

RECIPES
Precaution • Innovation • Science

Media coverage and public debate on the precautionary principle and the 'innovation principle'

France / Le Monde



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1 Introduction

The media – old and new – play an important role in political and societal discussions. The media reports on social and political discussion and offer a platform for the societal debate, and newspapers provide an important part of the overall media landscape. News reports can help put issues on the political and social agenda, steering public opinion, and can go as far as triggering members of parliament to pose questions to the minister in charge (example). Opinion pages in newspapers aim to present a wide spectrum of different stimulating societal opinions, thus fostering the societal debate and clarifying differences of opinion. Thus, the media reflects not only on the political and societal debate, but also influences it to a degree.

With regards to the precautionary principle, innovation, and the case studies covered in the RECIPES project, media analysis provides an avenue for understanding the public discourse surrounding the topic. In particular, this report forms one of 4 reports for the media analysis in *WP1, Task 1.3: Public discourse of the precautionary principle, Controversies and Interests*. This task investigates the public discourse of the precautionary principle by mapping stakeholders to the PP and their interest and positions, conducting a media analysis for how the PP has been framed in the public debate and how/if this have changed since 2000, and finally we will investigate what values and presumptions European citizens have in regards to PP.

Media analysis can answer the following questions: How do the media frame the public discussion of an issue? Who are the main spokespeople on a particular topic, and how are they being quoted or cited? How often are various spokespeople quoted and in what context? What topics are being covered? Is the topic front-page news, and if not, where in the paper is the topic covered? Which reporters are writing on this issue? What messages are being used, and by who?

With those questions in mind, this report will analyse how the one influential French newspaper, Le Monde, has reported about the precautionary principle, innovation, and the RECIPES case study topics, in the period from 2000 to 2018. The full list of analysed newspapers is displayed below in table 1:

Table 1 Selected News outlets

Newspapers	Language / Nation	Partner
Le Monde	French / France	UM
The Guardian	English / UK	UiB
Süddeutsche Zeitung	German / Germany	IASS

These newspapers were selected for their quality of journalism and influence on their respective countries and beyond.

2 Methodology

Below you will find a brief description on the methodology of the media analysis task. A more in-depth description of each how the analysis was performed in each sub-section will be explained within the subsection.

In short, the media analysis methodology consists of both quantitative and a qualitative components. The quantitative component consists of various metrics drawn from the meta-data of relevant articles. This includes charting historical hot spots for published articles related to PP and IP and looking into the reason for the spikes, as well as describing information like which sections the articles appeared in, article types, the topics being covered in the article, and so on.

The qualitative analysis is consists of an in-depth, subjective content analysis of the relevant articles. In this component, each article was read and coded according to qualitative discourse analysis procedures. Here we identify the general positive/negative position of the article, which stakeholders are influential in shaping the discourse, and dive into the specific discourses being put forth. This data is presented in a variety of ways, including overall, but also deep-diving into specific case study topics as well as stakeholder groups to try to identify salient aspects of the overall way the media communicates and sets the societal position on the precautionary principle.

2.1 Search terms

The first step in crafting our media analysis methodology was to develop relevant search terms to both identify the articles initially. The primary search terms used were "precautionary principle" and "innovation principle". To obtain the articles, the appropriate search terms are entered into electronic databases, usually Dow Jones/Factiva and the Lexis Nexis search engine. (More information on these databases can be found at www.factiva.com and www.nexis.com). Articles receiving a hit for either of these terms formed the pool of articles to be analysed. A list of the primary search terms is found in Table 2.1, which also shows synonyms and the French translation which was actually used.

Table 2 Primary search terms

Search term	Labels	French Translation
Precautionary principle	Principle of precaution, Precautionary approach	Principe de précaution
Innovation principle	Principle of innovation	Principe d'innovation

In addition to the primary search terms, a secondary list of search terms was created to search within the pool of selected articles, in order to identify important topics.

Search term	Labels	French Translation
Genetically Modified Organism	GMO, Monsanto, Bayer, MON810	OGM, organisme génétiquement modifié, Monsanto, Bayer, MON810, génétiquement modifié, manipulation génétique

Search term	Labels	French Translation
CRISPR	Gene editing, Gene editing techniques, Human Genome Editing	CRISPR, protéine Cas9, éditer le génome, séquençage du génome, modification génétique, ciseaux moléculaires, modification d'ADN, mutation d'ADN, couper l'ADN, éditer l'ADN
Trade agreements	Comprehensive Economic and Trade Agreement, EU-CAN treaty, CETA, Transatlantic Trade and Investment Partnership, TTIP, hormone meat	Accord commercial, traité de libre échange, Accord Economique et Commercial Global, CETA, TTIP, libre échange, traité de libre-échange transatlantique, Partenariat Transatlantique de Commerce et d'Investissement, bœuf aux hormones, viande traitée aux hormones
Pesticides	Neonicotinoids, DBCP, insecticides, Glyphosate	Néonicotinoïde, insecticides, DBSP, Glyphosat, Gaucho, Imidaclopride, Clothianidine, Thiamethoxame, Roundup, herbicide
Chemical industry	PCB's, DDT, Chemical substances	Polychlorobiphényle, PCB, DDT, phtalates, substances chimiques, agrochimie, Chimie agricole, agrochimique
Endocrine disruptors	Bisphenol A/BPA, phthalates	Perturbateur endocrinien, leurre hormonal, xenohormone, hormone-dépendant, Bisphenol A, BPA, phthalate, perturbateurs hormonaux
Nanotechnology	Nanomedicine, nanomaterial, nanorobots, nano-cure	Nanotechnologie, nano-techniques, nano-médecine, nanomatériaux, nanite, nanorobots, nanoparticules
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals	REACH, règlement REACH, Règlement Nr. 1907/2006, règlement sur les produits chimiques, enregistrement, évaluation, autorisation et restriction des produits chimiques
Financial risks	municipal bankruptcy	Risque financier, risque bancaire
Farmers	farm industry, agroindustry	Agriculture, industrie agro-alimentaire, agriculteurs, fermiers, éleveurs
Risk management	Technological Risks, Socio-technical risk assessment, risk reduction measures, Risk research in innovation	Gestion du risque, risque technologique, risques socio-technologiques, évaluation technique des risques, mesures de réduction des risques, mesures

Search term	Labels	French Translation
		réduisant les risques, mesures encadrant les risques, réduction des risques, recherche sur les risques
EU	European Union, EU court of Justice, EU commission	UE, Union européenne, Commission européenne, la Commission, Cour de Justice de l'Union européenne, CJUE
World Health Organization	WHO	OMS, Organisation Mondiale de la Santé

2.2 Number of identified articles

At first, it was decided that all articles of Le Monde containing the term precautionary principle would be selected. The research results amounted to 1371 articles. After eliminating for duplicates, clearly falsely identified articles and articles tackling issues out of the scope of this report (transportation infrastructures, human dignity, head scarf, terrorism, heatwave, etc.), this resulted in 359 articles from the Le Monde. In order to align the data sample size with the data samples obtained from The Guardian and Süddeutsche Zeitung the size of the Le Monde data sample was reduced. To make a representative sample in time of the full period from 2000 until 2018, a number of options of reducing the sample size was investigated. The chosen method was to deselect every third article based on the publication date from the Le Monde sample. Thus, reducing the sample size without any subjective influence from the researcher. The below table shows the respective number of articles analysed in The Guardian and Süddeutsche Zeitung.

