
Direction of Policy Convergence in the EU: The Case of Genetically Modified Maize Labelling Policies

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Abstract: *The aim of this article is to contribute to the academic dialogue of policy convergence by examining the direction taken by the policy to label genetically modified maize in the European Union. Considering international harmonisation as the causal mechanism, this article provides a chronological account of policy outputs, understood as directives and regulations related to this policy area. Additionally, there is an analysis of the increase of the degree of policy convergence. Furthermore, different national perspectives on the issue are presented, offering an insight about policy direction in terms of the interaction that governments of member states have between them and with the European Commission. Concomitantly, the direction that policy convergence takes points at strengthening member states' views of developing stricter rules through time. Subsequently, results demonstrate that policy convergence can appear only with member states' consent, regardless of the position that regional institutions may have; although they may influence the process to some extent. Nonetheless, this does not mean that the current direction should be taken for granted.*

Keywords: *policy convergence, direction, genetically modified maize, labelling, European Union*

Introduction

There are different schools of thought employing the term 'convergence'¹. Coming from diverse academic backgrounds, and using different theoretical approaches and explanatory variables, these perspectives share the view that convergence of national policies has become one of the major debates in political science. In this context, this paper aims to contribute to the academic dialogue by assessing genetically modified (GM) maize labelling policy in the European Union (EU) according to the approach to policy convergence developed by Holzinger and Knill².

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¹ S. Heichel, J. Pape, and T. Sommerer, 'Is There Convergence in Convergence Research? An Overview of Empirical Studies on Policy Convergence,' *Journal of European Public Policy*, vol. 12, no. 5, 2005, p. 817.

² K. Holzinger and C. Knill, 'Causes and Conditions of Cross-National Policy Convergence,' *Journal of European Public Policy*, vol. 12, no. 5, 2005, pp. 775-796.

With this purpose, analytical focus relies on end results, understood as pieces of legislation (like directives and decisions) that have experienced changes over time. This in turn assists in assessing the direction of policy outcomes. Subsequently, an increase in the level of policy strictness is observed, which is stimulated by national governments and not shared by the European Commission (EC). This is presented by providing for a chronological account of an EU-wide policy during a timeframe that covers the development of GM food labelling policies, focusing on GM maize, from their appearance up until present.

Background

The use of genetically modified organisms (GMOs) in the food industry has been a source of fierce debates between GM-supportive and GM-sceptical groups. Such disputes have been expressed at the regional level, at which governments are required to adopt a stance that reflects the position of their constituencies³. In this sense, labels have appeared as an adequate option to mitigate concerns, representing consumers, companies, third-party entities, and governments' perspectives. All of which play a role in determining food attributes that should be described on food labels.

Among these actors, governments carry a most relevant duty due to their role in the policy-making process, which should serve three main purposes: to ensure fair competition among producers, to increase consumers' access to information, and to reduce risks to individual consumer safety and health⁴. In this regard, the appropriate level of government intervention in labelling decisions depends on the type of information involved and the level and distribution of the costs and benefits of providing information⁵. Thus, selecting mandatory labelling, voluntary labelling, or no labelling at all, relates to the extent of governments' involvement⁶. In this regard, governments influence companies on reducing costs of genetically modified food (GMF) labelling or increasing benefits of labelling non-GMF. Standards, testing, certification, and enforcement can all facilitate the development of these markets. One example refers to standards on tolerance levels, also known as threshold, of GM ingredients in a given product, so it can be regarded as non-GMF. On an opposite stance is the perspective of considering GMF equal to non-GMF in terms of risk assessment and product equivalence. Despite being contradictory, both standards are backed by the respective testing, certification, and enforcement methods. This thus means that, in the absence of a consensus on the concept of risk, tolerance levels can be driven by other factors, like consumer demand, feasibility of testing technologies, and lobbying skills that companies have when approaching policy-makers.

³ G. Gruère, 'A Preliminary Comparison of the Retail Level Effects of Genetically Modified Food Labelling Policies in Canada and France,' *Food Policy*, vol. 31, no. 2, 2006, pp. 159.

