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The regulation of nutritional labels in the EU internal market, *today*

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List of Abbreviations

AGCM	Autorità Garante della Concorrenza e del Mercato
BOPL	Back-Of-Package Label
BSE	Bovine Spongiform Encephalopathy
CAP	Common Agricultural Policy
CHEE	Charges having Equivalent Effect
CMO	Common Market Organization
DRV	Dietary Reference Values
EAGGF	European Agricultural Guarantee and Guidance Fund
EC	European Community
ECJ	European Court of Justice
ECSC	European Steal and Coal Community
EEA	European Economic Area
EEC	European Economic Community
EFTA	European Free Trade Association
EU	European Union
FBDG	Food-Based Dietary Guidelines
FIC	Food Information to Consumers
FOPL	Front-Of-Package Label
GATT	General Agreement on Tariffs and Trade
GDA	Guideline Daily Amount
GDL	General Labelling Directive
GDP	Gross Domestic Product
GFL	General Food Law

HACCP	Hazard Analysis and Critical Control Points
HFSS	High in Fat, Salt or Sugar foods
IARC	International Agency for Research on Cancer
JRC	Joint Research Centre
MEEQR	Measure having Equivalent Effect to Quantitative Restrictions
MFF	Multi-Annual Financial Framework
MTL	Multiple Traffic Light
N	Negative
NCD	Non-Communicable Disease
NGO	Non-Governmental Organization
OFF	Open Food Facts
P	Positive
PDO	Protected Designation of Origin
PGI	Protected Geographical Indication
PNNS	Programme National Nutrition Santé
SEA	Single European Act
SPS	Sanitary Phytosanitary Standards
TEU	Treaty on the European Union
TFEU	Treaty on the Functioning of the European Union
TSE	Transmissible Spongiform Encephalopathy
UK	United Kingdom
UN	United Nations
WHO	World Health Organization
WTO	World Trade Organization

INTRODUCTION

Nutrition labelling aims at informing consumers about the nutritional contribution that specific foods and drinks make to the overall diet. It is defined as "*a description intended to inform the consumer of nutritional properties of a food*"[1] and, in Europe, it currently consists of two components: the nutrient declaration and supplementary nutrition information. Consumers have been reported to perceive classical nutrition declaration tables, commonly found on the back of food packages, as inaccessible and hard to understand. Several attempts have therefore been made at making nutrition information simpler, more practical, and easily accessible to the average consumer in order, most of all, to allow better understanding and consequently grant the safe consumption of food products.

The one attempt that is currently enacted in Europe is a result of the Regulation 1169/2011 (FIC), which introduced the legal basis for the use of Front-of-Package Labels (FOPLs), even though some of them were already in use in the single Member States before the normative took place. The FOPLs that are on the EU market at this time all have different natures and styles, but their ultimate objective is to repeat some of the elements of the nutritional information to make it easier to comprehend for consumers, without the need of having particular education on food matters.

Safety has always been a cornerstone of EU law both for foodstuffs and products in general. As a matter of fact, the *Cassis de Dijon* judgement in 1979 already concerned foodstuffs and had major implications that went beyond the sole impact on the evolution of the internal market. Even though the current EU food law concern for safety has strengthened during the last decade of the XX century, it had always been a central concern for institutions.

Therefore, the FIC Regulation comes at a time when food safety had already been a declared central principle of both the internal market law and the food law for over three decades. Particularly, it answers to the same requirements imposed by Article 168[2] of the

[1] World Health Organization; (2021) *Implementing nutrition labelling policies: a review of contextual factors.* Licence: CC BY-NC-SA 3.0 IGO. https://iris.who.int/bitstream/handle/10665/345119/9789240035089-eng.pdf?sequence=1

[2] Article 168 TFEU "*Union action, which shall complement national policies, shall be directed towards improving public health. […] The European Parliament and the Council, […] may also adopt incentive measures designed to protect and improve human health […]*".

Treaty on the Functioning of the European Union, which imposes a limit in harmonisation to EU institutions according to which they do not have the power to directly intervene in matters of public health. For this reason, the Union can only have an indirect role, and rather stimulate[3] interventions by States and support changes in production creating high standards for the protection of public health.

The EU Commission has declared the intention to introduce a harmonised version of the FOPL tool all over the internal market. At this point in time, that has not happened so far. Also, the profound differences of the various schemes and the opinion of the scholars, researchers, and producers of foodstuffs in the MS do not give any hint to what a possible harmonised measure would look like.

At the same time, some of the most popular versions of FOPL that are currently on the market have the tendency to be pretty divisive for public opinion, to the point that even though some of them have been implemented in more than one State, the remaining States are completely opposed to the idea of the usage on their territory.

That is the case for the object of this study, Nutri-Score, on which the debate is still on whether it is able to create more consumer awareness or not. Nutri-Score was, in fact, analysed and dissected in every one of its parts by scholars and food experts, and its innovative method was transformed and converted into online tools and mobile applications which can grant "*ready-for-use*" evaluations on food products. Among those tools, there is one particular app that has been the most famous both for good and bad reviews, the *Yuka* app.

Nutri-Score and *Yuka* have been chosen as the object of analysis for this dissertation because of their divisive nature, with the objective of examining their strengths and weaknesses. Especially, as they both were at the centre of investigations of the Italian Antitrust[4], the discussion also involves the possibility that their use might or might not be misleading for consumer's opinions, and therefore represent a threat to the free movement of foodstuffs around the EU internal market.

In these cases, the AGCM has to balance between the need for simplification imposed by the EU FIC Regulation – which would grant more *consumer safety* because of labels'

[3] Schütze R., (2006) *Co-operative Federalism Constitutionalized: The Emergence of Complementary Competences in the EC Legal Order*, European Law Review 31 p. 167.
[4] Autorità Garante della Concorrenza e del Mercato, AGCM.

better intelligibility – and the need of *protection of the market* from possible limitations of freedom to the consumers' choices, granted by both Italian law and EU provisions.