Table 3 Number of identified articles

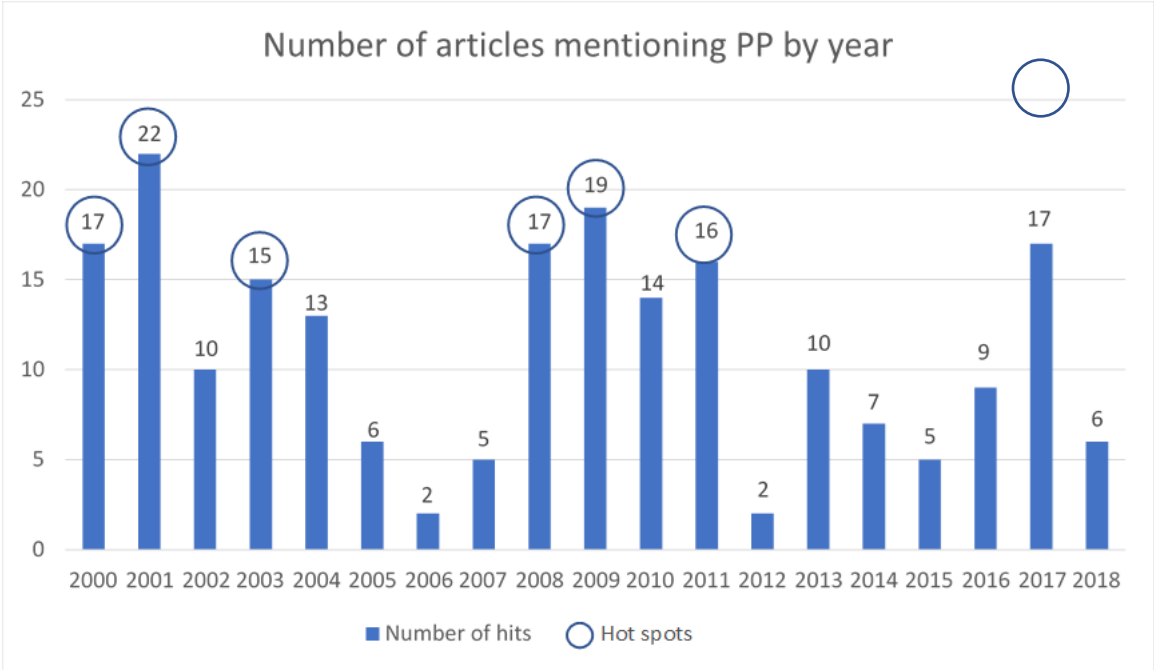
Newspapers	Number of articles analyzed
Le Monde	210
The Guardian	198
Süddeutsche Zeitung	130

3 Analysis

3.1 Historical hotspots

As discussed above, we first searched for the appropriate newspaper articles in the Le Monde for the period January 1 2000 to December 31, 2018. Removing duplicates and following the selecting method described above, this resulted in 210 unique articles. Figure 1 below shows the number of articles per year and identifies for "hotspots". As can be seen, there have been three periods characterised by hotspots, around year 2001 hitting an all-time high with 22 articles, 2009 with 19 articles and 2017 with 17 articles.

Figure 1 - Number of selected articles that appeared in Le Monde

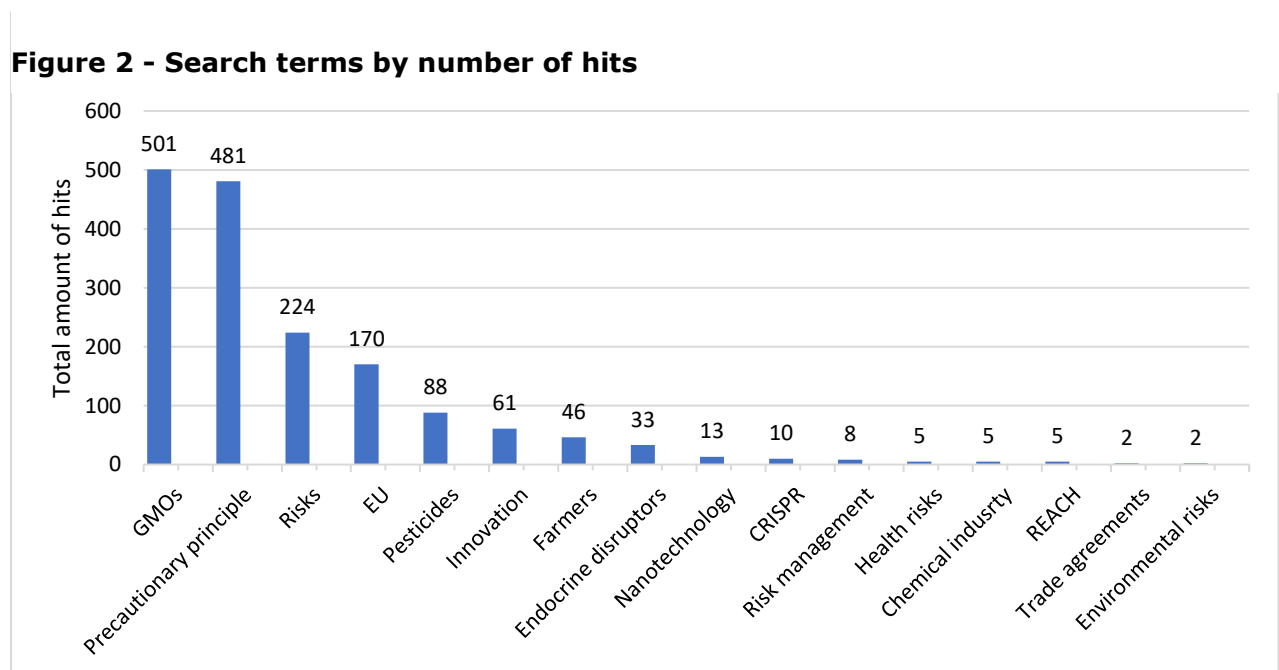


Our analysis suggests that the trend in years 2000 and 2001 is mainly due to reports about the mad cow disease and GMOs. The hotspot in 2003 also results from the debate on GMOs but also from the introduction of the Precautionary Principle in the French Constitution. The trend from 2008 to 2011 is mainly due to Endocrine disruptors such as Bisphenol A, while 2017 is due to reports tackling mainly food and health safety.

3.2 What topics are being covered?

Below we take a look at which of the pre-identified search terms occurred within the articles. As noted, all 210 articles contained the precautionary principle as a search term. The term innovation appeared in the articles 61 times and three articles referred directly to an "innovation principle". However, due to the small size of the sample for this keyword we will not analyse these articles here.

As can be seen in figure 2, the largest number of search term hits across all articles was GMOs by far, with 501 hits, followed by risks, EU, pesticides, innovation, farmers, endocrine disruptors, nanotechnologies, etc., echoing the choice of some of the actual case studies.



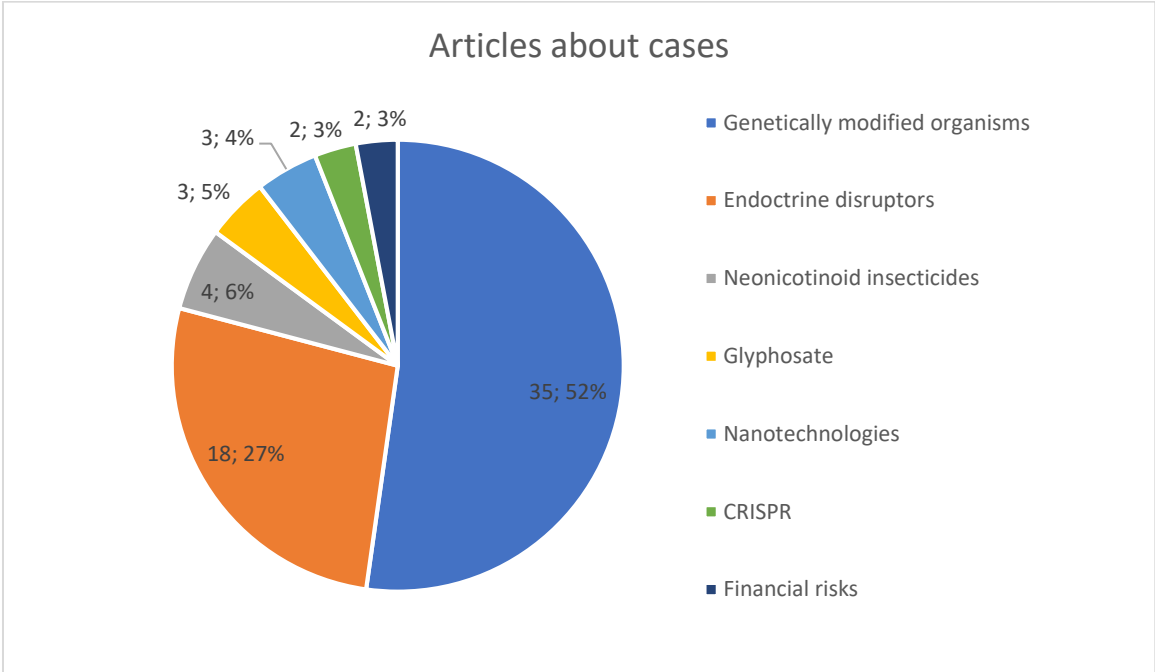
Looking deeper, we then coded articles according to any case study topic mentions. At the time of this media analysis, 7 case study topics were already chosen, with the 8th case study still to be decided by relevant stakeholders.

