.175.000 birds were culled, making up 30% of the entire flock kept in the Netherlands prior the outbreak (VWA 2003). One veterinarian deceased after becoming infected with the virus.

Reference to this 2003 outbreak was included in the argumentation underlying the scientific risk assessment that helped to inform the Minister’s policy decision to order all commercial poultry indoors. The Minister of Agriculture’s committee of scientific experts on avian influenza, which was set up in response to the 2003 outbreak (LNV 2005b), stated that it could “not rule out” the possibility that migratory birds would infect Dutch poultry (NRC August 17, 2005).⁴ Virologist professor Albert Osterhaus, a prominent member and main spokesperson of the Dutch committee of experts,⁵ argued that “one [infected] bird suffices. We know that the bird flu outbreak in the Netherlands in 2003 came here via geese. We simply cannot run that risk” (VK August 27, 2005). To minimise the risk as much as possible, foreclosing contact between Dutch poultry and infected wild birds by means of keeping poultry indoors was advisable, according to Osterhaus (*Ibid.*).

Reference to the 2003 epidemic was also made by different non-scientific actors who supported the Dutch precautionary measure. The Minister of Agriculture himself emphasized that the Netherlands had learned its lesson when it had to cull about 30 million birds to overcome the 2003 epidemic (VK August 17, 2005). To avoid having to fight a new Dutch epidemic, he took precautionary measures “[r]ather one week too early than fifteen seconds too late” (NRC September 21, 2005). A Dutch Member of European Parliament added that the death of the Dutch veterinarian during the 2003 outbreak further justified the precautionary approach (NRC August 26, 2005). The chairman of the Dutch Union of Poultry Farmers posed that: “We must aim at avoiding an outbreak by all means. The sector will not

⁴ See also: *Advies van de ‘Groep van Deskundigen’ m.b.t. de uitbraken van HPAI in Rusland*, attached to the letter to parliament *Maatregelen i.v.m. risico insleep Aviaire Influenza of 31-08-2005 (VD. 2005/2475)*. Available at:

http://www.minlnv.nl/portal/page?_pageid=116,1640506&_dad=portal&_schema=PORTAL&p_news_ite_m_id=20080

⁵ The prominence of Osterhaus is for instance indicated by the sentence: “Say ‘bird flu’, or just ‘flu’, and you say ‘Ab Osterhaus’” (VK August 27, 2005). The Guardian referred to Osterhaus as “the world expert on avian flu at Erasmus University in the Netherlands” (G April 7, 2006).

survive a new bird flu epidemic.” (VK August 17, 2005). More generally, the 2003 outbreak had left ‘many scars’ in Dutch society according to Osterhaus, as “the spectre of having to cull ten million chickens is still present” (VK August 26, 2005).

Experts of other EU Member States held the risk of virus spread into the EU via migratory birds to be “remote or low” at that time. A general ban on keeping poultry outdoors would therefore be “disproportional” to the risk at hand (European Commission 2005a). European Commissioner of DG-SANCO Markos Kyprianou was reported to be warning the Netherlands that its unilateral action disturbed coordination within the EU (VK September 21, 2005). Nonetheless, the Netherlands persisted in applying the precautionary measure because it would have learned its lesson from its experience of the 2003 outbreak, publicly defending its stance on the arguments discussed above.

In addition to these arguments referring to the 2003 avian influenza outbreak, Osterhaus argued that Dutch experts, unlike many European colleagues, realised that bird migration routes included not only southwards, but also westwards movements, meaning that migratory birds could potentially bring avian influenza from Russia and Kazakhstan to the Netherlands. Moreover, with its high poultry densities, coupled with a high number of poultry kept outdoors near resting places of large amounts of migratory birds, the Netherlands would also be particularly at risk of having to deal with disastrous consequences of avian influenza. Finally, Dutch farmers would possess the infrastructure to house free-ranging poultry whereas in other Member States like the UK and France such infrastructure would be absent, triggering resistance against the measure in these countries on these practical grounds (VK August 26, 2005 & NRC September 6, 2005). Defending the Dutch unilateral precautionary measure, Osterhaus summarised the reasoning underlying the Dutch move by expressing “hope that with hindsight we can conclude that the Dutch position was a bit hard. But do we want to take a small risk on a big disaster?” (VK August 26, 2005).

In October 2005, a variant of avian influenza that was relatively similar to the virus found earlier in 2005 in Siberia was detected in Turkey and Romania in domestic poultry (OIE *online*), sparking much public discussion as the virus appeared to be approaching Western Europe (see also Figure 1). Moreover, the similarity between the viruses found in Siberia, and Turkey and Romania could indicate virus spread via migratory birds, also according to non-Dutch European experts seated in the Permanent Committee for the Food Chain and Animal Health (SCFCAH) (European Commission 2005), convincing European Commissioner Kyprianou that “[w]e have to work with the hypothesis that migratory birds can carry the virus” (NRC October 14, 2005). According to Osterhaus, this showed that the Dutch move to order poultry indoors had been prudent, and that the EU and many EU Member States had misjudged this move as being disproportional (VK October 14, 2005). Yet, the European Commission did not issue a general requirement to keep poultry indoors in the EU, as risk situations would differ significantly in Member States. Instead, the Commission decided to leave it up to Member States to assess risks of virus spread via migratory birds within their territory based on commonly agreed EU-wide risk factors and to implement appropriate measures – including keeping poultry indoors in at-risk areas (European Commission 2005c).