⁴ S.G. Hadden, *Read the label: Reducing risk by providing information*, Boulder, Westview Press, 1986.

⁵ E. Golan et al., 'Economics of Food Labelling,' *Journal of Consumer Policy*, vol. 24, no. 2, June, 2001, pp. 119.

⁶ Nonetheless, influential commercial positions should be taken into account.

Policy convergence

There are different studies focusing on diverse aspects of policy convergence⁷. In the context of these heterogeneous features, this study relies on the work of Holzinger and Knill⁸, as it assesses the degree of policy convergence, while questioning its direction. In turn, such an action allows examining whether convergence occurs at the regulatory top or bottom, and why it happens in such a determined manner.

Bearing this in mind, convergence is described as “any increase in the similarity between one or more characteristics of a certain policy (e.g. policy objectives, policy instruments, policy settings) across a given set of political jurisdictions (supranational institutions, states, regions, local authorities) over a given period of time”⁹.

This concept establishes the need to recognise the causal mechanism originating convergence. Among them stand international harmonisation, regulatory competition, imposition, and independent problem-solving. In the context of this study, international harmonisation is taken into consideration under the assumption that adopting legally binding directives, which are compulsory for EU member states, shapes domestic policies. In addition, there are other policy instruments, such as EC decisions and communications that influence member states’ commitment to carry out specific duties.

International harmonisation is segmented in minimum and total harmonisation. It usually comes in the form of minimum, rather than total harmonisation.¹⁰ This is because minimum harmonisation allows for member states to enact higher standards than those specified in international agreements, while it obliges those member states to raise their standards to the minimum level; which is opposed to total harmonisation. In turn, assuming that member states with high standards will not be keen to lower them to a minimum level, it is possible to argue that international harmonisation would encourage an increase in the level of strictness¹¹.

Indicators of policy convergence

The indicators used in this study are the degree and the direction of convergence, which are intrinsically related since the identification of the degree implies the recognition of

⁷ See the work of C.J. Bennett, ‘What Is Policy Convergence and What Causes It?’ *British Journal of Political Science*, vol. 21, no. 2, April, 1991, pp. 215-33; D.W. Drezner, ‘Globalization and Policy Convergence,’ *International Studies Review*, vol. 3, no. 1, Spring, 2001, pp. 53-78; S. Heichel, J. Pape, and T. Sommerer, ‘Is There Convergence in Convergence Research? An Overview of Empirical Studies on Policy Convergence,’ *Journal of European Public Policy*, vol. 12, no. 5, 2005, pp. 817-840; C. Knill, ‘Introduction: Cross-National Policy Convergence: Concepts, Approaches and Explanatory Factors,’ *Journal of European Public Policy*, vol. 12, no.5, 2005, pp. 764-774.

⁸ K. Holzinger and C. Knill, ‘Causes and Conditions of Cross-National Policy Convergence’.

⁹ C. Knill, p. 768.

¹⁰ K. Holzinger, C. Knill, and T. Sommerer, ‘Environmental Policy Convergence: The Impact of International Harmonization, Transnational Communication, and Regulatory Competition,’ *International Organization*, vol. 62, no. 4, 2008, pp. 553-587.

¹¹ K. Holzinger and C. Knill, ‘Theoretical framework: causal factors and convergence expectations’, in K. Holzinger, C. Knill and Bas Arts (eds.) *Environmental Policy Convergence in Europe. The Impact of International Institutions and Trade*, Cambridge University Press, 2008, pp. 30-63.

direction of adopted convergence. This correlation is explained by describing both concepts. The degree of convergence refers to a decrease of standard deviation between policies in a given time period. In turn, an identification of an upward or downward movement from the regulatory mean can be observed; that is, the direction of convergence. In this regard, as stated previously, there is an assumption of a higher regulatory level of policies resulting from minimum harmonisation.