The case study topics are analyzed are:

1. New gene-editing techniques (CRISPR-Cas9)
2. Genetically Modified Organisms (GMO's)
3. Endocrine disruptors
4. Neonicotinoid insecticides
5. Nanotechnologies
6. Glyphosate
7. Financial risks and urban waste planning

Figure 3 shows breakdown of the number of articles mentioning each case, and the percentage of the total this represents.

Figure 3 - Number of articles about the cases (in total and in percentage)



In total, **67 of the 210** articles referred to one of the case topics. This means 32% of the articles referred to at least one of the RECIPES case study topics, while 68% did not. As Figure 3.2.2 shows, the most mentioned cases are GMOs, which appeared in 35 articles in total, or over half of the articles mentioning any case. Roughly 16% of all Precautionary Principle articles analysed over the past 18 years referred to GMOs.

GMOs were followed by Endocrine disruptor in 18 of the articles, and Neonicotinoid insecticides with 4 articles in total. **In other words, roughly 79% of articles mentioning a case study (53 out of 65) can be explained by GMOs and Endocrine disruptors.** This finding points our attention to the importance of these 2 cases in the French Precautionary Principle discussion, which is captured below in Figure 4.

Figure 4 -Number of articles per year GMOs and Endocrine disruptors

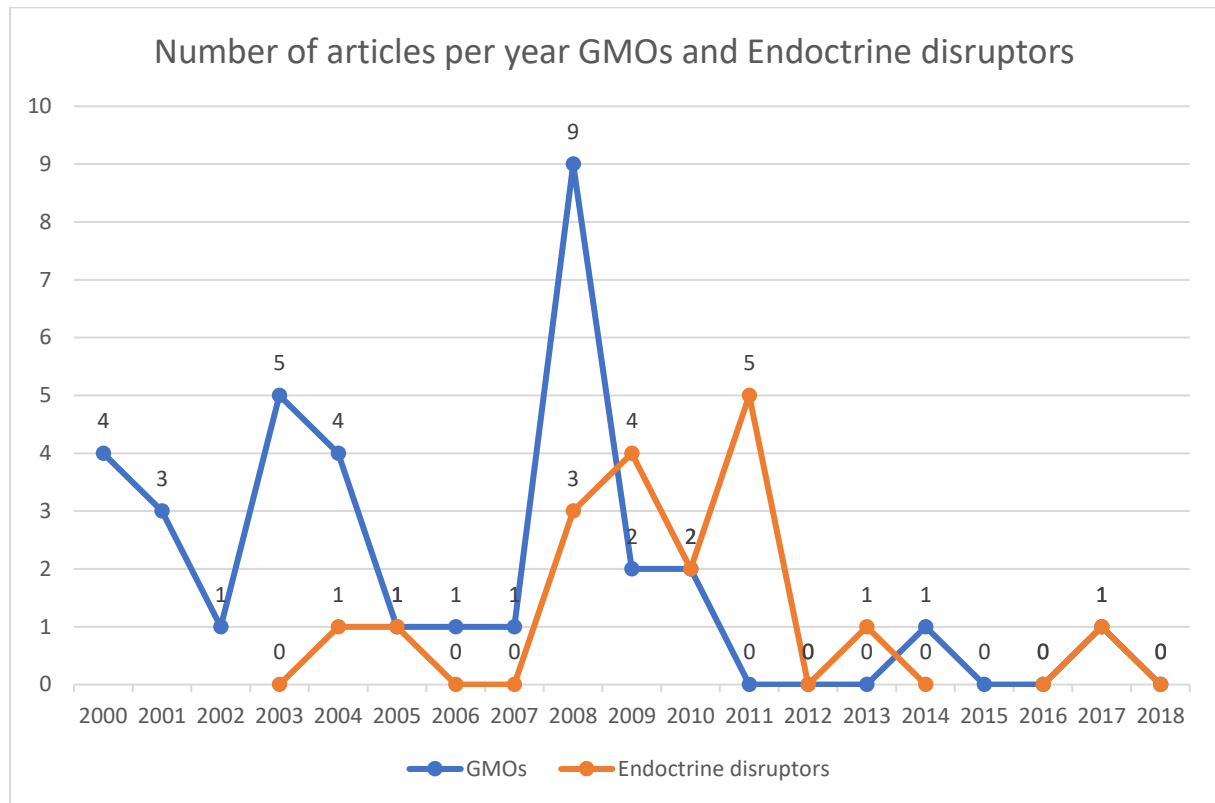


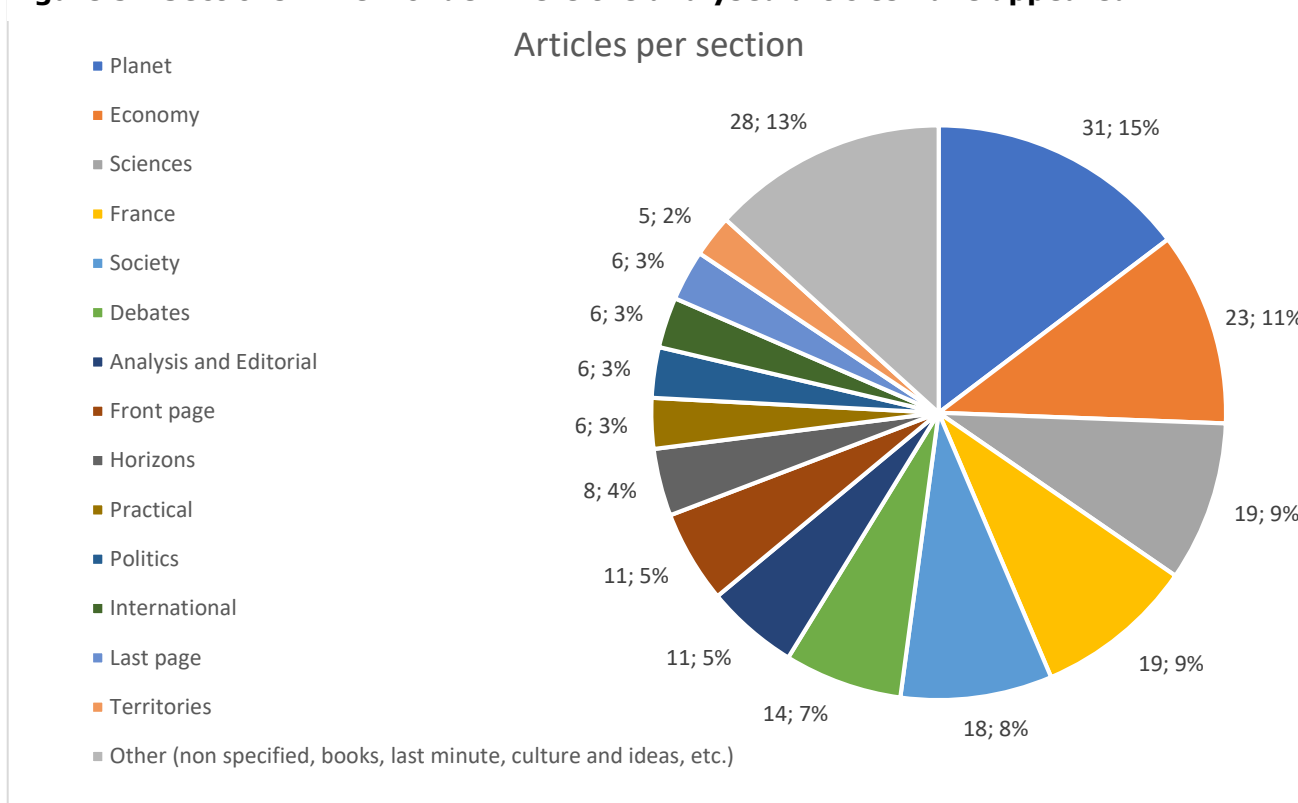
Figure 4 shows article mentions for GMOs and Endocrine disruptors by year. For GMOs we see a first spike in 2003 and later a more significant spike in 2008. For Endocrine disruptors we see a first spike in 2009 before a second spike in 2011. GMOs appeared in 4 articles in 2000, 3 in 2001, 2 in 2009 and 2010. Endocrine disruptors remained unmentioned until 2004, when it appeared in 1 article.