Opposing voices and an alternative discourse

In the Dutch public debate, two groups of actors advocated alternative views on the risk posed by wild birds, resulting in calls to Dutch government to revise its policy of ordering poultry indoors. First, experts on migratory birds doubted whether these birds could infect Dutch poultry with avian influenza during fall 2005. These doubts were based on the ideas that: (i) the Netherlands would not be situated on migratory routes of infected birds; (ii) it

was unlikely that infected migratory birds would be sufficiently healthy to fly large distances; (iii) and *if* infected wild birds would reach Dutch territory, it was held to be unlikely that they would infect Dutch poultry⁶ (VK, August 27, 2005; NRC August 17, 2005; NRC October 14, 2005). Without calling the theoretical background of the cause-effect chain of the a possible introduction of avian influenza as described in the previous paragraph into question, these experts argued that the probability that wild birds would actually infect Dutch poultry in 2005 to be so small that the Dutch unilateral measure of ordering poultry indoors could indeed be ‘disproportional’ to the risk at hand.⁷

Second, a group of actors subscribed to an alternative discourse on the threat of avian influenza. This group consisted, firstly, of scientists who deemed routes of infection besides those flown by migratory birds to pose more serious risks of virus spread. Such alternative routes would include human travelling (VK August 27, 2005) and trade in poultry products (VK February 10, 2006), combined with high poultry concentrations in intensive holding systems in which the virus could easily spread (VK, February 25, 2006). Not wild birds would have introduced avian influenza in the Netherlands in 2003, but the virus would be imported with turkeys from Italy (VK October 19, 2005). Focus would be placed on migratory birds so as to distract attention from the core of the problem: the high poultry densities in the Netherlands, an ecology professor argued (VK February 25, 2006).

These latter arguments were, secondly, endorsed by interest groups of organic farmers. Whereas, as the director of a Dutch interest group for organic farmers claimed, “[t]he real problem is the enormous density of large factory-farms with a great deal of animal movements” (VK August 17, 2005), organic and free-range farmers were forced to alter their farming practices (VK January 3, 2006). As a result, animal welfare levels decreased significantly, so it was argued (NRC September 22). Intensive poultry farmers, on the other hand, were allowed to continue business-as-usual. In this view, the Dutch Minister of Agriculture “meets the wishes of factory farmers” at the expense of organic farmers (NRC August 19, 2005). Thirdly, also animal welfare campaigners contended that not migratory birds are contributing most to the risk of virus spread, but that the modern livestock farming practices, including international transportation of animals (VK October 18, 2005) and the constant dispensing of dung and faeces in intensive holding systems (VK February 25, 2006), are more significant risk factors concerning this issue.

Despite these dissenting voices, migratory birds were continuously regarded as sources of potential virus spread to the Netherlands from August 2005 onwards. Whereas voices propagating the alternative discourse were included in 32 articles in the corpus of Dutch newspaper articles, contentions that wild birds were (most likely) spreading avian influenza were incorporated in 125 articles in this corpus, indicating the dominance of this latter problem definition. What is more, to avoid infections of poultry via wild birds, Dutch government institutionalised the latter story-line by recurrently ordering poultry indoors during bird migratory seasons and when outbreaks occurred relatively near to Dutch

⁶ Experts expected that migratory birds only defecate – and herewith spread the avian influenza virus – while residing on the ground. Birds flying over Dutch territory would hence not pose a risk of virus spread. If infected birds would land on Dutch territory, they would most likely touch down near wet areas, which are located on a large distance from the highly concentrated poultry farms, making an infection of commercially held poultry via migratory birds improbable (De Volkskrant, August 27, 2005 & NRC August 17, 2005; October 14, 2005).

⁷ Articles reflecting voices arguing that wild birds did not yet pose a significant threat to Dutch poultry in autumn 2005 numbered ten, all in the months of August, September and October.

territory.⁸ An alternative solution to confining poultry was, however, envisioned: preventive vaccination of free-ranging poultry.

Preventive vaccination: an alternative policy instrument?

Throughout the Dutch debate, preventive vaccination of poultry was propagated by a group of actors consisting of Dutch government and members of parliament, scientists, and free-range and organic poultry farmers. The Dutch Minister of Agriculture posed that preventive vaccination would be a more effective measure to fight avian influenza than keeping poultry indoors (VK November 23, 2005). Moreover, the Minister argued that preventive vaccination could be an alternative to “preventive culling of millions of healthy animals at an outbreak of the bird flu [which] is out of date. The societal resistance [against it] is very large” (VK February 23, 2006). Also a majority of members of Dutch parliament propagated preventive vaccination so as to avoid having to cull preventively such as conducted to fight previous animal disease outbreaks in the Netherlands (NRC October 19, 2005). Free-range poultry farmers argued that preventive vaccination would be an efficient alternative to keeping poultry indoors, and herewith would overcome the negative impact on the welfare of their poultry caused by confining these normally free-roaming birds (VK February 22, 2006).