Generally, the literature employs the concept of degree of convergence in a 'cross-national' context¹², implying the variation and potential convergence among national policies. However, this study approaches the degree of convergence as the narrowing in number of policy outputs already established at the regional level into 'regional framework policy outputs', which can deploy into problem-specific programmes. This perspective assists, consequently, to better observation and understanding of the direction of convergence, indicating whether such 'framework policies' become stricter throughout the same period of study as that of the degree of convergence.

For this to achieve, it is mandatory to select the policy and the time period. The former refers to GM maize labelling policy, while the latter relates to period starting when the policy was initially contextualised; that is, when international harmonisation was expanded to cover the policy area of labelling food, including GM maize.¹³ This refers to the launch of the directive on food labelling in the late 1970s. The end of the study is marked by the most recent policy developments when pushing for a change in policy direction.

GM maize labelling policies in the European Union

Legislation about food labelling started to take form with Directive 79/112/EEC¹⁴. It contributed to the smooth functioning of the common market, while covering the need to inform and protect consumers. In 1997, this directive was amended by Directive 97/4/EC¹⁵. However, Directive 79/112/EEC remained the basis for subsequent legislation on labelling, influencing the development of the legal framework for GMF labelling.

On the topic of GMOs, the first legal measure to appear was Directive 90/220/EEC¹⁶, which appeared as a response to a number of member states already moving to adopt a range of national measures, threatening to disrupt the single market. Examples of this were

¹² K. Holzinger and C. Knill 'Causes and Conditions of Cross-National Policy Convergence'; K. Holzinger, C. Knill, and T. Sommerer; S. Heichel, J. Pape, and T. Sommerer; and Knill.

¹³ It is worth pointing out that international harmonisation was already causing convergence in other policy areas within the EU remit. Hence, a reminder about the GM maize labelling policy being considered as the only focus of analysis, with every other policy excluded, is necessarily made.

¹⁴ Council Directive 79/112/EEC of 18 December 1978 on the approximation of the laws of the Member States relating to the labelling, presentation and advertising of foodstuffs for sale to the ultimate consumer [8.12.1979] OJ L 33/1.

¹⁵ Directive 97/4/EC of the European Parliament and of the Council of 27 January 1997 amending Directive 79/112/EEC on the approximation of the laws of the Member States relating to the labelling, presentation and advertising of foodstuffs [14.2.1997] OJ L 43/21.

¹⁶ Council Directive 90/220/EEC of 23 April 1990 on the deliberate release into the environment of genetically modified organisms [8.5.1990] OJ L 117/15.

(a) a ban on deliberate release in Denmark and Germany; (b) a case-by-case approach to the release of individual GMOs in the UK, France, Belgium, Netherlands and Luxembourg; and (c) an absence of legislation in Ireland, Greece, Italy, Spain, and Portugal¹⁷. The resulting directive focused on a regulatory scheme that would provide for case-by-case assessment and authorisation of release of GM varieties into the environment. Hence, Directive 90/220/EEC took into account different national approaches. Also, this directive established procedural rules for pre-market authorisation stating that member nation-states would be responsible for assessing notifications submitted by anyone intending to release GMOs and their respective self-proposals for labelling. Nonetheless, a safeguard procedure was included, whereby a member nation-state could provisionally restrict or prohibit the use or sale of an approved GM product on its territory, when considered necessary according to evidence of serious risk to people or the environment. This thus denoted the unwillingness of member states to accept each other's risk assessments.

From the mid-1990s, food safety became a salient issue in the EU: food scandals such as dioxin-contaminated feed, foot-and-mouth disease, the cross-pollination of GM oilseed rape with non-GM varieties in the UK, and the 'mad cow disease' crisis stirred public outrage. These situations led to public debates, as it was the case in the UK, about the importance of preserving consumer confidence in new foods, as well as to adopt a range of financial penalties for mislabelling products¹⁸. Other member states were experiencing their own issues with biotechnology. Their governments sided with citizens so as to obtain their support for national policies on GMF as well as on labelling. For example, Denmark had a restrictive GMF policy that was a parameter of what could be called a 'GMO-cautious majority' in Parliament¹⁹. Austria was also requiring mandatory labelling of GM products²⁰. France developed an 'opportunistic' approach that was influenced by the political environment at a given time²¹. In Germany, no products labelled as GM were available despite no official withdrawal of GMF from German markets²². Regardless of these differing national approaches, a common pattern supporting the implementation of GMF labels was observable across countries. A study from Bauer et al²³ indicates that, from the then existing 15 member states, there was a mean of 74.9 percent respondents supporting the adoption of labels on GMF, while only 16.4 percent disagreed with this issue.²⁴ Nevertheless, from