In section 3.5.1. we will analyse the GMOs and Endocrine disruptors cases further and also pay attention to the hotspots in the timeline of these cases.

3.3 Newspaper Section & Reporters

In this section, we analyse which section of the newspaper the article appeared, what type of article is (opinion, news, or feature), as well as front page coverage. Figure 5 shows the section of the newspaper the article appeared in. For each section the total amount and the percentage of articles are shown. The section containing the most Precautionary Principle articles is the "Planet" section (15%), followed by sections referring to Economy (11%), and then Sciences, France (national issues), Society and the Debates section. As reflected in the figure, the articles are fairly well-spread throughout the paper for these sections, while numerous other smaller sections count fewer articles (Horizons, Practical, Politics, International, etc.). The leading section is undoubtedly the Planet section. In addition, please note that 5% of all articles (11 in total) appeared on the front page.

Figure 5 - Sections in Le Monde where the analysed articles have appeared



3.3.1 Newspaper section

3.3.2 Which reporters are writing on this issue?

The table below lists the reporters who have written two or more of a studied sample of 52 Le Monde articles (see below). It shows that 6 reporters have written two or more articles on the PP in an amount of 52 articles, and that these 6 reporters have written 16 of the 52 articles.

Table 4 - Which reporters are writing on this issue?

Reporters	Case / Topic of the article	Total amount of articles
Jean Yves Nau	Mad-cow disease (3), Food and mouth disease (1)	4
Pierre Le Hir	Glyphosate (1), Nanotechnologies (1), Precautionary principle (1), Precautionary principle in the French Constitution (1)	4
Béatrice Gurrey	Precautionary principle (1), Precautionary principle in the French Constitution (1)	2
Hervé Morin	GMOs (2)	2

Reporters	Case / Topic of the article	Total amount of articles
Hervé Kempf	Trade agreements (1), GMOs (1)	2
Stéphane Foucart	Bisphenol A (2)	2

3.4 Framing, spokesperson and analysis of arguments

In this section, we provide an in-depth analysis of the most relevant articles from our sample – that is those articles that mentioned one of the 7 cases study topics. As stated earlier, 32% (67 of the 210) articles referred to at least one of the case topics. Within those articles, we looked at the overall framing of the articles, the type of spokespersons being quoted in those articles, and finally a full discourse analysis. In this section we will present both summary statistics across the relevant articles, and a deep dive into the individual cases.

3.4.1 Overall perspective

Figure 7 shows the articles' overall perspective (positive, neutral, negative) on the use of the precautionary principle. Each article was assessed and subjectively rated as positive, negative or neutral. A positive perspective indicates that the reporter mainly presented positive arguments towards the precautionary principle. A negative perspective means that mostly negative arguments were reported in the article. A neutral article is either one where there was a similar number of positive and negative arguments put forth with regards to the PP, or for articles which only mention the precautionary principle without expressing any perspective or simply provide a short neutral definition about the precautionary principle.

From a sample of 52 randomly selected articles, 40% of the articles present the precautionary principle positively and 39% of all articles are neutral. Only 21% express a negative view of the precautionary principle. From figure 3.4.1 we can see that looking just at the case study articles, the overall perspective remains similar with positive and neutral perspectives remaining over-represented (respectively 49% and 40%) while the negative perspective appears to be under-represented for these articles with only 11%.

Figure 6 - The articles' overall perspective on PP

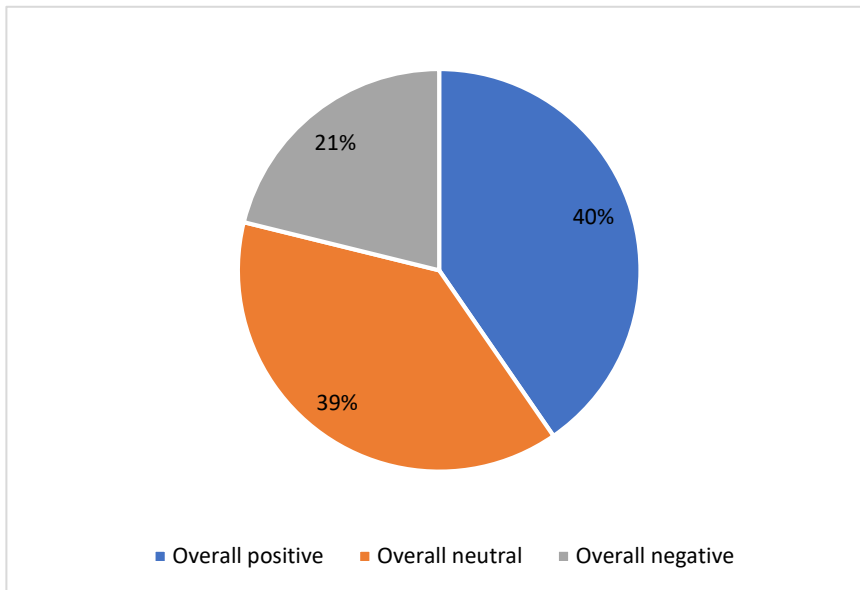
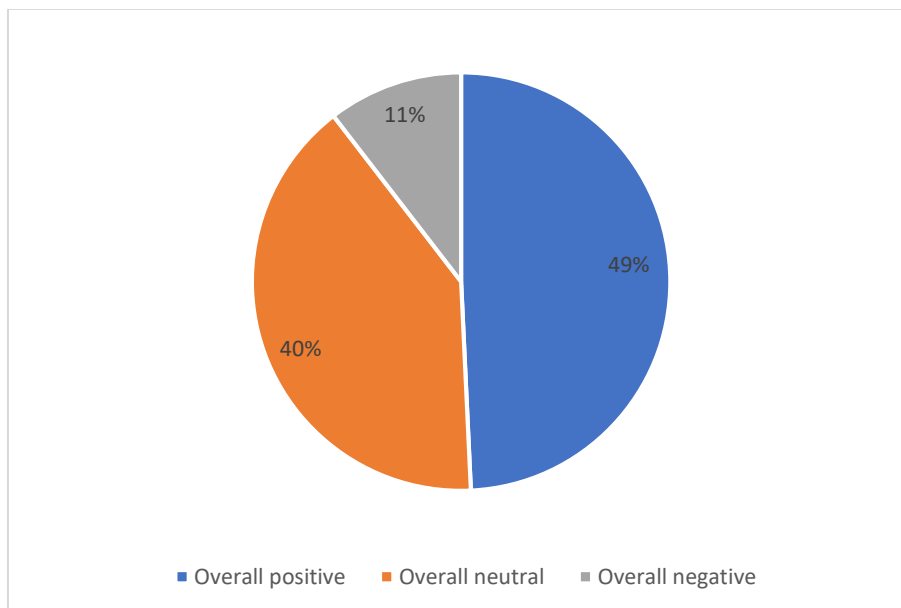


Figure 7 - The articles' overall perspective on PP (for articles containing case study topics)



3.4.2 Overall spokesperson summary

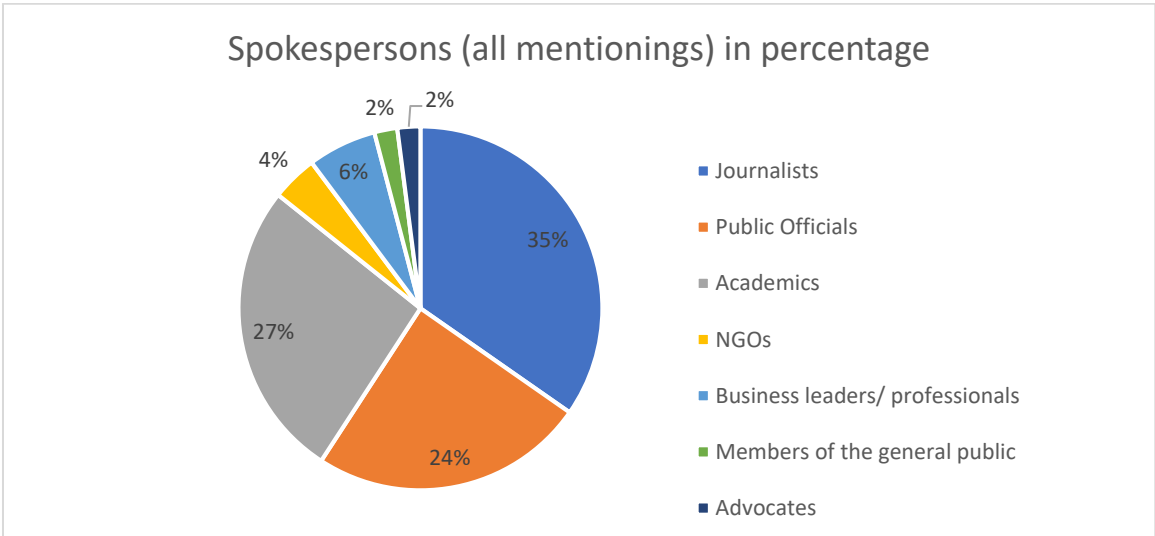
For the spokesperson analysis, we looked at a total 49 quotations of various spokesperson over all articles from 2000 to 2018. We used the following groups for this analysis: Academics, Public/government officials, Journalists, NGO's, Business leaders/professionals, Members of the general public, Lawyers. Figure 9 below (and the ensuing table 10) show the *total number of quotations by spokespeople*, and the *number of articles with quotations by spokespeople*