Whereas the Netherlands was eager to implement the policy measure of keeping poultry indoors unilaterally, the Minister of Agriculture refrained from implementing preventive vaccination against avian influenza unilaterally, because “Brussels does not allow it” (NRC October 14, 2005). In order to avoid other EU Member States closing their borders for Dutch poultry products, preventively vaccinating Dutch poultry would only be possible if the entire EU would start vaccinating, the Minister argued (VK November 23, 2005).

Science-based reasons underlying the EU ban on preventive vaccination⁹ would include the difficulty to differentiate vaccinated from infected animals, as both carry antibodies against avian influenza. This would be especially problematic, because infected vaccinated animals would still be able to spread the virus, allowing it to spread by ‘stealth’ (NRC February 22, 2006). Dutch scientists refuted that effective methods to differentiate between vaccinated and infected animals exist (VK February 22, 2006). A lack of knowledge about veterinary epidemiology would withhold policy makers from allowing this measure to be implemented (VK November 29, 2005).

Economic reasons underlying the ban would centre on refusal of third trading parties, such as the US and Japan, to import meat of animals vaccinated against avian influenza. However, the costs of fighting an avian influenza outbreak would be higher than preventing it by vaccinating preventively at the cost of losing these export markets, Dutch politicians argued (VK February 27, 2006). Moreover, the large European consumer resistance against – or even ‘taboo’ on (VK November 23, 2005) – vaccinated products, which would incite supermarkets to refuse to retail such products (VK October 19, 2005), would underlie the EU ban. Dutch experts, conversely, argued that “[t]he consumer wants poultry – once put in shacks to protect its health – to return in the meadows. Then it is at risk of [becoming infected with] avian influenza, it is as simple as that. Therefore you will have to protect the birds with vaccines” (NRC February 23, 2006). Moreover, they emphasised that “the

⁸ This requirement was, after being annulled from January 1 onwards, re-issued from 20 February 2006 until May 1 2006 (LNV 2005c; 2006a & b)

⁹ This prohibition was enshrined in Directive 92/40/EEC.

products of vaccinated poultry have no negative effect on human beings at all” (VK November 29, 2005).¹⁰

On 20 December 2005, the possibility to conduct preventive vaccination of poultry for the control of bird flu under specific circumstances has been enacted in the EU Council Directive 2005/94/EC. The Ministry of Agriculture submitted a preventive vaccination plan including the practicalities of the Dutch intentions to facilitate voluntary preventive vaccination of hobby-poultry and laying hens in free-range and organic production systems to the European Commission on February 21, 2006. A day after submittal, the European Commission approved the Dutch plan (European Commission 2006; LNV 2006c). As a result, Dutch free-range poultry farmers could choose to vaccinate their flocks preventively (LNV 2006c), attracting much media attention in February 2006 (see also Figure 1).¹¹ Vaccination was voluntary because, according to the Minister of Agriculture, keeping poultry indoors would also be an efficient precautionary measure, and vaccination could endanger poultry trade (VK February 21, 2006).

As not all commercial poultry farmers, but only farmers keeping free-ranging poultry were allowed to opt for preventive vaccination, experts argued that efficient prevention was unlikely. The chance that avian influenza would be introduced in Dutch poultry could decline, but outbreaks could still occur, necessitating mass culling – in which vaccinated poultry could possibly not be spared (NRC February 25 & March 21, 2006). Preventive vaccination was, however, offered as an alternative to keeping poultry indoors or under cover (LNV 2006c), fitting in the Dutch strategy to fight animal diseases in a “more socially responsible” manner (NRC February 25, 2006).

Yet, despite the offer of voluntary vaccination as an alternative to keeping poultry indoors and to potential mass culling of poultry if an outbreak of avian influenza was to occur, the Dutch voluntary vaccination policy was portrayed as unsuccessful – or, according to a member of the Dutch liberal party, even a “big fiasco” (VK April 13, 2006). The chairman of the Dutch Organic Poultry-farmers Association argued that, although farmers would consider preventive vaccination to be the best option to control avian influenza, it would only be a viable option if farmers could continue to market their products. Dutch supermarkets reportedly agreed to put products of vaccinated poultry on their shelves (VK February 22 & May 1 2006). German supermarket chains, however, would refuse to do so out of fear that consumers would repudiate these products (VK February 23, 2006). Since approximately one third of Dutch poultry meat and 90% of Dutch eggs would be destined to be exported to Germany, vaccinating ones flocks was not an option for most commercial poultry farmers: “If the export fails, you go bankrupt, so you do not vaccinate” (VK May 1, 2006).

The safety of poultry products and they eye of the consumer

As avian influenza outbreaks in poultry were reported in increasingly close proximity to, and eventually within EU borders, questions arose whether poultry products available on the EU internal market could contain the virus, and whether this would entail a food safety problem.

¹⁰ In the corpus of Dutch newspaper articles, only one Dutch expert, a veterinarian, argued against any policy including preventive vaccination against avian influenza, because vaccination could mask the presence of the virus in poultry, allowing a ‘peat-moor fire’ of virus spread to come into existence (VK February 25, 2006).