¹⁷ M.A. Pollack and G.C. Shaffer, *When Cooperation Fails: The International Law and Politics of Genetically Modified Foods*, Oxford, Oxford University Press, 2009, p. 60.

¹⁸ PWB Phillips and H. McNeill, 'A Survey of National Labeling Policies for GM foods,' *AgBioForum, The Journal of Agrobiotechnology Management & Economics*, vol. 3, no. 4, 2000, pp. 222.

¹⁹ J. Toft, *Precautionary Expertise for GM Crops: National Report – Denmark*, Roskilde University Library, Project No. QLRT-2001-00034, June, 2004, <<http://technology.open.ac.uk/cts/national/denmark%20national%20report%20PEG.pdf>>, (accessed 20 March 2014).

²⁰ P. Grabner et al, 'Biopolitical diversity: the challenge of multilevel policy-making', in G Gaskell and MW Bauer (eds.), *Biotechnology 1996-2000: the years of controversy*, Science Museum, 2001, p. 24.

²¹ S. De Cheveigné et al, 'France', in J. Durant, M.W. Bauer and G. Gaskell. (eds.) *Biotechnology in the public sphere: a European sourcebook*; Cromwell Press, 1998, pp. 54.

²² J. Hampel et al 'Biotechnology boom and market failure: two sides of the German coin,' in G. Gaskell, M.W. Bauer (eds.), *Biotechnology 1996 – 2000: the years of controversy*, Science Museum, 2001, pp. 192.

²³ M.W. Bauer et al 'United Kingdom', in J. Durant, M.W. Bauer and G. Gaskell (eds.) *Biotechnology in the public sphere: a European sourcebook*; Cromwell Press, 1998, p. 162.

²⁴ 8.7 percent referred to not knowing whether to support labels.

the member states that adopted or announced plans to individually implement mandatory labelling systems, only the UK formally implemented labelling rules²⁵.

Regardless of public opposition, the EC issued Decision 97/98/EC²⁶, which would allow placing Bt-176 maize in the European market, stating that labels should indicate that maize protected itself against corn borer and that it had increased tolerance to a specific herbicide. The 'GM status' of the crop was not required. This was the result of the EC concluding that there was no reason to believe that the existence of GMOs in maize would have adverse effects on human health or the environment.

National disagreements driving policy direction

Decision 97/98/EC took place at a time when consumers boycotted GM producers and retailers, while activists uprooted GM plants christened as 'Frankenfoods'. The European Parliament (EP) overwhelmingly denounced this decision, and a number of Environmental Non-Governmental Organisations (ENGOS) cast GM crops as a threat to sustainable agriculture. As a result, food suppliers decided to exclude GM ingredients from their own brand products. The EU was lacking a straightforward way to accommodate the protest originated from the combination of these reactions, while member states imposed their own bans or restrictions on GM crops²⁷.

Commercial blockage and political protest led to more cautious regulations. Amid public hostility, extra demands and restrictions circulated among member states, with labels becoming a key topic. This was apparent with Regulation 258/97/EC²⁸, which established labels in cases when products containing GMOs could no longer be considered substantially equivalent to their conventional counterpart. Two types of information became compulsory. Firstly, labelling should state clearly when it was apparent that products contained GMOs. Secondly, labels should state when there was the possibility of GMOs being present in products. This would refer to 'contain' and 'may contain' phrasing labels. A third, voluntary, option referring to consumers being informed when a given product was GM free was considered. Despite these labelling requirements, the list of GM products was too wide. Maize was not specified, even when Bt-176 maize was already authorised for marketing.