The scope of this research is to correctly frame the current EU normative setting in respect to nutrition labelling, study the ways it was interpreted during the years and also examine if the purposes for which it was originally implemented have been met since that moment. At the same time, the discussion about simplified labels brings questions about their relationship with market and competition as well. Does granting more intelligibility via FOPLs, sometimes, influence consumers to the point of misleading them in their choices?

The first chapter of this research lays the foundation for the following analysis, as it is dedicated to contextualizing the role of food products in the internal market. To be able to do so, it is necessary to start from the very beginning of its shaping, as foodstuffs were initially incorporated into the concept of "goods", to become autonomous entities with the enactment of the Common Agricultural Policy in 1962. Such policy has been the cornerstone of both EU Food Law and the law of the internal market, being the first policy to be enacted commonly for all the MS as a method of *positive integration*, and the first "revolution" in the EU conception of Food Law and EU Food Governance.

The second "revolution" is then examined in the second chapter, that actually goes on with laying down the structure of the EU with regards to Food Law. In particular, it marks the sudden change in priorities of the EU institutions concerning consumer health and safety. The events which took place at the end of the XX century, namely the "mad cow" emergency that created struggles for the free movement of bovine meat for years, brought the EU institutions to the point where changes in the legislation had to grant more controls over *production* (especially the phase of primary production of beef), and *consumption*, mainly via more information on labels[5].

The second chapter analyses the first intervention: the action of EU institutions on the production controls principally happened via the implementation of Regulation 178/2002. The Regulation introduced two pivotal principles: traceability and precaution. Also, on the matter of Food Governance, it established the European Food Safety Authority (EFSA), the main point of reference in the EU for aspects of food safety.

[5] At the same time, consumers had to be provided with more education about labels to be able to understand the reported product characteristics.

The second element, namely the normative action of EU – concerning food safety – for *consumption* mainly happened with the intervention on labels, which is explained in the third chapter. Specifically, labels had to contain all of the necessary information to grant consumers awareness on the product: on production, composition, origin, storage and expiration. Such information would give the consumer the possibility to make a safer usage of foodstuffs. However, in order to really make a difference in their choices, it was also necessary for them to be able to comprehend what was the nutrition information included on the label. Regulation 1169/2011 introduces the possibility to voluntarily *simplify* the mandatory nutrition information which is included on every foodstuff label via Front-of-Package Labels (FOPLs).

Each MS can implement their own "simplification", the different types are object of classification for type in the third chapter, which also shows how and how much the use of certain FOPLs can affect consumer's attention and later decisions at the moment of purchase.

Finally, the fourth chapter explores the Nutri-Score phenomenon and analyses the transformation of the BOPL information into said interpretative FOPL, how it developed and mostly what are the current contrasting opinions and criticisms on the scheme.

At the same time, further examination is dedicated to newer transformations of the Nutri-Score into new "*ready-for-use*" scoring methods, such as websites and mobile apps, like *Yuka*. Lastly, the chapter also dives into the AGCM cases against both Nutri-Score and *Yuka*, their premises and outcomes.

CHAPTER I

THE DEVELOPMENT OF FOOD LAW IN EUROPEAN UNION

Preliminary remarks

In order to understand how labels became what they are today in the European background and discuss about their possible future through the Nutri-Score and *Yuka* cases, it is necessary to understand what the process of development of Food law was, how it started and evolved. Foodstuff and everything related to it has always been at the centre of attention for European institutions, since the Treaty of Rome of 1957, which already set out the guidelines for the formation of a single, united EEC market and was later considered as the basis for the design of the subsequent fundamental European Treaties. All the same, during the first years after the Treaty, the Court of Justice worked in order to set out the basic principles of a common market, with judgements that would become cornerstones of the European Law as it is known today. Examples are *Van Gend en Loos* (1963), *Costa* (1964) or, later and much more focused on the internal market as such, *Dassonville* (1974) and *Cassis de Dijon* (1979). However, the real EU Food Law as it is known today has been the consequence of a long process that has lasted for, now, almost 70 years, as it started and developed along with the internal market of goods.

The development of European food law has been a phenomenon that has had two different fronts: on the one hand, EU[6] has worked in order to make foodstuffs, as agricultural and farm products, part of an approximation process aimed at making sure that all products were produced, treated, and marketed following the same guidelines all over the Union. On the other hand, institutions also had to make sure that the foodstuffs *were*, in fact, free to circulate over the Member States'[7] territories without being more hindered than other goods because of their nature, strictly related to health and consumers' safety.

The growth process of Food Law has started with little legislation dedicated directly to food products as such, considering that the institutions still had to work in order to create a single market among the MS. Even then, health protection was already considered a prominent value which did not accept any balancing, as depicted in Directives

[6] At the time, European Economic Community, EEC.
[7] Henceforth, MS.

62/2645/EEC[8] and 64/54/EEC[9] on the approximation of laws of the MS concerning respectively matters of colouring and preservatives in foodstuffs.

More specific information was then granted through the Common Agricultural Policy (CAP) in 1962, which resulted in much more than a mere agricultural policy, as it intervened not only with financial support for farmers and their activities, but also to directly regulate food production and products and work on the approximation of rules for agriculture throughout the MS' territories, starting a harmonisation process via both vertical and horizontal directives[10].

Some of the elements which will be considered as cornerstones of the EU were, at this point in time (the very beginning of the Community), only *passepartout tools* that will not acquire a formal legitimacy until the Single European Act[11] of 1986 (e.g., common market, competition, free movement of foodstuffs…). In the meantime, though, food nonetheless needed to be part of the international trade, so, together with the approximation of the agricultural policies, institutions started treating foodstuffs as analogue to goods in order to grant their movement. Even so, food was never fully the same as any other good, since more protection had to be granted to the consumers: examples of this distinction can be found in Directives 396 and 397 of 1989 for identification and official control of foodstuffs[12].