¹¹ The peak in the number of articles devoted to food-related avian influenza issues was, however, not only caused by this change in the vaccination policy. Much attention in this month was also devoted to the detection of avian influenza H5N1 in relatively close proximity to Dutch borders, most significantly in wild birds in Germany and in domestic poultry in France (see also: OIE *online*).

Puzzlement about this subject arose in Dutch media when the European Food Safety Authority (EFSA) would have warned consumers to cook eggs and poultry meat properly before consumption, as it could not rule out the theoretical possibility that consumers could become infected with avian influenza via foodstuffs. The European Commission, however, at the same time argued that no food safety problem was present as its precautionary approach would assure that only safe products would enter the market, for instance by banning poultry products coming from countries where avian influenza was detected (*NRC* October 26, 2005). The Dutch Food and Consumer Protection Authority soon argued this line of communication was confusing. No food safety problem concerning avian influenza would exist, as humans could not become infected via digesting the virus. Cooking poultry products would be prudent so as to avoid for instance salmonella infections (*VK* October 27, 2005). The safety of products of vaccinated poultry was likewise discussed: it would be completely safe, but required proper cooking so as to avoid salmonella infections and food poisoning (*VK* February 21, 2005). As mentioned above, Dutch supermarkets reportedly sold products of vaccinated poultry.

In the Netherlands, consumer trust in poultry products ostensibly remained high: falls in poultry sales of no more than 5% to 10% were reported (*VK* February 22, 2006; *VK* March 21, 2006). Declines in poultry sales in other Member States would however be far more significant, with falls of 70% in Italy and 20% in France being reported (*G* February 21, 2006; *VK* February 22, 2006). As a consequence, poultry sectors of these countries tried to increase their exports to other Member States by lowering their prices: “Our most important export market is Germany. The Italian poultry sector tries to get rid of its chicken there at the moment as well, making competition tougher”, the secretary of the Dutch Organisation of Poultry-keepers argued (*VK* February 22, 2006). Herewith, not primarily Dutch consumers and supermarkets, but consumers and supermarkets of other EU Member States would principally impact on the economic position of the Dutch poultry sector, as well as on the economic and herewith practical viability of choosing for preventive vaccination in the case of free-range and organic poultry farmers.

The UK debate on avian influenza

Setting the stage: avian influenza as a future threat

The Dutch precautionary approach of ordering commercial poultry indoors from 22 August onwards pressured UK actors to define their position on measures to avoid infections of British poultry in public (*T* August 23, 2005). Based on a scientific risk assessment combined with economic, and animal health and welfare arguments, the risk of virus spread to the UK was predominantly discussed as being a future threat brought upon the UK by infected wild birds. In view of this future threat, confining poultry already in autumn 2005 would be an inappropriate measure. Congruent with this perceived lack of immediacy of the avian influenza threat, relatively little attention was devoted this subject in the UK debate in August and September 2005 (see Figure 1).

The Department for Environment, Food and Rural Affairs (Defra) argued that the presence of avian influenza in Russia could signify an increased risk of virus spread by migratory birds to the UK. However, ordering poultry indoors would “not be proportional to the risk” of virus spread to the UK by migratory birds according to Defra, as “the evidence as it is shows the risk to be low” (*T* August 23, 2005). The head of the British Veterinary Association Bob McCracken affirmed this statement by expounding that: “I don’t believe there is any large risk at this moment in time,” while adding that “we have to prepare for the

fact that the virus will eventually come here” via pro-active surveillance of birds in at risk areas (*G* August 26, 2005). After meeting with industry bodies, Defra posed it was also taking up this preparation in cooperation with industry: “There will be continuing dialogue to ensure we are best prepared to meet any heightened risk of disease or any future outbreak. We are continuing to review together the assessment of the risk of avian influenza but are content that the risk remains low and there is no need at this stage for the industry to be asked to bring indoors free-range birds” (*G* August 24, 2005).¹²

Organisations representing free-range poultry farmers supported this position for different reasons. The Soil Association – representing organic farmers – argued that confining poultry “would be a nightmare from a cost, welfare and disease point of view” (*T* August 23, 2005). In the UK, it was argued, many free-range farmers do not possess sheds to house birds, requiring costly sheds to be built if poultry was to be confined; housing the birds would significantly decrease their welfare; and flocking birds together indoors would, while combating avian influenza, “increase the chance of other diseases spreading” (*T* August 23, 2005; *G* October 19, 2005). The British Free-Range Egg Producers Association opposed bringing poultry in, fearing a consumer backlash: “What is the consumer going to think, who pays a premium for free range eggs?” (*T* August 23, 2005). What is more, problems relating to confining poultry would be more significant in the UK than in the Netherlands, as in the UK the number of birds kept outdoors is about three times as large as in the Netherlands (*T* August 23, 2005; *G* October 19, 2005), entailing differences in weights on the scale of proportionality of a measure as bringing poultry indoors in the two countries.

Alternative voices in the UK public debate: to confine poultry or not to confine poultry...