As this GM maize variety was not covered by Regulation 258/97/EC, some member states adopted safeguard measures. For example, Austria and Luxembourg prohibited the sale of Bt-176 maize on their territories soon after the EC authorised the crop for commercialisation.

²⁵ Information from August 2001. However, Hungary, Poland, and the Czech Republic, who joined the EU in 2004 also proposed mandatory labelling. However, there was no available evidence that these countries developed domestic systems to manage such regulations at the time. See P.W.B. Phillips and H. McNeill, p.220.

²⁶ Commission Decision 97/98/EC of 23 January 1997 concerning the placing on the market of genetically modified maize (*Zea mays* L.) with the combined modification for insecticidal properties conferred by the Bt-endotoxin gene and increased tolerance to the herbicide glufosinate ammonium pursuant to Council Directive 90/220/EC [1.2.1997] OJ L 31/69.

²⁷ L. Levidow and J. Murphy, 'Reframing Regulatory Science: Trans-Atlantic Conflicts Over GM Crops,' *Cahiers d'économie et sociologie rurales*, no. 68/69, 2003, pp. 463-64.

²⁸ Regulation (EC) No. 258/97 of the European Parliament and of the Council of 27 January 1997 concerning novel foods and novel food ingredients [14.2.1997] OJ L 43/1.

Their argument was that possible risks were very hard to assess and therefore should be avoided while scientific discussions were taking place²⁹. In this context, and in order to avoid any potential escalation of the conflict to the regional level, the EC issued Regulation 1813/97³⁰, which emphasised the establishment of labelling rules for the GM maize variety authorised under Decision 97/98/EC. Significantly, though, this regulation also emphasised that there were no safety grounds to label. Instead, this regulation aimed at informing consumers of GMO presence in foodstuffs, potential health concerns, and ethical issues.

Afterwards, the EC issued Decision 98/292/EC³¹ and Decision 98/294/EC³². Both would deal with placing two GM maize varieties on the market. Later on, Regulation 1139/98³³, which amended Regulation 1813/97, provided for the compulsory labelling of GM maize and GM soybeans when transgenic DNA could be found in final food products.

During that time, Austria exerted more pressure by banning another GM maize variety (MON810) from entering its territory³⁴. Furthermore, a number of member states introduced measures barring national market access to GMOs that had already been authorised. This was most immediately prompted by two declarations from twelve of the then fifteen member nation-states stating that they were opposed to further authorisations of GMOs. One declaration was issued by the Danish, Greek, French, Italian and Luxembourg Delegations. The other declaration included the views of the Austrian, Belgian, Finnish, German, Dutch, Spanish and Swedish Delegations³⁵. With slightly different emphases, both declarations stated the need to impose a moratorium and member states' intention to block GMOs authorisation pending the adoption of a new and stricter regulatory system ensuring labelling and traceability of GMOs and GMO-derived products³⁶. Ireland, Portugal and the UK did not join either declaration. Nevertheless, they did not push ahead with GMO authorisations because the concern was sufficiently profound; hence impacting the commercial prospects of agricultural biotechnology.

Two years later, Regulation 1139/98 was amended by Regulation 49/2000³⁷, which established that labelling was necessary if a maximum threshold of 1 percent tolerance

²⁹ WTO Panel, 'Reports out on biotech disputes', 29 September, 2006, p. 885.

<http://www.wto.org/english/news_e/news06_e/291r_e.htm>, (accessed 2 April 2014).

³⁰ Commission Regulation (EC) No. 1813/97 of 19 September 1997 concerning the compulsory indication on the labelling of certain foodstuffs produced from genetically modified organisms of particulars other than those provided for in Directive 79/112/EEC [20.9.1997] OJ L 257/7.

³¹ Commission Decision 98/292/EC of 22 April 1998 concerning the placing on the market of genetically modified maize (*Zea mays* L. line Bt-11), pursuant to Council Directive 90/220/EEC [5.5.1998] OJ L 131/28.