During the 80's then, a great impact was represented by the changing of the internal market with the new interpretation of restrictions of the free movement (quantitative and equivalent measures), the institution of the principle of mutual recognition through the

[8] Council Directive 62/2545/EEC on the approximation of the rules of the Member States concerning the colouring matters authorized for use in foodstuffs intended for human consumption, OJ 115 11.11.1962, p. 2645–2654

[9] Council Directive 64/54/EEC of 5 November 1963 on the approximation of the laws of the Member States concerning the preservatives authorized for use in foodstuffs intended for human consumption, OJ 12, 27.1.1964, p. 161–165

[10] Examples of the first are the Council Directives on honey of 1974, fruit juices of 1975. The second ones are instead, the "hygiene package" or the first Directive on labelling, presentation and advertisement of foodstuffs no. 79/112/EEC.

[11] Henceforth, SEA.

[12] Article 2(2) of Council Directive 89/396/EEC focuses on food only *after* the primary agricultural phase. This element is important to examine, in order to understand the impact of the BSE crisis on the approach of the EU institutions regarding foodstuffs. The same rule was applied in the first HACCP (Hazard analysis and critical control points) Directive 93/43/EEC. It will be removed only ten years later with Regulation 178/2002.

Cassis de Dijon judgement and the impacts of both the SEA and the subsequent Maastricht Treaty of 1992.

The end of the XX century also marked an important moment of evolution in the history of Food Law and, more in general, in the EU legislation overall, as some events caused a shift of the lawmakers' attention from the sole institution of the internal market to the importance of health and safety of consumers. Said situation will be object of study in Chapter II, as it was one of the pivotal moments which granted Food Law an autonomous role, also via the development of means of positive integration, such as the CAP.

This chapter will discuss the development of the EU Food Law up until that point. The first paragraph will deal with the development of the movement of food as goods from the very beginning of the internal market, with the related important case-law. The second paragraph will concentrate instead on the progress of the Food law in relation to the Common Agricultural Policy, its impact on the positive and negative integration of law in the Union.

1.1. Free movement of food products as "goods"

Right at the beginning of the history of the European Community, the internal market was just an objective to be reached through the cooperation of all the States that would be part of the organization. At that point in time, the internal market still had to be shaped, as Europe was just born.

Nonetheless, the necessity for foodstuffs, just like any other good, to be marketed throughout the MS still stood, that is why their free circulation in Europe answered the same principles. Even though these two groups can go together, they still have some differences which need to be taken into account. In fact, the circulation of produce and, in general, foodstuffs have faced many obstacles during the years, in comparison to the movements of goods[13]. The reason for said difficulty can be found in the fact that food production and market are strictly related to health and consumer safety. This relationship appeared both in the need for stricter legislative control before consumption, in the food supply chain system, because of the food system's involvement with science, technology, logistics and management disciplines, and at the moment of usage of the product by consumers: many legislative interventions on foodstuffs were, in fact, dedicated to

[13] Costato L. (2009) *Il diritto alimentare: modello dell'unificazione europea in Rivista di Diritto Alimentare*, Rivista diritto alimentare, 3, p. 1 https://rivistadirittoalimentare.it/rivista/2009-03/2009-03.pdf

granting all the necessary information for a healthy consumption of products after the purchase.

The free movement of goods as we know it today was not only shaped by the primary law of the Treaties, but also by the constant case-law of the European Court of Justice[14]. When looking at the main cases that modelled the movement of goods, we can actually take notice of the fact that some of the fundamental ones concern the movement of food throughout the MS. Thus, food law derives directly from EU Law, and food always had a main role in the *internal market* even though there was no specific distinction between food and goods. The distinction between the two has grown over the years, and mainly thanks to the ever-growing interest of the institutions of EU in the sectors of food safety and health. This also derived from external influences and emergencies which quickened the necessity for more specific legislation on the matter.

To learn about the circulation of food as goods, we have to take a step back and analyse the freedom of circulation of goods in the EU first.

1.1.1. The making of the internal market: history and phases of the enforcement

The project for the introduction of a common market of the EU was first launched with the Treaty of Rome in 1957[15], which was the origin of the Economic European Community.

Articles 2 and 3 of the Treaty state the main objectives of the Community: "*establishing a common market and progressively approximating the economic policies of Member States, to promote throughout the Community a harmonious development of economic activities"* together with *"[…] (a) the elimination, as between Member States, of customs duties and of quantitative restrictions on the import and export of goods, and of all other measures having equivalent effect;*
(b) the establishment of a common customs tariff and of a common commercial policy towards third countries;
(c) the abolition, as between Member States, of obstacles to freedom of movement for persons, services and capital; […]".

[14] Henceforth, ECJ or "the Court".
[15] European Union, Treaty Establishing the European Community (Consolidated Version), Rome Treaty, 25 March 1957. It was signed by Belgium, France, Italy, Luxembourg, the Netherlands and West Germany and entered into force on 1st January 1958. Available at: https://www.refworld.org/docid/3ae6b39c0.html

The Treaty of Rome set the establishment of a common market, with the application of a single harmonised law of competition among the MS. Not only, as it also abolished quotas and custom duties, establishing an individual common external tariff for third countries and a common trade policy. It introduced both the concepts of customs union and free trade area, which were, later on, made more specific through the Treaties.

The result of the enforcement of the Treaty of Rome was an improved intra-Community trade through the elimination of quotas and the gradual lowering of the custom barriers. This process was completed in July 1968 with the EEC customs union, among the six MS that the Community counted at the time. As for specific policies for agricultural products, the Common Agricultural Policy (CAP), in force since 1962, comprised a product-specific Community market organisation which established a unified market with guaranteed prices and supported farming and agriculture work, at the same time being one of the main legislative interventions entirely and directly dedicated to foodstuffs. The CAP was actually really important for the development of the market as it represented the first situation in which the Community had decided to create a common policy for specific kinds of products, in this case, agricultural and food, using the positive integration method[16].

The White Paper titled "Completing the Internal Market" was presented by Jacques Delors, the President of the European Commission (European Commission, 1985) [17]. About 300 actions were recommended by the White Paper for the EEC to perform in order to turn the "*common market*" into a "*single market*." Overall, the recommended actions were to lower barriers that were related to taxes, non-tax issues, and technical issues between the MS (many of which had been raised during the years in which the progress of the Union was more stagnant).