Voices arguing that UK government misjudged the risk of virus spread to the UK were raised from the moment Dutch government ordered poultry indoors for the first time – as from August 22, 2005 – onwards. These voices focussed on countering the risk assessment and interrelated risk management decision not to order poultry indoors, rather than on alternative routes of introduction of avian influenza such as via intensive poultry farming and trade practices.¹³ More particularly, these opposing voices argued that the risk of virus spread to the UK was a present threat, which would make confining poultry prudent. However, as the virus was found in increasingly close proximity to – and eventually within – UK borders, counter-arguments to these opposing voices were continuously raised: the risk that infected wild birds would cause an avian influenza outbreak in UK poultry would not necessitate an order to confine poultry in the whole of the UK.

Scientists studying avian flu from a human health perspective – most notably Professor John Oxford, virologist of Queen Mary's medical school – deemed bringing poultry indoors in the UK prudent as from fall 2005, because “[i]t is not out of all possibility that we could be at risk” (Professor Oxford in *T* August 23, 2005). The National Farmers' Union expressed willingness to support a governmental move to bring poultry indoors – if government would guarantee free-range produce could continuously be sold with a premium – because “the costs of avian influenza striking here just don't bear thinking about” (*Ibid.*). The organic farmers' Soil Association strongly opposed such a potential move: “You have a situation where you are being told avian flu could reach here in a year, or five or 10. Do

¹² See also: Defra, International Animal Health Division, Qualitative Risk Assessment, Highly pathogenic Avian Influenza (H5N1) in Russia, 8 August 2005, available at: <http://www.defra.gov.uk/animalh/diseases/monitoring/pdf/hpai-russia090805.pdf>; Accessed 21-2-2008

¹³ In the corpus of UK articles, only in five articles actors aimed to define the avian influenza threat as a result of intensive farming practices and poultry trade.

farmers have to keep their poultry inside all that time? If you do this you would be destroying the most successful part of the farming sector - the growth of free range and organic” (*G* October 19, 2005). As described above, Defra argued that ordering poultry indoors would be “disproportional to the risk” at that time (*Ibid.*).

As cases of avian influenza in wild birds were being reported by Germany and France in the midst of February 2006, leading to more media attention than in any of the previous months as the virus appeared to be heading for the UK (see Figure 1), the then Animal Health Minister Bradshaw argued that “clearly, the closer it gets to us the risk grows. But the risk according to vets is still low” (*T* February 18, 2006): areas where infected birds were found would not be situated on migratory routes towards the UK (*G* February 20, 2006). The minister did, however, appeal “to poultry keepers to be ready to house their birds should such an order be issued, which would happen if there were [...] an outbreak to be found in this country” (*G* February 20, 2006). This stance provoked professor Oxford to argue that, although British officials would be very capable to handle an outbreak, “the gaping chasm seems to me that they are not prepared to act to stop one coming.” Other countries, including the Netherlands, would be better organized than the UK, which was still attempting to complete registration of poultry held on premises in the UK¹⁴ in February 2006, according to Oxford. Professor Sir David King (the then UK government’s Chief Scientific Adviser), however, defended the UK government decision: “Enclosing the flocks will be the proper response if the virus arrives here, but it would not be proportionate at this stage. If we were to do it now, we would be effectively bringing an end to the very large organic and free range industry we have.” (*T* March 3, 2006).

When on April 5 the first UK case of the highly pathogenic H5N1 avian influenza strain was detected in a wild swan in Fife, Scotland, the Scottish executive ordered poultry to be brought indoors (or separated from contact with wild birds) in a 2,500 square km Wild Bird Surveillance Zone around Fife (Scottish Government 2006). Immediately, voices were calling for an order to house birds across the UK: for instance, the then former president of the British Veterinary Association McCracken stated: “[i]f I were a poultry keeper, if it were possible I would be moving my birds indoors before it becomes mandatory to do so”, while adding that “[t]he time is fast approaching when we will need to order birds inside throughout Britain.” Yet, in the absence of evidence that the single dead swan could signify the beginning of wider infections in the UK, government argued that ordering poultry indoors as a general measure would, again, be “disproportionate” to the risk at hand (*G* April 7, 2006).¹⁵ When no further infections were found, restrictions in the Wild Bird Surveillance Zone were lifted on May 1 (Defra *online* a), and the food-related avian influenza threat, which was much discussed in April, became far less prominent in the UK public debate again (see Figure 1).

Nonetheless, with the possibility of confining poultry being regularly discussed in the UK, groups of organic and free-range farmers feared for the continuation of their farming practices. This fear was further instigated by the then UK government’s Chief Scientific Adviser Professor King, who argued that when avian influenza would become endemic in the UK “organic farming and free-range farming would come to an end” (*G* June 7, 2006) as all poultry would then have to be housed continuously. To avoid having to bring their poultry indoors, free-range and organic farmers, together with several other UK actors, pressed UK

¹⁴ The ‘Great Britain Poultry Register’ was opened on December 9, 2005 “to gather essential information about certain species of birds held on premises in Great Britain. This information will help reduce the impact of a disease outbreak” (Defra *online* b).

¹⁵ See also: Defra (2006).

government to allow them to apply an alternative measure to control avian influenza, being preventive vaccination.