Spokesperson quotes were found in 41 of the sample of 52 articles, representing 79% of articles. The below chart shows the breakdown of total spokesperson quotes. As is shown, journalists were the most quoted spokesperson group, representing 35% of all spokesperson quotes. Academics were quoted in 13 of the PP articles (27%). Public and government officials made up 24% of all quotations and appeared in 26% of articles including a quotation.

Table 5 - All spokesperson mentions

Spokesperson	Total spokesperson quotes	% of total quotes	Total articles appeared in	% of articles
Journalists	17	34.70	17	41.46
Academics	13	26.53	7	17.07
Public/government officials	12	24.49	11	26.83
Business leaders/professionals	3	6.12	2	4.89
NGO's	2	4.08	2	4.89
Lawyers	1	2.04	1	2.44
Members of the general public	1	2.04	1	2.44
Total amount	49	100.00	41	100.00

Figure 8 - All spokesperson mentions: Percentage and Total



3.4.3 Overall analysis of arguments

In order to understand what types of arguments are used to describe the PP, we performed an analysis of the arguments put forth by the various spokespersons, including the journalist themselves. This was a subjective analysis whereby we identified all occurrences of arguments for or against the PP, as well as the spokesperson type associated with the argument. We then further specified these arguments into the common or dominant type of arguments that we observed both for and against the PP. See table 3.6.1 below for a list of all arguments coded for.

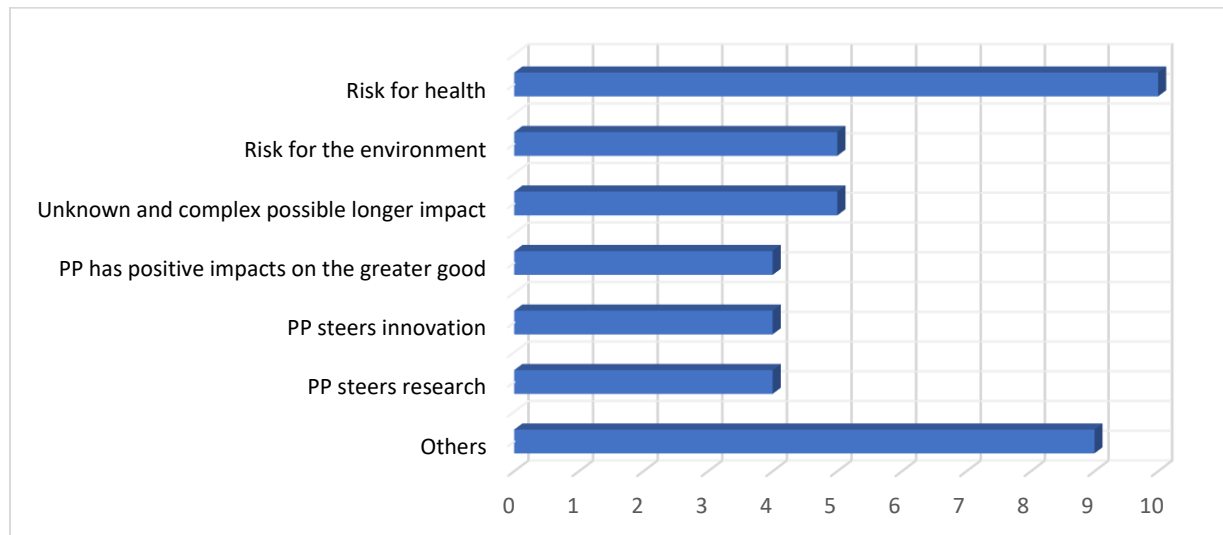
In total 49 discourses were analysed, with 17 evaluated as broadly negative (35%), and 32 as broadly positive (65%) (See table 3.6.1 for a list of all discourses coded for).

Table 6 - List of arguments analyses coded for

Arguments for the PP	Arguments against the PP
Innovation and PP are compatible	PP hampers innovation
PP steers innovation	Too strict labelling / non- evidence based labelling
PP steers research	No independent research is possible
PP has positive impact on greater good	PP hampers the economy
Unknown possible long-term impact / too complex	Innovation lowers costs/ PP causes higher costs
Innovation endangers the PP	Negative impact on environment due to PP
Innovation has negative impact on greater good	Innovation is providing progress for the greater good
Industrial lobbyism influences politics and research	Evidence for no risk at all
Risk for Health	Bad science or not enough evidence
Big risk for loss of biodiversity/ environment	Too drastic consequences/ decisions based on insufficient evidence
Research findings illuminating risk	
Current flaws in labelling and allowed measurement practices	
Use of disasters to provide arguments for future risk	
Ethical based arguments	
Need of scientific research and independent decision-making	

As can be seen, we coded more possible positive discourses, which is reflected in a more broadly distribution of positive codes than the negative.

Figure 9 - Pro PP arguments (41 in total)



The most frequent argument in favour of the Precautionary principle seems to be that the PP should be applied where there is a **risk for health**, which appears in 10 discourses. Such argument appears mostly in the case topic of Endocrine disruptors, but also GMOs and outside of the case studies regarding trade agreements. For instance, the following quotes:

In an article from 2009 on the future ban of BPA from baby bottles, the journalist quotes a scientist on the health risks and cites the example of Canada therefore applying the Precautionary principle:

*Le BPA est suspecté dans les grands problèmes de santé : cancer du sein, de la prostate, diabète, obésité, atteinte de la reproduction, maladies cardio-vasculaires... ", souligne André Cicollera, chercheur en santé environnementale et porte-parole du RES. Au nom du **principe de précaution**, le Canada est pour l'instant le seul pays à avoir interdit, en octobre 2008, les biberons avec BPA¹.*

In an article from 2011 on the state of negotiations of the CETA, two journalists evoke the possible omission of the Precautionary principle in the agreement while it is a tool to prevent health and environmental risks, referring also to the GMOs debate:

*En l'état, le Tafta serait susceptible de porter un coup au **principe de précaution**, qui permet aujourd'hui à l'Europe de refuser certains produits et pratiques au nom de la santé ou de l'environnement. Il inverserait la charge de la preuve, en contraignant les autorités à justifier leurs décisions par des preuves tan-gibles de leur dangerosité – pas toujours consensuelles, comme l'illustre le débat sur les OGM².*

¹ P. Santi, « Les biberons seront bientôt garantis sans bisphénol A », Le Monde, 11 March 2011.

² C. Ducourtieux, M. Vaudano, « Où en est le projet de libre-échange transatlantique? », Le Monde, 3 May 2016.