According to the "Single Market Programme," the new single market shall support the free flow of goods, services, capitals, and people throughout Europe. The “Single European Act” (SEA), which contained the laws enacting the white paper provisions, was signed in 1986. All member nations were required to implement the act's provisions no

[16] A more detailed study of the CAP and its role in the EU legislation and market can be found in the next paragraph of this chapter.

[17] COM (85) 310 final White Paper on Completing the Internal Market by the Commission and European Council

later than December 1992[18]. SEA was also fundamental for the implementation of harmonisation, as it introduced Article 100a EEC[19], which provided for qualified majority voting when enacting measures for the approximation of MS' laws which have as their object *the establishment and functioning* of the internal market.

The two main objectives were, anyway, the formation of the internal market by 1992 and the long-term goal of creating the EU. Collateral to these two targets was the implementation of a common foreign policy throughout the Member States.

Yet, States have not always fully adhered to the promises of free trade. The majority of economic history since the eighteenth century has been a history of economic "nationalism". Each State has built trade barriers around its national market and been "protective" of its own national economy. The two most important barriers in this context have been "customs duties" (or tariffs barriers) and "quantitative restrictions" (or non-tariff barriers). The underlying motivation behind the establishment of the EU's "internal market" was and is the abolition of such state "protectionism"[20].

The Union required to "free" the internal market from unjustified national barriers to trade in goods, persons, services, and capitals; and, in order to create these four "fundamental freedoms" the EU's strategy was using both "negative" and "positive integration". The first one is enacted through Treaties, which contain four prohibitions that "negate" illegitimate barriers to intra-Union commerce[21].

A second method, positive integration, is used in conjunction with this negative integration strategy. Here, the Union is tasked with passing legislation that will reduce impediments to intra-Union commerce caused by the variety of national laws. The EU Treaties provide the Union a variety of legislative "internal market" competencies to accomplish this objective. The most general of these horizontal competencies may be found in Title VII of the Treaty on the Functioning of the European Union[22]: the most

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[18] EU glossary: Jargon SZ, 16 November 2010, available at http://www.bbc.com/news/world-europe11769554

[19] Today Article 114 TFUE

[20] Schütze, R. (2021) *Free Movement of Goods I: Negative Integration.* In *European Union Law*. Chap. 13. Oxford: Oxford University Press. p. 500., from https://www.oxfordlawtrove.com/view/10.1093/he/9780198864660.001.0001/he-9780198864660-chapter-13

[21] These are articles 28 and 30, 34 and 35 TFEU, that will be specifically analysed in the next paragraphs.

[22] Henceforth, TFEU. The Treaty was renamed, and its articles were converted to different enumerations after the signing of the Treaty of Lisbon in 2009. Originally, it was published as "Treaty establishing the

significant provision here is Article 114[23], which grants the Union the right to take harmonising measures[24]. This provision gave the Union legislator a horizontal competence, save where otherwise provided[25], to harmonise national laws that affected the internal market, and therefore became the broadest legislative competence of the Union. Article 114 TFEU acted as a revolution in harmonisation, as it enabled the Union to act directly on the MS legislations through regulations, hence eliminating the necessity for *harmonised national rules* created by directives[26]. All the legislative holes are then filled by secondary legislation and case-law.

The direct consequence is that the four fundamental freedoms may be upheld in national courts as European rights as they are foreseen both by primary, secondary legislation and case-law. Because of this constitutional decision, the EU (and national) judiciary has become the "champion of negative integration" according to Schütze[27]. The courts are tasked with "freeing" national markets from impermissible trade restrictions; as a matter of fact, most of the EU's "internal market law" as a result is "case law" created by the European Courts[28].

1.1.2. Free movement of goods in the internal market

To be as they are, the internal market's[29] four freedoms were slowly implemented by the EU and the MS. The first freedom to be fully implemented since it was the easiest to

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European Economic Community" (TEEC), but it was modified into Treaty establishing the European Community (TEC) via the Maastricht Treaty in 1992.

[23] Article 114 para 1 "*Save where otherwise provided in the Treaties, the following provisions shall apply for the achievement of the objectives set out in Article 26. The European Parliament and the Council shall, […], adopt the measures for the approximation of the provisions laid down by law, regulation or administrative action in Member States which have as their object the establishment and functioning of the internal market*."

[24] Schütze R., *(2021) Free Movement of Goods I: Negative Integration. In European Union Law. cit.,* p. 501. Article 114 was, as previously mentioned, implemented as Article 100a EEC in 1986 by SEA.

[25] The same Article provides otherwise in the second paragraph, where it states that 114(1) does "not apply to fiscal provisions, to those relating to the free movement of persons nor to those relating to the rights and interests of employed persons".

[26] Schütze, R. (2021). *Free Movement of Goods II: Positive Integration. In European Union Law.* cit. p. 562

[27] Schütze R., *(2021) Free Movement of Goods I: Negative Integration. In European Union Law. cit.* p. 503

[28] This result was, once more, the result of case law. The "direct effect" and "primacy" were, in fact, stated by two of the main cases of EU law, Case C-26/62 NV Algemene Transport- en Expeditie Onderneming van Gend & Loos v Netherlands Inland Revenue Administration ECLI:EU:C:1963:1 and C-6/64 Flaminio Costa v E.N.E.L. ECLI:EU:C:1964:66.

[29] Article 26, paragraph 2 "*The internal market shall comprise an area without internal frontiers in which the free movement of goods, persons, services and capital is ensured in accordance with the provisions of the Treaties*."

achieve, was of course the freedom of movement of goods. The reason why is firstly that goods were considered to be a less sensitive area for the States to lose sovereignty over; secondly, that it was simpler to set a standardized law to apply to the exchange of material goods. At the same time, international trade in goods was already a solid reality among the States of EU (still independent from one another at the time), so it made a solid example for the constitution of EU internal trade[30].

The whole concept of what had to be understood and freely circulated (with the application of the rules concerning the Customs Union and the Free Trade Area) among States as "good" was specified though case law by the ECJ.