Preventive vaccination: an alternative solution to a future problem?

Free-range farmers propagated such vaccination as an alternative to a potential governmental order to house their poultry, which could forestall the collapse of their business as they did not have room to house their birds (*G* February 21, 2006). Moreover, vaccination could avoid “medieval” mass slaughter, a spokesperson from the Soil Association posed (*G* October 26, 2005).¹⁶ Yet, despite the notion that vaccination would be “a solution any birdbrain should see”, as the headline of a column read (*T* February 22, 2006), UK government did not consider preventive vaccination of British free-range poultry to be a viable option.¹⁷ Reasons included, first, fear that vaccination could ‘mask’ the presence of avian influenza in UK poultry: “I would be very concerned about the spread with the current vaccine. What it means is that every time you vaccinate you have to increase surveillance because signs of the disease are not very obvious,” professor King argued (*G* April 6, 2006). Second, practical difficulties would make preventive vaccination unfeasible in the UK: “the logistics would be very difficult. Every bird would have to be vaccinated twice, with stress on the birds and the handlers,” the president of the British Veterinary Association said (*G* February 21, 2006). Based on these scientific and practical arguments, Defra argued it preferred to rely on early detection, movement controls and slaughter of infected birds to eradicate potential avian flu outbreaks swiftly. It added not to have a principle objection to preventive vaccination: “Vaccination offers potential benefits but currently available vaccines are too limited to provide a general solution... we, of course, keep our policy under review as the vaccine manufacturers continue to develop their products” (*Ibid.*)

Avian influenza, preventive vaccination and the safety of poultry products

In the UK, attempts were made to frame the threat that avian influenza posed to Europe as an economic and animal health risk, and not a food safety risk. UK health secretary Patricia Hewitt stated that “[t]his is a bird disease. There is no reason for people to stop eating poultry” (*G* October 18, 2005). Additionally, the UK Food Standards Agency stated that eating poultry products would entail no human health risk related to avian influenza. As long as poultry meat and eggs were cooked properly – words of caution no different than those issued to avoid salmonella infections – it would be safe to eat (*G* October 27, 2005). The UK poultry industry was eager to repeat such advice: “Scaremongering will destroy the British poultry industry,” the president of the National Farmers’ Union (NFU) argued. “Remember eating chicken, meat and eggs, cooked properly, is safe” (*T* February 27, 2006). Moreover, the NFU urged consumers to “buy British”, so they would know what they would be eating (*T* February 16, 2006).

Buying British could, for instance, assure consumers that they would not be eating products of poultry vaccinated preventively against avian influenza. Products of vaccinated poultry from the Netherlands and France could, however, potentially enter the UK market. The chief executive of the British Poultry Council predicted that “[i]t is likely to go into ready meals or be sold by wholesalers for the catering trade, restaurants, pubs and takeaways” (*T* February 24, 2006). UK supermarkets, like their German counterparts, would not market these products out of fear for declining levels of consumer trust in poultry

¹⁶ Voices arguing in favour of preventive vaccination of UK poultry were included in ten of the UK newspaper articles.

¹⁷ See also: Avian Influenza (Preventive Measures) (England) Regulations 2006, No.2701

produce, the director-general of the British Retail Council stated: “retailers will wish to shore up confidence in chicken sales and will not damage customer confidence by mixing meat from vaccinated birds with their normal supplies” (*Ibid.*).

The four largest UK supermarket chains reported no fall in demand for poultry products (*G* October 28, 2005; *T* April 9, 2006), “so obviously the message is getting through to consumers that this isn't a food safety issue” (*T* April 8, 2006), a spokesperson of Tesco supermarkets argued. The reported significant declines in poultry sales in EU Member States such as in Italy and France being reported (*G* February 21, 2006), arguably leading poultry sectors of these countries to increase their exports to other Member States by lowering their prices, which could significantly affect the economic position of UK poultry farmers (*T* February 17, 2006). To support these farmers, consumers were called upon to look out for British produce (*Ibid.*).

Discussion: UK and Dutch story-lines on avian influenza

In view of the food-related threat of avian influenza, the UK and the Netherlands have adopted very different strategies. Whereas the Netherlands adopted an ‘anticipate-and-prevent’ policy approach, the UK policy leaned more towards a ‘react-and-cure’ approach (cf. Hajer 1995). Reasons underlying these different approaches were interrelated to differences in the respective ‘translations’ of the problem posed by avian influenza: in the Dutch public debate the avian influenza threat became defined as a threat immediately requiring the confinement of poultry so as to avoid a looming introduction of the virus in the country via wild birds; in the UK public debate it became defined as a future threat that only required a precautionary move as ordering poultry indoors once the virus was detected – and later on, would cause an outbreak or would become endemic – in the country.

Factors contributing to these differences were not primarily based on differences in the scientific risk assessments in the UK and the Netherlands; Dutch scientists could *not rule out* virus spread via wild birds to domestic poultry, while UK experts’ assessed this risk to be *remote or low*, both indicating that the chance that poultry would become infected was small but real. Rather, from the Dutch and UK public debates we can discern the following context-specific reasons underlying these differences.