³² Commission Decision 98/294/EC of 22 April 1998 concerning the placing on the market of genetically modified maize (*Zea mays* L. line MON 810), pursuant to Council Directive 90/220/EEC [5.5.1998] OJ L 131/32.

³³ Council Regulation No. 1139/98 of 26 May 1998 concerning the compulsory indication of the labelling of certain foodstuffs produced from genetically modified organisms of particulars other than those provided for in Directive 79/112/EEC [3.6.1998] OJ L 159/4.

³⁴ WTO Panel, p. 893.

³⁵ The two declarations were made in the 2194th Council Meeting of 24-25 June 1999. See M. Lee, *EU Regulation of GMOs: Law and Decision Making for a New Technology*, Edward Elgar Publishing Ltd, 2008, p. 3.

³⁶ M.A. Pollack and G.C. Shaffer, pp. 67-68.

³⁷ Commission Regulation (EC) No. 49/2000 of 10 January 2000 amending Council Regulation (EC) No. 1139/98 concerning the compulsory indication on the labelling of certain foodstuffs produced from genetically modified organisms of particulars other than those provided for in Directive 79/112/EEC [11.1.2000] OJ L 6/13.

level for presence of GM-material in a non-GM background was surpassed. Despite this, the EC's attempts to calm down member states' unease proved fruitless. Austria prohibited T25 maize, while Germany did the same with Bt-176 maize during the same year. Italy went even further by suspending T25 maize, MON810 maize, MON809 maize, and Bt11 maize from entering its national market³⁸.

These prohibitions placed the EC under great pressure to come to terms with the revision of Directive 90/220/EEC³⁹. The result was a proposal that would in turn become Directive 2001/18/EC⁴⁰. This directive established that both traceability and labelling would be interlinked as the latter would become a means to reach the former. This is, labelling GMOs or their products would assist in tracing them. In addition, unique codes relating to each GMO would be mandatory, including requirements to specify the identity of GMOs. Member states were required to take the relevant measures to ensure that labelling of GMOs would take place at all stages of their placing on the market.

However, Directive 2001/18/EC did not appear smoothly. While the majority of the EP supported tighter regulations, member states had mixed views. Some appeared to do whatever possible to ensure that no GM crops would be grown in their territories, like Austria and Luxembourg. Others were torn between demands of GM opponents and those of the biotech industry, as were Germany and the UK. A conciliation committee drafted the final text, which was characterised by a ratcheting-up of regulatory requirements for GMOs in order to assuage GM-sceptical governments and MEPs. Despite this effort, Directive 2001/18 /EC did not satisfy Denmark, Austria, France, Greece, Luxembourg or Italy. All of them insisted on preserving the moratorium⁴¹.

Seeking to remove national bans and to overcome the impasse on approvals, the EC developed proposals aimed at improving the legislative framework. Provisions about marketing GMOs were replaced by two new pieces of legislation: Regulation 1829/2003⁴² and Regulation 1830/2003⁴³. Both were intended to operate in tandem and rely on each other for certain requirements. Notably, Regulation 1830/2003 provides traceability requirements for all food and feed products that fall under the scope of Regulation 1829/2003. In this context, labelling was understood as a procedure that would prevent consumers from being misled about methods of production and enable them to make informed choices. In addition, it was established that labelling should take place when foods contain or consist of GMOs, or are produced from or contain ingredients produced from GMOs. It was also

³⁸ Maize was not the only GM crop in this context. Greece banned oilseed rape in 1998. France did the same in 1999, and then banned MS1/RF1 oilseed rape in 2003. See WTO Panel, pp. 876-925.

³⁹ G. Abels, 'The Long and Winding Road from Asilomar to Brussels: Science, Politics and the Public in Biotechnology Regulation', *Science as Culture*, vol. 14, no. 4, December, 2005, pp. 345.

⁴⁰ Directive 2001/18/EC of the European Parliament and of the Council of 12 March 2001 on the deliberate release into the environment of genetically modified organisms and repealing Council Directive 90/220/EEC [17.4.2001] OJ L 106/1.