It was first discussed in the *Commission v. Italy* judgement of 1968[31] which argued about the possibility for States to have a say over the exportation of certain kinds of goods (such as artistic artifacts). The Court clarified that *all products* had to be taken into account when talking about "goods" as they were *"valued in money and capable of forming the subject of commercial transactions".* In subsequent decisions, the Court defined the term more generally as objects that are *"shipped across a frontier for the purpose of commercial transactions"*[32]. This definition has then been interpreted widely to include paintings, animals, waste, as well as intangible products, such as electricity, and natural gas[33].

[30] International trade had already been developed for years. Particularly, after World War II, Western countries had worked together to become more open to global trade and implement limitation of barriers, signing their participation in the General Agreement on Tariffs and Trade (GATT) in 1947. The strength of its application was later weakened in the EU because of the enter into force of the Treaty of Rome, ten years later, which, thanks to the application of Article 113, imposed the complete control of the EU institutions over trade, therefore limiting the direct consequences of international agreements over the single MS (which instead answered from that moment on to EEC).

[31] Case C-7/68 Commission v Italy, ECLI:EU:C:1968:51 – it stated that "*by goods, within the meaning of article 9 of the EEC (today abrogated and stated in other articles) treaty, there must be understood products which can be valued in money, and which are capable, as such, of forming the subject of commercial transactions. The rules of the common market apply to articles possessing artistic or historic value subject only to the exceptions expressly provided by the treaty*" pp. 428-9.

[32] Case C-2/90, Commission v Belgium, EU:C:1992:310, para 26

[33] See cases C-7/78, Thompson, EU:C:1978:209, C-72/83, Campus Oil, EU:C:1984:256, C-393/92, Almelo, EU:C:1994:171, C-159/94, Commission v France, EU:C:1997:501.

1.1.3. Free movement of goods through primary legislation and the relevant case law

The legal framework of the free movement of goods is now set in Part Three, Title II of the TFEU, in articles from 28 to 37. Its content was directly written on the basis of the content of the pre-existing Treaty of Rome[34].

Article 28 regulates over the movement of goods on a twofold dimension: external and internal. The external dimension deals with goods that are imported or exported to and from third countries with "the adoption of a common customs tariff"[35]. Once the custom tariff is paid for in one of the MS[36], it enters the "*free trade area*", which means it can be transferred throughout the other countries without the need for setting another custom duty. It is related to the idea of establishing consistent standards for the admission of goods from the outside world along the EU's external border, therefore treating them in a uniform manner. The same rate of duty is charged, and the same procedures are applied whatever the port of entry of the goods[37].

The internal dimension establishes the *custom union*. Once the good (either originated in one of the MS or already levied of duty but originated in a non-MS[38]) has been presented to the customs authorities in a MS and released for circulation, it can freely circulate among them without any further duties, charges, or procedures applied to them[39]. Once entered, the good has to be treated in a uniform manner, as it answers to harmonised rules.

The application of articles 28, 29 and 30 of the Treaty has been an intricate process, because of the MS' necessities in terms of economy and above all, national regulatory

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[34] More specifically, the provisions of the Treaty of Rome dedicated to the Freedom of movement of goods and Custom Union were written in Title I and Chapter I, from Article 9 to 37.

[35] Article 28 TFEU "*The Union shall comprise a customs union which shall cover all trade in goods and which shall involve the prohibition between Member States of customs duties on imports and exports and of all charges having equivalent effect, and the adoption of a common customs tariff in their relations with third countries*."

[36] Article 4 Union Customs Code (UCC) defines the geographical area in which EU customs law is applied.

[37] Klamert, M. and others, *Article 28 TFEU*, in Kellerbauer M., Klamert M., and Tomkin J., (eds), *The EU Treaties and the Charter of Fundamental Rights: A Commentary* (2019); online edn, Oxford Academic https://doi.org/10.1093/oso/9780198759393.003.104 , accessed 19 July 2023, p. 478-486.

[38] Article 28, paragraph 2 "The provisions of Article 30 and of Chapter 3 of this Title shall apply to products originating in Member States and to products coming from third countries which are in free circulation in Member States."

[39] See Article 29 "*Products coming from a third country shall be considered to be in free circulation in a Member State if the import formalities have been complied with and any customs duties or charges having equivalent effect which are payable have been levied in that Member State, and if they have not benefited from a total or partial drawback of such duties or charges*." and Case C-30/01, Commission v UK, EU:C:2003:489, para 60.

autonomy. Hence, during the years and the various presented case-law, the ECJ has continuously expanded and contracted the scope of Article 28 as well as the list of justifications that could support national legislation covered by the Article, in pursuit of a suitable balance between the needs of the Union and the ones of the Members. It is crucial to find a strategy that can accommodate both the present trade needs and all the specific national preferences, in order to grant legal certainty together with the overall consistency of case law.

The internal and external dimensions of article 28 are discussed further in the application of Article 30, which is directly and logically connected to it and has to be read accordingly.

Article 30[40] of the Treaty was implemented in order to contain directly applicable rules to ensure that no duty impedes goods to freely circulate in the Free Trade Area granted by articles 28 and 29.

The Court clarified that a custom duty is a pecuniary charge imposed on goods by reason of the fact that they have crossed a frontier and paid by the importer to the host State[41]. In case of *Van Gen den Loos*[42] the Court also made clear that customs duties are per se unlawful under Article 12 EEC (now 30 TFEU), however small they are and even if they are not directly designed with protectionism in mind by the State. That was the case in *Commission v. Italy*[43] in which, when deciding upon a tax Italy had imposed on the export of artistic, historical, and archaeological items, the Court rejected the arguments put forward by Italy, according to which the purpose of the tax was not raising revenues but rather protecting the artistic heritage of the country.

In compliance with the opinions of Pasat, custom duties can either have a fiscal or retaliation character depending on their scope. The difference between the two is that fiscal taxes are lower and only intended to fund the national budget; retaliation taxes are higher and intended to lessen the competitive power of imported goods and protect

[40]Article 30 "*Customs duties on imports and exports and charges having equivalent effect shall be prohibited between Member States. This prohibition shall also apply to customs duties of a fiscal nature*."
[41] Joined cases 2 and 3-69 Sociaal Fonds voor de Diamantarbeiders v S.A. Ch. Brachfeld & Sons and Chougol Diamond Co, ECLI:EU:C:1969:30 paras. 11-14.
[42] Case C-26/62 Van Gend & Loos v Netherlands ECLI:EU:C:1963:1, *cit.*
[43] Case C-7/68 Commission v Italy, ECLI:EU:C:1968:51 *cit.*

domestic industry from foreign competition[44]. Regardless of the fact that the tax can be comprised in one scope or the other, they are prohibited inside the Union.