In the Netherlands, a broad coalition was able to successfully advocate precautionary measures favouring their perspectives and circumstances that were shaped by the 2003 avian influenza outbreak in the Netherlands: (i) poultry farmers, including those holding free-range poultry, feared the end of the Dutch poultry farming sector if a new outbreak was to occur, as many farmers were still aiming to recover from the detrimental economic consequences of the 2003 outbreak; (ii) politicians aspired the avoidance of economically detrimental as well as socially undesirable mass-slaughter of poultry to control an outbreak, as occurred in 2003; and (iii) scientists feared that introduction of avian influenza in the Netherlands via wild birds could be the genesis of an avian influenza outbreak, as reportedly was the case in 2003, inciting them to favour a precautionary approach. To avoid a new outbreak, Dutch government would have little choice but to apply the precautionary measure, despite Brussels’ denunciation of this move as being disproportional and disrupting coordination within the EU. Free-range and organic farmers were positioned as having to bring into practice the precautionary measure by confining their poultry. Considering possible consequences of a new avian influenza outbreak, this was a role free-range and organic farmers had to take up for the greater good of the Netherlands. As a free-range farmer posed: “if there might be a big risk of bird flu, than you do not want to be the cause of the misery” (*VK* August 26, 2005).

Contrary to this Dutch precautionary story-line on avian influenza, a broad coalition of UK actors advocated a definition of the avian influenza threat as a future one – which, in line with this perceived lack of immediacy, sparked much less media attention than in the Netherlands in autumn 2005 (see Figure 1). In addition to the remote to low risk UK poultry would run of becoming infected, the costs of confining poultry would be very high in terms of: (i) economic expenses for large numbers of free-range poultry farmers who did not possess sheds to house their birds; (ii) socially unacceptable decreases in poultry welfare due to their confinement; and (iii) possible consumer backlashes concerning free-range poultry products, as UK consumers would be unwilling to pay a premium for free-range products stemming from animals that were not kept free-range. Without highly pathogenic avian influenza outbreaks in recent history influencing public perception of the avian influenza threat like in the Netherlands, these potentially high costs combined with the perceived low risk of virus spread to the UK came together in a cost-benefit analysis resulting in the judgement that confining poultry would be disproportionate to the risk at hand.

As the virus was found increasingly close to UK borders, and eventually in a single swan within these borders, the risk level that would trigger the move of ordering poultry indoors across the UK was continuously defined such that the threat remained a future one – despite the presence of dissenting voices arguing that avian influenza would be a present threat necessitating the precautionary measure of bringing poultry indoors. Only if the virus was to cause an *outbreak* or was to become *endemic* in the UK, bringing poultry indoors would be proportionate to the risk at hand, according to a coalition of scientists, politicians, and representatives of free-range poultry farmers. On the one hand, this reasoning was based on the assessment that the actual risk of virus spread to UK poultry via wild birds was relatively low. Congruent with this dominant definition of the avian influenza threat as lacking urgency – rather than in the Netherlands, where the propinquity of the threat was highlighted – less media attention was devoted to the virus than in the Netherlands in all months of the year under study, save of April when the virus was actually detected in a swan on UK territory (see also Figure 1). On the other hand, the costs of bringing UK poultry indoors became throughout the year under study discussed more strongly and densely by use of the argument that it would effectively bring the economically successful and socially desirable UK free-range poultry farming sector to an end.

Differences in the UK and Dutch public debates on the efficiency of preventive vaccination as a strategy to control avian influenza can equally for an important part be related to context-specific reasons, including the above-described differences in the initial problem definitions of, and interrelated policy decisions taken to deal with the avian influenza threat in these countries. In the Netherlands, preventive vaccination was envisioned by scientists, politicians and poultry farmers to be an efficient preventive measure to avoid a new Dutch avian influenza epidemic. Herewith, preventive mass-culling of healthy birds was to be avoided – a measure that when conducted to fight the 2003 outbreak had met much societal resistance. Moreover, voluntary preventive vaccination was presented as an alternative to confining poultry. These arguments allowed both actors advocating that Dutch free-ranging poultry was at immediate risk of becoming infected via wild birds, as well as a coalition of actors advocating the story-line that ordering poultry indoors was unjust as intensive poultry farming practices and trade would be the main cause of the avian influenza threat, to interpret preventive vaccination as an efficacious alternative policy option. Hence, not only would preventive vaccination be scientifically sound, it would also present a more socially responsible policy option in comparison to confining or culling poultry, finding broad support in Dutch society.

When Dutch government gained EU allowance to offer the option of preventive vaccination to free-range and organic farmers on a voluntary basis, preventive vaccination would not be economically feasible according to Dutch free-range and organic poultry farmers. Whereas Dutch supermarkets would be willing to put products derived from preventively vaccinated poultry on their shelves, German supermarkets would refuse to do so to avoid a potential consumer backlash. In practice, therefore, the offer of Dutch government of voluntary preventive vaccination created more of a shift in the legitimation of why most Dutch free-range farmers were forced to keep poultry indoors than a shift in farming practices: poultry was no longer primarily to be confined due to a governmental order aimed at avoidance of introduction of avian influenza in Dutch poultry by wild birds, but due to unwillingness of supermarkets to put these products on their shelves so as to meet their consumers' food safety and quality concerns.