The **prevention of risks for the environment** through the Precautionary principle is the second most invoked argument in favour of the principle. It is quoted in the case study topics such as GMOs and pesticides but also outside of case study topics such as the shale gas debate. For instance, the following quotes:

In an article from 2011 reporting on the mobilisation against the exploitation of shale gas, the journalist quotes a member of the Assemblée Générale advocating for the use of the Precautionary principle in the face of the environmental risks:

*Le président du groupe UMP à l'Assemblée nationale, Christian Jacob, a déposé une proposition de loi pour interdire l'exploitation des gaz de schiste et " abroger " les permis en cours, " en application du **principe de précaution** ". Il redoute des conséquences environnementales " extrêmement néfastes " ³.*

In an editorial article on pesticides from 2013, the journalist develops the environmental risks that were assessed resulting from pesticides and advocating for the Precautionary principle, quoting scientific studies:

*Retirer à l'ensemble des néonicotinoïdes leurs autorisations de mise sur le marché ne relèverait ni d'une application maximaliste du **principe de précaution** ni d'une lubie écologiste. Cette nouvelle classe d'insecticides est d'une foudroyante efficacité. Ses représentants - Cruiser, Gaucho, Poncho, etc. - ont été déployés dès le milieu des années 1990 et sont principalement utilisés en enrobage des semences sur les grandes cultures. Le principe est simple : la plante s'imprègne du produit et devient toxique pour les insectes, tout au long de sa croissance. Le déploiement de cette technologie de protection des plantes s'est accompagné d'une forte accélération du déclin des insectes pollinisateurs. Or, depuis plus de dix ans, de nombreuses études, menées en laboratoire, montrent une variété d'effets toxiques inattendus, attribuables aux néonicotinoïdes : désorientation des insectes, perte des fonctions cognitives, synergie avec des pathogènes naturels, etc. ⁴*

³ M.A. Baudet, « En France, la mobilisation contre le gaz de schiste s'étend », Le Monde, 3 April 2011.

⁴ N.a. « Editorial ; Pesticides : pitié pour les abeilles ! », Le Monde, 10 Feb. 2013.

Figure 10 - Against PP arguments (32 in total)

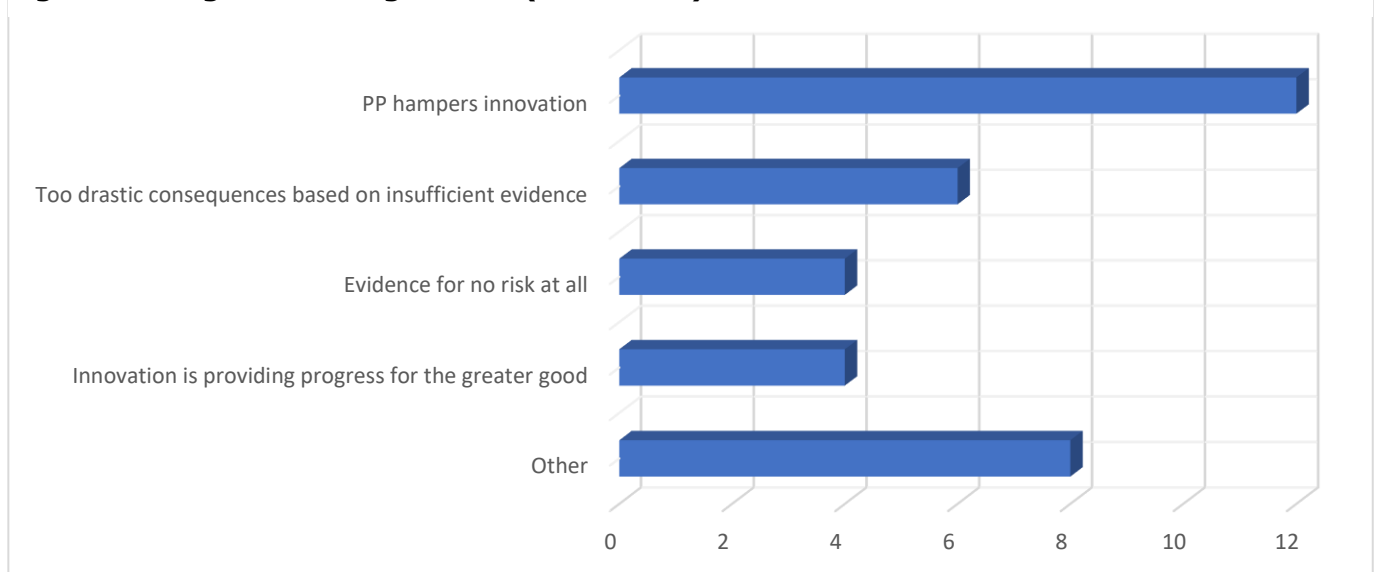


Figure 3.4.5. above shows some of the discourses recorded against the Precautionary principle, with the top negative discourses including that the Precautionary principle hampers innovation (12 times) and that consequences of its application are too drastic while it is based on insufficient evidence (6 times).

The most frequent argument negative towards the Precautionary principle, is framing the application of PP as **hampering innovation**. Many of these arguments are found in articles on GMOs and new gene-editing techniques. Here are two examples:

In an article from 2008 on the reaction of the members of Parliament to the suspension on GMOs, the journalist displays the concern that this measure will weaken innovation and research on biotechnologies:

Les élus de l'UMP sont en effet vent debout contre une décision qui, estiment-ils, risque de fragiliser toute la filière de recherche biotechnologique et agroalimentaire⁵.

A balanced perspective is provided in an article from 2016 written by a scientist and confronting the need for the application of the Precautionary principle in matters of gene-editing research with the detrimental effects it can trigger for research and innovation:

*Nul ne nierait qu'il faut adopter le **principe de précaution** pour prévenir des maladies pouvant avoir une base épigénétique ; mais il faut aussi être prudent dans la communication des résultats des recherches en épigénétique, en particulier sur la relation entre épigénome, environnement et santé, car on est encore loin de comprendre les mécanismes causaux qui les relient.⁶*

⁵ P. Roger, « Environnement plantes transgéniques ; La suspension des OGM met en colère les députés de l'UMP », Le Monde, 17 Jan. 2008.

⁶ F. Merlin, « Selon Francesca Merlin, l'emballement des médias vis-à-vis des découvertes de phénomènes épigénétiques ne reflète pas les nuances du débat scientifique », Le Monde, 24 Feb. 2016.

3.4.4 Spokesperson breakdown by arguments

In this section, we combine the above discourse analysis and spokesperson analysis to provide a detailed breakdown of how various discourses are being positioned by various spokespeople.

In terms of spokesperson group contributing to the discourse, the largest group overall was journalists, with 17 discourses, compared to academics with 13 and public/government official with 12. Of the 41 positive discourses analysed, the top contributors were journalists with 18, public officials with 12 and academics with 7. The 2 largest spokesperson groups making negative discourse statements were academics, with 13 negative statements (40% of all negative) and journalists with 10 negative statements (31% of all negative).

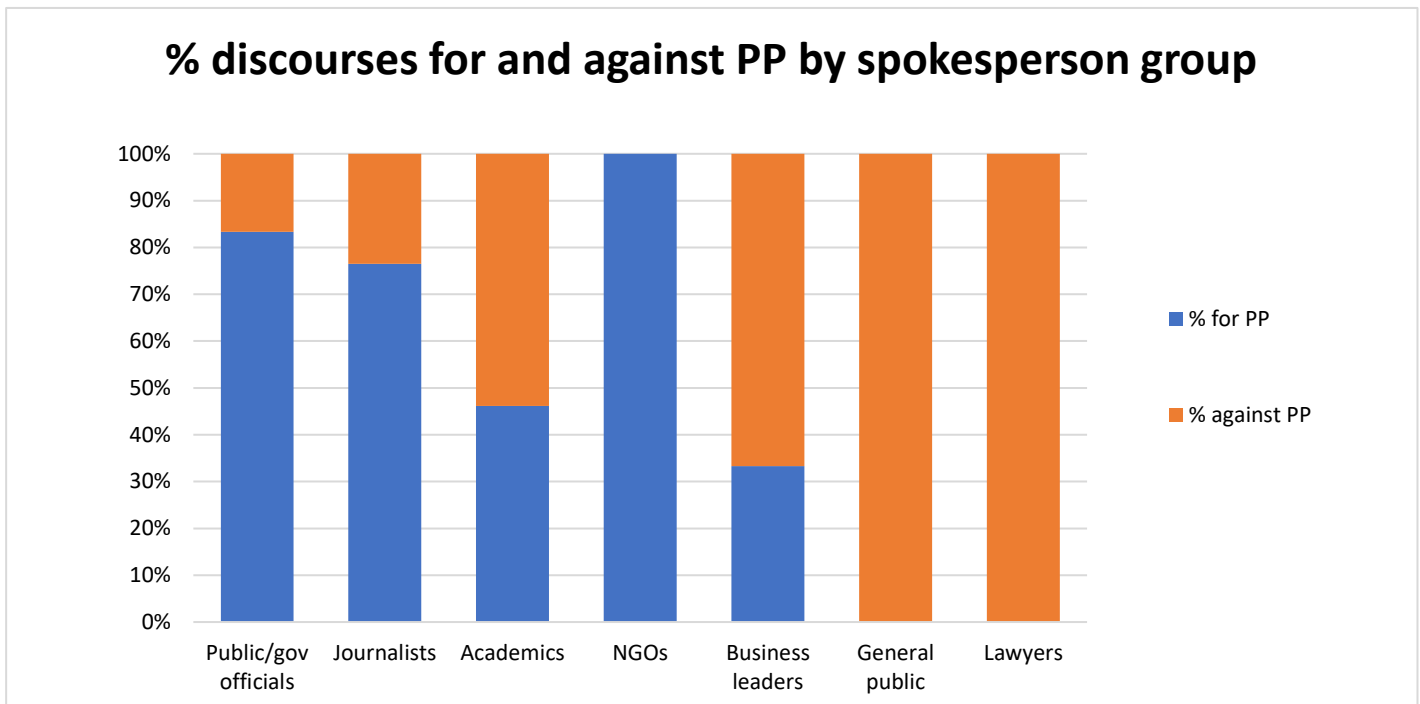
Figure 14 shows the breakdown of positive versus negative discourses by stakeholder group.