Other than custom duties as such, States are even forbidden to put into place "charges having equivalent effect"[45] [to custom duties], mentioned both in article 28 and 30 of the Treaty. As it usually happens, the concept of the CHEEs has been furtherly discussed and explained by means of case law[46].

According to judgements of the ECJ, in multiple cases during the 60's, CHEEs have to be identified in *"any pecuniary charge, however small and whatever its designation and mode of application, which is imposed unilaterally on domestic or foreign goods when they cross a frontier, and which is not a customs duty in the strict sense"* [47], independently of its scope and intentions on the point of view of the State[48]. That is to say that *any* kind of charge has to be considered against Article 30, even though it is not imposed to the advantage of the State, it does not have the nature of a discriminating or protective measure, or if the good on which the charge is levied is not in direct rivalry with any domestic good.

Specifically, a duty, whatever it is called, and whatever its mode of application, may be considered a CHEE to a customs duty, provided that it must be imposed unilaterally at the time of importation or subsequently, upon a product imported from a MS to the exclusion of a similar national product[49] and it must result in an alteration of price and thus have the same effect as a customs duty on the free movement of goods (in order for it to be distinguished from the application of articles 34 and 35 on measures – different from charges – having an equivalent effect to custom duties) [50].

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[44] Pasat O., *Customs Duties: Customs Tariff in Perspectives of Business Law Journal*, Vol. 2, Issue 1 (November 2013), p. 165-174

[45] Henceforth, "CHEEs".

[46] Cases that explained the concept of CHEEs: C-7/68 Commission v Italy ECLI:EU:C:1968:51, C-24/68 Commission v. Italy ECLI:EU:C:1969:29, C-2 and 3/69 Fonds voor de Diamantarbeiders v. Brachfeld et. al. ECLI:EU:C:1969:30, C-39/73 Rewe Zeltralfinanz v. Direktor der Landwirtschaftskammer Westfalen-Lippe ECLI:EU:C:1979:42

[47] Case C-24/68, Commission v. Italy, ECLI:EU:C:1969:29, para 7.

[48] Case C-2 and 3/69, Diamantarbeiders v S.A. Ch. Brachfeld ECLI:EU:C:1969:30, para 18

[49] C-78/76 Steinike & Weinlig v Federal Republic of Germany ECLI:EU:C:1977:52, para 28. The same criteria was then explained again by the ECJ in Case C-178/84 Commission of the European Communities v Federal Republic of Germany, ECLI:EU:C:1987:126, paras 28-30.

[50] Barents, R. (1978), *Charges of Equivalent Effect to Customs Duties*, 15, Common Market Law Review, Issue 4, pp. 415-434, https://kluwerlawonline.com/journalarticle/Common+Market+Law+Review/15.4/COLA1978029

In various cases[51] the Court of Justice has stated that whenever the law of the EU requires a compulsory examination to be undertaken, such charge may not be object of application to Article 30 so long as they are obligatory as prescribed by EU law and uniform for all the products concerned in the Union; they promote the free movement of goods, in particular by neutralizing obstacles which could arise from unilateral measures of inspection adopted in accordance with Article 36 TFEU[52].

Other than those listed above, there are no other grounds upon which a Member State can seek to derogate from Article 30 TFEU.

The ECJ also gave a description of what the CHEE must look like in order to not be considered analogue to a custom duty:

- it must be taken into consideration for a service that must provide a specific benefit on the individual importer/exporter[53]; and
- the charge must be of an amount consistent with the provided service[54].

In particular, in *Bresciani v. Amministrazione Italiana delle Finanze*[55] (1975), the ECJ – with an emphasis on who would find financial profit from the provided service relative to a charge for veterinary and public health inspections on imported raw cowhides – found that while the system of public health inspections was created for the benefit of everyone (to be considered as a *general interest*), it could not be justified by the imposition of a financial fee as a service provided to the importer[56]. As such, the monetary charge was thus deemed to be a CHEE[57].

Articles 28 and 30 must be taken into consideration as combined provisions with Article 110 of the Treaty[58], which has the objective of preventing that the application of the first

[51] Cases C-46/76 Bauhuis v. Netherlands State, ECLI:EU:C:1977:6, and C-18/87 Commission v. Germany, ECLI:EU:C:1988:453

[52] Case C-18/87, Commission v Germany, EU:C:1988:453, para 8.

[53] Case C-39/82, Andreas Matthias Donner v Netherlands State ECLI:EU:C:1983:3

[54] An example of this circumstance is shown in C-18/87 Commission v Germany ECLI:EU:C: 1988:453 where the Court found that fees charged for animal inspections which were required by an EU Council Directive were, in fact, acceptable and in line with the EU legislation.

[55] Case C-87/75 Conceria Daniele Bresciani v Amministrazione Italiana delle Finanze ECLI:EU:C:1976:18

[56] Raffaele F. (2017) *The free movement of goods* in Torino R. et al, Introduction to European Union internal market law, Romatre-press, DOI:10.13134/978-88-94885-51-4 p.40

[57] An analogue judgement was also rendered in case C-170/88 Ford España SA v. Estado Español ECLI:EU:C:1989:306

[58] Article 110 "*No Member State shall impose, directly or indirectly, on the products of other Member States any internal taxation of any kind in excess of that imposed directly or indirectly on similar domestic*

two is rendered useless because of internal taxation of the single Member State. As such, it prohibits any kind of discriminatory taxation that results in a disadvantage for the imported good over the domestic one. Together with article 28, they shall prohibit any kind of charge or tax having an equivalent effect to a custom duty.

Internal taxation, as defined in the *Dankavit*[59] case (1978), can be distinguished from customs duties and charges having equivalent effects, that is, since the latter are levied on goods as a result of importation (levied at the frontier), whereas the former are a part of an internal taxation system.