⁴¹ M.A. Pollack and G.C. Shaffer, p. 239.

⁴² Regulation (EC) No. 1829/2003 of the European Parliament and of the Council of 22 September 2003 on genetically modified food and feed [18.10.2003] OJ L 268/1.

⁴³ Regulation (EC) No. 1830/2003 of the European Parliament and of the Council of 22 September 2003 concerning the traceability and labelling of genetically modified organisms and the traceability of food and feed products produced from genetically modified organisms and amending Directive 2001/18/EC [18.10.2003] OJ L 268/24.

stated that the adventitious GMO traces in conventional food would not be subject to labels. In this sense, a threshold for technically unavoidable traces was established. Jointly with the confirmation that labelling should be provided at all stages of placing on the market, such threshold was included in both regulations.

Back or forth?

Regulation 1830/2003 has been the cornerstone for GMF and GM maize labelling. Important achievements when setting community rules for labels and traceability are proof of this. However, divisions among member states continue in related matters, such as the application of standards for scientific evaluation of new products. An example in this regard was a GM maize variety (NK603) that was approved by the EC in July 2004 after the Council of Environment Ministers failed to reach agreement on the issue: nine members, including four of the new members⁴⁴, reportedly voted against, nine in favour, while seven abstained. Other GM crops have experienced the same fate⁴⁵. This thus allows speaking of an ambivalent EU where the complexity of reaching agreement can be influenced by the public opinion and where governmental positions have to be taken into consideration.

At present, a number of attempts from the EC to authorise the introduction of new GM maize varieties have been unsuccessful⁴⁶. Nonetheless, a potential laxer stance towards these products is encouraging producers to hope for a redirection of policy⁴⁷. Under these circumstances, recent developments point at a continuous – never ending – clash of perspectives between supporters and detractors.

Conclusions

Different issues are observable from the development of GMF and GM maize labelling policies in the EU. Taking into account intense and diverse debates held within and across the European institutions, the aim of ensuring the adequate functioning of the internal market, while preserving consumers' right to choose, have remained at the top of the agenda; although they have been seen from different perspectives. Hence, diverging directions have been proposed. Despite this, there has been a tendency towards informing consumers, which is observed as an obligation due to citizens' discontent when handling GM products across Europe. Avoiding doing anything to overcome such displeasure may have had negative implications not only for the biotechnology industry, but also for general

⁴⁴ At the beginning of the same year, the EU enlarged to include Eastern Europe, Cyprus and Malta, reaching up to 25 member nation-states.

⁴⁵ Also in 2004, the Environment Council reached an impasse with the Commission's proposed approval of GT73 GM rapeseed. Six of the ten new member nation-states (Cyprus, Estonia, Hungary, Malta, Lithuania, and Poland) joined six existing members (Austria, Denmark, Greece, Italy, Luxembourg, and the UK) in voting against the approval. With six countries in favour and the rest abstaining, the final decision was granted to the Commission. See M.A. Pollack and G.C. Shaffer, p. 246.

⁴⁶ D. Keating, 'Legal fights loom on GM crops', *European voice*, 13 February 2014, <http://www.europeanvoice.com/CWS/Index.aspx?PageID=176&articleID=79681>, (accessed 28 April 2014).

⁴⁷ D. Keating, 'Compromise in sight on GM crops', *European Voice*, 6 March 2014, <http://www.europeanvoice.com/article/imported/compromise-in-sight-on-gm-crops/79947.aspx>, (accessed 28 April 2014).

food industry and, hence, the single market. Then, the compulsory labelling approach appeared as an attempt to regain credibility and confidence of consumers after a series of food scandals.

The legislative framework for labelling GM maize has developed out of different sources, from directives detailing the rules for general food labelling, to regulations specifically concerned with GM maize labelling. In addition, this legislation has been linked to related topics, such as release into the environment, consumers' choice, placing on the market, and traceability. The relationship that labelling has attained with these aspects demonstrates that such a policy area is intertwined within a broader set of interests.