Figure 11 - Discourse breakdown by stakeholder

	Public/gov officials	Academics	Journalists	NGOs	Business leaders	Members of the general public	Advocates	Sum
Discourses against the PP (32 total)	2	13	10	0	3	1	2	32
PP hampers innovation	1	8	2		1			12
Too strict labelling/ not evidence-based labelling								0
Not independent research possible								0
PP hampers economy	1		1					2
Innovation lowers costs/ PP causes higher costs								0
Negative impact on the environment due to PP		2						2
Innovation is providing progress for the greater good			3		1			4
Evidence for no risk at all		1	1		1		1	4
Bad science or not enough evidence		1					1	2
Too drastic consequences/ decisions based on not enough evidence		1	4			1		6

	Public/gov officials	Academics	Journalists	NGOs	Business leaders	Members of the general public	Advocates	Sum
Discourse for the PP (41 total)	12	7	18	2	0	0	0	41
Innovation and PP are compatible			1					1
PP steers innovation	1	2	1					4
PP steers research	1	1	2					4
PP has positive impact on greater good	3		1					4
Unknown possible longer impact/ too complex	2	2	1					5
Innovation endangers the PP								0
Innovation has negative impact on the greater good			1					1
Industrial lobbyism influences politics and research control			1					1
Risk for health	3	1	5	1				10
Big risk for loss of biodiversity/ environment	2		2	1				5
Research findings illuminating a risk		1						1
Current flaws in labelling and allowed measurement practices			2					2
Use of disasters to provide arguments for future risk			1					1
Ethical based arguments								0
Need of scientific research and independent decision making			1		1			2

Figure 12 - Discourse breakdown by stakeholder group: percent for and against



3.5 The Precautionary principle in selected case deep dives

In the next sections, the articles focusing on GMOs and endocrine disruptors will be analysed in-depth, in order to explain the controversies around applying the PP to the particular case and the different opinions on this. The analysis will focus on which ones of the arguments in table above that are dominating in the case, and which spokespersons that are quoted.

3.5.1 GMOs

Most of the articles on GMOs are from 2008 but since the year 2000 there was an important coverage of the topic in Le Monde, varying from 5 to 1 article per year. An important part of these are reports on the ban of the MON810 and on the discussions on whether to allow field tests of GMOs. Mostly, the articles are balancing different views and sometimes the author takes sides. In the first case different views and different spokespersons are quoted. Of the 35 articles on GMOs where the Precautionary principle is mentioned, 16 can be termed neutral as they most frequently present both pro and contra Precautionary Principle-arguments from different spokespersons. The second predominant perspective given by the articles is a positive opinion on the application of the Precautionary principle with a total of 14 articles positively framed in opposition to only 5 articles framed as predominantly negative. The application of the Precautionary Principle in the case of GMOs is framed as a very contested issue with high stakes.

As opposed viewpoints from different spokespersons are displayed by the articles, the media frames the public discussion of applying the Precautionary principle on regulating GMOs as a polarised discussion, where academics, public officials and NGOs oppose other academics, public officials and some advocates of major corporations. Some articles appear

to be also opinion-based. More specifically, the articles seem to frame the discussion as polarised views on science and research, on health and environmental risks and on innovation.

First, the theme of science and of research is very controversial. In an article from 2001, with the rather neutral headline 'Which statute for plants without addition of exterior genes', the journalist referring to the position of a scientist, illustrates the issue of **unknown possible consequences** and risks and the **shortcomings of current measurement and labelling practices** in respect to new types of GMOs:

Il craint que ces innovations passent inaperçues alors qu'elles posent des problèmes équivalents aux OGM classiques résistants aux herbicides totaux, par exemple. Elles échapperaient à nombre de contrôles sanitaires et environnementaux, à un étiquetage spécifique et seraient difficilement traçables.⁷

The concerns about **the risks** and about **the evaluation practices** is illustrated in another article from 2010 titled 'GMOs: the Gers brings an action against Brussels'. The journalist highlights the position of public officials in favour of the application of the Precautionary principle. The following quote of a government spokesperson illustrates the call for more research on long-term risks and consequences:

Nous attaquons la décision de la Commission pour trois raisons, explique Katalin Rodics, qui représentait le ministère hongrois du développement rural à la conférence de Bruxelles. Elle ne respecte pas le principe de précaution, une évaluation correcte de l'OGM n'a pas été menée, et il n'y a pas eu d'investigation sur ses effets à long terme.⁸

To these demands for more scientific research and evaluation, respond stakeholders assuring that there is **scientific certainty of no risk** and therefore there is no need to apply the Precautionary principle. For instance in this article from 2002 with the headline 'The academies supportive of genetically modified organisms; In two separate texts, the academics of sciences as those of medicine and pharmacy are in favour of a prudent and rational, case by case, introduction of genetically modified plants into agriculture'. In this article the journalist quotes academics views that are framed in a neutral way, balancing the application of the Precautionary principle with the results of research showing no risks concerning GMOs:

Au terme d'une analyse approfondie réclamée par le gouvernement, les deux Académies nationales de médecine et de pharmacie ont estimé que l'utilisation des OGM à des fins alimentaires ou thérapeutiques ne présentait aucun risque particulier. [...] En un mot, la France a-t-elle raison de se laisser distancer en imposant une certaine interprétation maximaliste du principe de précaution ? Le rapport qu'il a coordonné répond par la négative à cette question. Les recommandations générales appuient donc une introduction raisonnée et prudente, au cas par cas,

⁷ H. Morin, « Quel statut pour les plantes SAGE ? », Le Monde, 7 Sept. 2001.

⁸ H. Kempf, « OGM : le Gers dépose un recours contre Bruxelles », Le Monde, 21 Sept. 2010.

*des plantes transgéniques dans l'agriculture, sous l'égide des actuels organismes de contrôle.*⁹

However, the **quality and reliability of research** on the consequences of GMOs remains greatly contentious, as illustrated by an article from 2010 with the headline 'Corinne Lepage: "We are turning our backs on the Precautionary principle"':

*Là où je suis beaucoup plus inquiète, c'est que ces propositions dessinent en filigrane un recul incontestable sur l'étude des effets à moyen et long termes des OGM. Les semenciers ont obtenu de ne plus réaliser systématiquement des études à quatre-vingt-dix jours sur les rats. On tourne le dos au principe de précaution. Il est hallucinant, alors que le sujet est sur la table depuis maintenant quinze ans, qu'à part une étude autrichienne, démolie en flamme, il n'y ait à ce jour aucune recherche publique sur l'impact sanitaire des OGM. Les agences sanitaires nationales et européennes rendent donc des avis publics sur des études secrètes faites par les semenciers.*¹⁰

The controversy on **necessary impartial research** on the impacts of GMOs is intertwined with the controversy on the **induced health and environmental risks**. An opinion article from 2008 with the headline 'GMO: precaution or inaction?' displays the argumentation of a former Minister of Agriculture which appears to be dominantly positive to the Precautionary principle. He argues that no risk should prevail over health and environment and in order to ensure that it is necessary to resort to impartial research:

*Ces questions sont évidemment cruciales. Aucun risque, bien sûr, ne doit être pris au détriment de la santé et de l'environnement. L'application élémentaire du principe de précaution s'impose donc. Mais dans un monde où les OGM continuent à proliférer (la surface qu'ils occupent pourrait doubler à l'horizon 2015), leur dangerosité ou leur innocuité ne peut être établie que par des recherches impartiales. Or, en France, le contexte général a provoqué un recul de la recherche sur les biotechnologies.*¹¹

Finally, it appears that another item of controversy is the interaction between the **Precautionary principle and innovation**. An article from 2008 with the headline 'GMOs: reason against prejudices' illustrates this. It is an opinion-based article written by the president of an environmental foundation, takes the stance that resorting to the **Precautionary principle steers innovation** and that previous catastrophes should suffice to convince of its necessity:

Ironiser sur l'obscurantisme des uns et l'hérésie des autres est indécent vis-à-vis des milliers de victimes de l'amiante qui auraient bien aimé qu'à l'époque on fasse jouer ce principe minimum de prudence. Le principe de précaution est bien un dopant pour la science et la recherche fondamentale, dont le but est de réduire le domaine d'incertitude, de

⁹ J.Y. Nau, H. Morin, « Les académies favorables aux organismes génétiquement modifiés », Le Monde, 14 Dec. 2002.