In the UK public debate, free-range farmers argued in favour of preventive vaccination, which they envisioned to be an alternative to housing poultry and to preventive mass culling, which could be enacted by UK government once the threat of an avian influenza outbreak would have actualised. A coalition made up of UK government and scientists advising government did, however, argue that vaccination could easily allow avian influenza to spread unnoticed in the UK, as the vaccine could 'mask' the disease. Moreover, practical difficulties concerning the logistics of vaccination would make vaccination unfeasible. Without a perceived need to actually order poultry indoors, preventive vaccination was regarded as a potential policy measure that possibly could be applied in the future as an alternative to confining poultry if vaccines would become available that would be more scientifically sound and more practically administrable. UK supermarkets argued they would not put Dutch poultry products coming from vaccinated birds on the shelves so as to retain consumer confidence in poultry products, which points at a further possible argument against preventive vaccination of British free-range birds: fear among supermarkets that consumers would regard products of vaccinated poultry as of inferior quality, or possibly as entailing a food safety risk.

Reflection: legitimating European animal health and food safety governance

The avian influenza threat has impelled legitimation of devolution of responsibilities for the governance of animal health governance of avian influenza from EU to Member State level. A first step in this devolution involved the EU order that Member States are to decide on precautionary measures – including prohibition of keeping poultry in open air – based on national assessments of at-risk areas. After denouncing the Dutch unilateral precautionary measure of confining poultry because this would disturb coordination within the EU, Brussels herewith effectively provided legitimation for increased coordination by Member States of policy measures for the control of avian influenza. Despite the notion that national risk assessments should pertain to commonly agreed risk factors, national risk assessments have not been free from incorporation of national sensitivities, as the UK and Dutch cases have shown. Whereas in the Netherlands confining poultry was defined as necessary to avoid a new avian influenza outbreak that could trigger preventive mass-culling and could cause the end of all poultry farming in the Netherlands – both meeting broad societal resistance –, in the UK confining poultry was defined as a measure that would end economically successful and socially desirable free-range poultry farming practices in the country.

Legitimation of further Member State-based differentiation – and herewith implicitly incorporation of Member State-specific perspectives – in governance measures came with

EU allowance of preventive vaccination for the control of avian influenza under specific circumstances. The Netherlands implemented a preventive vaccination plan that met these circumstances, *inter alia* so as to provide a more socially responsible and economically viable alternative to keeping poultry indoors and potential mass culling. UK government refused to allow farmers to preventively vaccinate based on scientific and practical reasons. Moreover, as UK poultry was not ordered indoors, pressure to immediately allow vaccination was arguably less than in the Netherlands.

Incorporation of Member State specific perspectives in the governance of avian influenza led to market differentiation: in the EU internal market, consumers could encounter free-range poultry products stemming from animals: (i) reared outdoors without having been vaccinated preventively against avian influenza; (ii) animals reared outdoors after having been vaccinated; or (iii) reared indoors (temporarily). These differences are, according to EU legislation, undetectable for European consumers, as these products may be sold as being 'free-range' within the EU without reference to preventive vaccination or temporal confinement. Informed consumer choice in this respect, therefore, hinges on private market actors' actions, including of supermarkets informing their consumers that no products of poultry vaccinated against avian influenza will be sold.

Through this role of custodians of consumer interests, market actors can significantly impact on the outcome of public governance of avian influenza. Whereas Dutch society favoured preventive vaccination above confining poultry, such vaccination was arguably not an option for most Dutch farmers because supermarkets of other Member States would refuse to sell products of vaccinated poultry – purportedly so as to meet their consumers' concerns regarding food safety and quality. As such, devolution of responsibility for governance of avian influenza from EU to Member State level has propagated not only inclusion of Member State specific perspectives in decision-making processes and outcomes, but additionally to augmentation of supermarkets' ability to legitimate their private regulation of food safety.

The above-described development of European food governance of avian influenza indicates that where differentiation in Member States' animal health policies leads to market differentiation within the EU in terms of safety and quality of food products in the eye of consumers – or of supermarkets allegedly aiming to protect their consumers' interests –, an expert-based distinction between animal health and food safety governance becomes difficult to defend publicly. To be able to more fully understand why differentiation in animal disease governance has led to perceived differences in food safety and quality, to what extent a reoccurrence of these perceived differences are likely to reoccur in the case of governance of future animal health threats, and how to possibly handle problems deriving from these perceived differences, more research is required. Firstly, perceptions of those actors whose voice is little heard in the mass-media, those of consumers, provides a pertinent topic for further research – both in terms of how consumers perceive the safety of different foodstuffs available on the EU market, as well as of how they perceive the responsibilities of different governance actors –including governmental authorities and supermarkets – in European food governance. Secondly, in this paper we have focussed on processes of public legitimation of food governance of avian influenza. Herewith, the paper omits less public processes underlying legitimation and institutionalisation of such food governance. To understand these processes better, research focussing more on institutionalised European public and private food governance of avian influenza and of other animal diseases is prudent.

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