The Court of Justice found itself ruling over different cases to outline what was to be considered fair to the import or export market and what instead was not (and therefore could be considered as CHEE). One example is the *Commission v France* ruling of 1981[60] in which the Court established that a CHEE cannot be identified if the tax of import is applied to a certain good whenever said good is not also produced in the importing market.

Moreover, MS also have the responsibility not to apply any taxes to products that are considered to be *similar*, and in competition on the market with a national production[61]. When the tax levied on an imported good and the one levied on a domestic good of a similar nature are calculated differently and based on different standards, the provision in Article 110's first paragraph is violated. This results, if only occasionally, in higher taxation being levied on the imported good[62].

In fact, if Article 110(1) is applicable, the violating Member State is required to, depending on the situation, either equalize the tax burden placed on domestic and imported goods or extend to imported goods the tax benefit previously given to domestic goods only (or, conversely, deny domestic goods a benefit granted to them). Despite giving the appearance that they do not discriminate against goods depending on their

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products.
Furthermore, no Member State shall impose on the products of other Member States any internal taxation of such a nature as to afford indirect protection to other products."

[59] Case C-132/78 SARL Denkavit Loire v French State, administration des douane ECLI:EU:C:1979:139

[60] Case C-90/79 Commission of the European Communities v France ECLI:EU:C:1981:27, p. 301 para 14

[61] Case C-170/78 Commission v. UK ECLI:EU:C:1980:53

[62] Case C-387/01, Harald Weigel and Ingrid Weigel v Finanzlandesdirektion für Vorarlberg, EU:C:2004:256, para. 67

origin, indirect discriminatory taxes still do so by imposing a particular burden on imported goods[63].

In case the goods are not *similar*, but instead *competing* even if partially or potentially, the interested paragraph of the same article is the second one. Goods are considered as *competing* in view of their manufacturing processes, composition, the overall preferences of consumers on the market.

The identification of the hypothesis of application of this paragraph is actually much more difficult because, while for the first paragraph it is also necessary to realize a comparison of the tax burdens applied to both the domestic and the imported good, the second paragraph instead has to consider the *protective nature* of the system of internal taxation which requires an assessment of the impact of the taxation on the competition between the two products[64].

When there is a risk of protectionist impacts on internal taxation, the second paragraph must be put into action. The offending Member State must totally remove the protected element if Article 110(2) is relevant. Therefore, there is no necessity of equalizing the tax burden.

Apart from the application of direct charges, analysed in article 30, with article 34[65] the TFEU had to take into consideration instances in which no explicit charge is put into place, but there are quantitative restrictions (i.e. prohibition of imports, setting up of quotas[66], limit of imports in different forms) to import and *measures having equivalent*

[63] Cases that show direct and indirect discrimination: C-112/84 Humblot v. Directeur des Services Fiscaux ECLI:EU:C:1985:185, C-90/94 Haahr Petroleum v. Åbenrå Havn ECLI:EU:C:1997:368.

[64] Kellerbauer M., *Article 110 TFEU*, in Kellerbauer M., Klamert M., and Tomkin J., (eds), The EU Treaties and the Charter of Fundamental Rights: A Commentary (2019); online edn, Oxford Academic https://doi.org/10.1093/oso/9780198759393.003.207 para 2. In Case 170/78, Commission v UK, EU:C:1983:202 paras 7–8, it was stated that the higher excise taxes levied by the UK on wine compared to beer constituted a violation of Article 110(2) since beer and wine were considered to be interchangeable products, as they were essentially belonging to the same class of alcoholic liquids since they both came from natural fermentation and had the similar use as drinks to quench thirst and accompany meals.

[65] Article 34 TFEU "*Quantitative restrictions on imports and all measures having equivalent effect shall be prohibited between Member States*"

[66] Case C-13/68 Salgoil SpA v Italian Ministry of Foreign Trade ECLI:EU:C:1968:54

effect[67] (i.e. licences, additional controls[68]) that come from both the State's legislation and its non-binding measures[69], and, in their most extreme form, amount to a total ban[70]. Schütze makes a distinction between *fiscal restrictions,* that is to say, the already discussed pecuniary charges imposed on imports and exports, and *regulatory restrictions* – non-pecuniary measures that restrict the market through "regulatory" means[71].

The *Geddo* case (1973) gives a description of both a quantitative restriction and a measure that can be considered equivalent to it, stating that *"The prohibition on quantitative restrictions covers measures which amount to a total or partial restraint of, according to the circumstances, imports, exports or goods in transit. Measures having equivalent effect not only take the form of restraint described; whatever the description or technique employed, they can also consist of encumbrances having the same effect"*[72].

Articles 34 and 35 of the Treaty state important rules for the import and export of goods in the EU, and, just like any other piece of primary legislation, their application has been object of analysis via other laws and subsequent decisions of the ECJ. The first interpretation was defined by the Commission in Directive 70/50/EEC[73], which distinguished between two types of measures that could infringe article 34: Article 2 of the Directive referred to measures that are « not applicable equally» to domestic and imported products. By contrast, national measures that are «applicable equally» were not generally seen as equivalent to those of quantitative restrictions. Product requirements that were indistinctively applicable to domestic and imported products were considered

[67] Henceforth MEEQRs. They were partially listed in Article 2 of Directive 70/50/EEC on the abolition of measures which have an effect equivalent to quantitative restrictions on imports and are not covered by other provisions adopted in pursuance of the EEC Treaty. It comprises, *inter alia*: imposing minimum or maximum prices for imported goods; fixing less favourable prices for imported products; lowering the value of imported goods by causing a reduction in their intrinsic value or increasing their costs, etc.

[68] Relevant cases for defining the concept of MEEQRs have been Case C-8-74 Procureur du Roi v. Benoît e Gustave Dassonville ECLI:EU:C:1974:82, C-39/73 Rewe Zeltralfinanz v. Direktor der Landwirtschaftskammer Westfalen-Lippe ECLI:EU:C:1979:42, Joined cases C-267/91 and C-268/91 Criminal proceedings against Bernard Keck and Daniel Mithouard ECLI:EU:C:1993:905, C-333/14 Scotch Whisky Association and Others v The Lord Advocate and The Advocate General for Scotland ECLI:EU:C:2015:845, C-265/95 Commission v France, EU:C:1997:595.