By observing the development of the regulatory framework, it is noticeable that the establishment of labels at EU level has been gradual. It has related to concerns from the citizenry and governments of some member states, to EU institutions upgrading policy to the regional level. Also, it is noticeable the role of the EC at the core of policy upgrade, being involved according to 'own' positions and based on legal stances. Member states have also played a leading role in the developments of this policy area, since their own cultural backgrounds, legacies and preferences have set the direction to which policies are developed at the regional level. An implicit consensus on the labelling issue was observable; this was regardless of whether national governments were for or against the use of biotechnology on food.

The analysis of the development of GM maize labelling policies provides an insight about how policy convergence takes place. Reminding Knill's concept of policy convergence, there should be an increase in the similarity between characteristics of a given policy at a specific political jurisdiction over a certain time period. Details about the EU developing policies not only on GM maize labelling, but also on GMF and feed suggest that convergence is taking place constantly. Since 1990s, European legislation has evolved with the appearance of directives and regulations of compulsory application across the territories of member states. During this time, specific legislation on labelling GM maize has been issued, amended twice, and complemented, to the point of reaching its actual legislative framework, which has also been modified and complemented by recent developments. Hence, an evolving regulatory framework allows speaking of a policy directed constantly towards tougher stances. In other words, an upwards movement is observed in the sense that directives and regulations requiring labels on GMF have been established with the aim to make the internal market work efficiently in this area, arguing the relevance of consumer information and freedom of choice. Despite this, different perceptions and approaches towards these products continue to exist. The harmonised policy output has been regarded as strict in that GM producers have found it difficult to allocate their products in the European market due to mandatory labelling. Therefore, the process by which GMF is introduced in the EU implies that policy convergence has been achieved by setting up stricter rules.

Nonetheless, GM supporters do not give up easily on the matter and continue to attempt to introduce GM crops. This would be a start for potential future changes on labels. Disagreement among member states with respect to GMO authorisation makes them foresee possible legal loopholes through which they may adapt the legislation to their benefit. Nonetheless, this issue remains to be seen.

This aspect, in turn, refers back to the degree of convergence, which is observed with the creation of legislation that denotes similarity in policy outputs. In as much as the policy on labelling is firmly established, attempts to introduce GM crops into European territory would affect another policy area. The focus will move from consumers' right to information and freedom of choice towards environmental effects. Therefore, the policy to label GM maize proves a high degree of convergence, obliging member states to follow rules and documentation requirements.

With respect to international harmonisation, it is through its minimum level that convergence is observable in this policy area. A raise in standards to a minimum level, understood as compulsory labels to GM maize, is the norm in current regulations. However, this does not mean that member states setting pace and direction of the policy at the regional level cannot go further at the national level. Hence, such a minimum level turns to a stiffening of GM maize labelling policy that confirms an upwards direction.

The information presented in this article demonstrates that policy convergence can appear with time, and only if nation-states agree to take part on them. This situation does not come as a surprise, since the relevance of the nation-state is most recognised in terms of European integration policies. That is, national governments have a big say when it comes to regional policy-making. Despite this, the EC has been able to step in by developing proposals aimed at furthering the presence of the biotechnology industry. This situation has meant attempting to relax current labelling policies. However, by doing so, the EC has ended up influencing the policy process in an opposite direction. Such a contradictory outcome appears as this institution's uncompromising stance clashes directly with some member states' rigid position.

Thus, by hampering any possibility to get member states' support, it is possible to speak of a power struggle between national and regional actors. Up to now, national governments have had the upper hand; although much would depend on their ability to preserve their standpoint. Besides, other factors would need to be considered, such as citizens' perceptions on the issue, additional food scandals, biotechnology industry lobbying skills and influence, as well as the European institutions' positions.

This study has contributed to the academic dialogue of policy convergence in three aspects: firstly, by making use of complementary concepts of degree and direction of convergence; secondly, by operationalising a research design consisting of assessing empirical evidence of GM maize labelling policies as the policy dimension (policy output) through a time factor that presents convergence as a process; and, thirdly, by conceptualising international harmonisation as causal mechanism of convergence.

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