¹⁰ H. M., « Corinne Lepage : 'On tourne le dos au principe de précaution' », Le Monde, 10 June 2010.

¹¹ P. Vasseur, « OGM précaution ou inaction ? », Le Monde, 3 April 2008.

donner à la décision politique l'éclairage " indépendant " et de pouvoir apprécier le rapport risque bénéfice en évitant ainsi de se mettre quelques années plus tard dans des impasses économiques et sanitaires tragiques.¹²

On the other side of the controversy, it is claimed that the Precautionary principle hinders research and innovation as illustrated by an article from 2004. It is titled 'Let's save GMOs!', is opinion-based and was written by a professional of a society pooling together the research of major cooperatives and enterprises of the French agricultural sector. In this abstract the business professional highlights the difficulties of leading field research in the current context crystallised around the Precautionary principle, and the **detrimental effects it has on innovation**, leading researchers to even leave the country:

Il est quasiment impossible désormais de réaliser des expérimentations dans des conditions normales. C'est vrai dans le domaine pharmaceutique - où l'on a besoin d'expérimenter sur des cellules souches - comme dans le domaine végétal, où l'on teste des plantes en plein champ. Entre les demandes d'autorisation pour semer qui n'arrivent qu'en juillet alors que les semis doivent être réalisés en mai, l'affichage sur les sites Internet du ministère de l'agriculture des lieux d'implantation, qui facilite le travail des destructeurs, et le principe de précaution brandi à tort et à travers, les chercheurs français n'ont plus qu'une alternative : s'autocensurer ou décider d'aller travailler ailleurs¹³.

As a short summary, it can thus be observed that the debate around the Precautionary principle regarding GMOs revolves mainly around the following arguments:

- The current state of knowledge and research on long term effects is insufficient or sufficient
- Current measurement and labelling practices are challenged by new GMOs
- The need to lead a thorough and impartial evaluation and research for decision-making
- The existence of the health risk
- The Precautionary principle steers or hinders research and innovation.

3.5.2 Endocrine disruptors

As displayed earlier in figure 3.2.2., 18 of the 210 articles mentioning the Precautionary principle focused on Endocrine disruptors. Most of the articles on Endocrine disruptors are from 2008 until 2011. An important part of these are reports on Bisphenol A and on the discussions on whether to ban the products concerned.

Of the 18 articles, 13 could be said to display a positive view on the application of the Precautionary principle, while only 4 are neutral as they report different opinions. Only 1 article is negative towards the application of the PP.

¹² N. Hulot, « OGM : la raison contre les préjugés », Le Monde, 17 Jan. 2008.

¹³ M. Debrand, « Sauvons les OGM! », Le Monde, 8 Sept. 2004.

In the period from 2004 to 2005 focuses on the topic of endocrine disruptors under the scope of general chemical pollution, phthalates and REACH. From 2008 onwards, it is the issue of Bisphenol A that concentrates the debate.

Compared to the strong debate concerning the Precautionary principle with GMOs, the articles about Endocrine disruptors display a less contentious panorama. Indeed, only one article opposes to the application of the Precautionary principle and the great majority of the articles (more than 70%) present a positive position regarding its application. The situation appears thus greatly consensual on the relevance of the principle in this case study.

First the **unknown long-term effects** of Endocrine disruptors call for the application of the Precautionary principle, as displayed by an article from 2008. With the headline 'Cosmetics for babies under surveillance', the journalist reports on the alarming results of scientific research on Endocrine disruptors, quoting two scientists. She then moves on to quoting the call from the spokesperson of an NGO for immediate action through the Precautionary principle, in the doubt of the long-term effects on health:

La problématique soulevée par le C2ds est tout autre puisqu'elle pose la question d'éventuelles conséquences sur le long terme. Ce serait l'accumulation des substances chimiques dans l'organisme qui entraînerait une toxicité sournoise. " Il n'est pas acceptable d'attendre trente ou quarante ans pour s'apercevoir que les substances chimiques ont des répercussions sur la santé humaine, mais agir au nom du principe de précaution ", réclame M. Cicoella.¹⁴

Another argumentation developed supporting the Precautionary principle in face of unknown effects deals with the observation of the **insufficiency of current legislation** failing to apply the Precautionary principle. In an article from 2008 with the headline 'Cosmetics: beware of the chemical potion', the journalist quotes the spokespersons of two NGOs finding that there is **insufficient action from authorities** to enforce the Precautionary principle:

Les industriels n'enfreignent pas la loi en France. Mais on a un faisceau de présomptions. Le principe de précaution n'est pas appliqué ", déplore Anne-Corinne Zimmer, membre du comité scientifique de WECF France et auteur de Polluants chimiques, enfants en danger (Editions de l'Atelier, 288 p., 19 euros). " Nous voyons encore des choses stupéfiantes. Des mallettes sont encore distribuées dans les maternités, avec des produits suspects, dont, récemment, un sirop pour enfants avec du benzoate de sodium (E211) ", constate Olivier Toma, président du C2DS.¹⁵

The only article reporting on a negative perspective towards the application of the Precautionary principle is a very short summary of the opposition of the chemical industries to the ban of phthalates in France in an article from 2011. The report is titled 'Health, chemical and plastic industries contest the ban on phthalates' and quotes spokespersons from both industries. The very short quotes hint towards an argumentation in terms of **denial of the existence of risks** and of opposition due to the **hindrance for technology and innovation** as well as the abusive interpretation of the Precautionary principle which **doesn't improve health protection**:

¹⁴ S. Blanchard, « Cosmétiques bébés sous surveillance », Le Monde, 15 Oct. 2008.

¹⁵ P. Santi, « Cosmétiques: attention à la potion chimique », Le Monde, 23 March 2010.

*[L'Union] des industries chimiques s'est élevée, mercredi, contre ce qu'elle qualifie de " non-sens scientifique, technique et réglementaire ". De son côté, la filière plastique considère " que ce texte est fondé sur une interprétation abusive du **principe de précaution** " et " qu'il n'apporte pas d'amélioration en matière de sécurité sanitaire "¹⁶.*

As a short summary, it can thus be observed that the debate around the Precautionary principle regarding Endocrine disruptors revolves mainly around the following arguments:

- The current state of knowledge and research on long term effects is insufficient
- The existence of the health risk
- The insufficiency of the current legislation and measures
- The Precautionary principle steers or hinders research and innovation.

¹⁶ N.a., « Santé: les industriels de la chimie et du plastique s'élèvent contre l'interdiction des phthalates », Le Monde, 6 May 2011.

3. Conclusion

In France from 2000 until 2018 the media Le Monde appeared to frame the public discussion on the Precautionary principle as a discussion encountering various hotspots in time, around 2001, 2009 and 2017. The different hotspots correspond to two of our case studies, namely the debate on GMOs and the debate on Endocrine disruptors. The main spokespeople on those topics were journalists, academics and public officials. The repartition of perspectives provided are dominantly neutral or positive towards the use of the Precautionary principle, while the negative perspective is under-represented. Amongst the most frequent arguments quoted in arguments about the Precautionary principle are:

- The current state of knowledge and research on long term effects is insufficient or sufficient
- Current measurement and labelling practices are challenged by innovation
- A thorough and impartial evaluation and research for decision-making is needed
- Health and environmental risk
- The Precautionary principle steers or hinders research and innovation.

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