[69] Case C-387/99 Commission v Germany ECLI:EU:C:2004:235, para. 42.

[70] Case C-34/79, Regina v Henn and Darby ECLI:EU:C:1979:295, para. 12.

[71] Schütze R., *(2021) Free Movement of Goods I: Negative Integration. In European Union Law. cit.* p. 502

[72] Case C-2/73, Geddo v Ente Nazionale Risi ECLI:EU:C:1973:89, para. 7

[73] Commission Directive 70/50/EEC of 22 December 1969 based on the provisions of Article 33 (7), on the abolition of measures which have an effect equivalent to quantitative restrictions on imports and are not covered by other provisions adopted in pursuance of the EEC Treaty. OJ L13/29

to fall outside of the scope of Article 34, not as consequences of individual State measures, but rather the outcome of disparities between the rules of MS that would need to be removed through positive harmonisation via Union legislation, and not by negative integration[74].

In 1974 the ECJ then ruled the *Dassonville*[75] judgement, which would become the cornerstone for the interpretation and later application of Article 34 for all of the other European Courts. First and foremost, it stated one important requirement for the application of said article: the necessity for the transaction of goods to be cross-border, as the purely national transactions do not interest the application of the supra-national legislation. The cross-border element is also recognized in case the good is just *transiting* in the country (as mentioned in article 36 about justifications[76]).

There are two main instances in which a quantitative restriction can be identified – depending on the position assumed by the MS, one of them is active and the other is put into action by the omission of action of the State itself. The first one was first described in the *Dassonville* judgement, and for that reason it is now known as the *Dassonville formula,* (and then, afterwards, in other judgements of the ECJ[77]). The object of the *Dassonville* judgement was a Belgian rule prohibiting the importation of goods (specifically Scotch whisky), if the importers could not present an official certificate of origin which could only be obtained by those importers who received the goods directly from the country of origin (which was not the case, as the origin of the spirits was British, but the goods were imported from France).

The formula describes very broadly the restriction on the free movement of goods, identifying MEEQRs as "*trading rules enacted by Member States which are capable of hindering, directly or indirectly, actually or potentially, intra-Community trade […]*"[78]. In this specific case, the main *addressee* of the prohibition to limit the market can be found in the MS. For the first time since the Directive, there was no difference between

[74] Schütze R., *(2021) Free Movement of Goods I: Negative Integration. In European Union Law. cit.*p. 528
[75] Case C-8/74 Procureur du Roi contro Benoît e Gustave Dassonville ECLI:EU:C:1974:82
[76] Article 36 (Article 30 TEC) "*The provisions of Articles 34 and 35 shall not preclude prohibitions or restrictions on imports, exports or goods in transit justified on grounds of public morality, public policy or public security;* […]". See also European Commission, Enterprise and Industry DG, Free movement of goods: Guide to the application of Treaty provisions governing the free movement of goods, 2010, p. 10
[77] I.e., Case C-379/98, PreussenElektra, EU:C:2001:160, para 69
[78] Case C-8/74 Procureur du Roi contro Benoît e Gustave Dassonville ECLI:EU:C:1974:82 para. 5

indistinctly and distinctly applicable measures as the rule was referred to *any* trading rule with the ability of hindering the movement of goods, and it stated that they were prohibited.

Years later from the *Dassonville* judgement, the Court also stated that the MS have the responsibility to limit whichever action initiated by third parties that can lead to the same outcome. This last instance was clearly asserted in the *French Strawberries* judgement – *"by failing to adopt all necessary and proportionate measures in order to prevent the free movement […] from being obstructed by actions by private individuals, the [French Government] has failed to fulfil its obligations under Article 30 […]"*[79]. This is a derogation of what is stated in Article 34, since, because it is addressed to MS and not also third parties, appears to have a "vertical" application.

The application of Article 34 must be confronted with Articles 114 and 115[80] TFEU. Both articles are about the harmonisation of legislation and practices in the Union. Specifically, they grant the Parliament and Council the possibility of imposing a legislative, administrative, or regulative action for the sake of granting harmonisation of law and practices all over the Union, in each MS. As already mentioned, they are the main primary law justification for positive integration.

A direct consequence of this relation between Article 34 and Articles 114, 115 TFEU can be found in the more recent case law of the Court[81], according to which, when more specific secondary legislation is in effect, such as when EU Directives or Regulations that specify technical requirements for specific products or establish requirements for a product's import from another MS, placement on the market, and marketing, Article 34 TFEU is not applicable. Consequently, every behaviour set out by a certain MS that falls under a harmonised area of law, must be evaluated in light of the provisions of the harmonising measure, and not the ones of the Treaty.

The *Dassonville* formula also mentions the fact that the action taken by the MS must be capable of hindering "directly or indirectly, actually or potentially" the free movement.

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[79] Case C-265/95 Commission v France, EU:C:1997:595, para 66

[80] Article 115 "*Without prejudice to Article 114, the Council shall, acting unanimously in accordance with a special legislative procedure and after consulting the European Parliament and the Economic and Social Committee, issue directives for the approximation of such laws, regulations or administrative provisions of the Member States as directly affect the establishment or functioning of the internal market*."

[81] Cases C-216/11, Commission v France, EU:C:2012:819, para 27; C-150/11, Commission v Belgium, EU:C:2012:539, para 47, C-95/14, UNIC, EU:C:2015:492, para 34.

Specifically, about the second part of *actual or potential* hindering, the ECJ has specified that *"Article 34 is intended to apply not only to the actual effects but also to the potential effects of legislation"*[82] – which means that even if the law of the State is not actually hindering competition, it can nonetheless be object of analysis if there's a possibility that it *could* hinder competition in the future[83]. As a matter of fact, the application of the article considers no *de minimis* doctrine[84] - this means that the infringement of the EU law will be considered even in case the hindrance of the free movement is slight and not particularly significant (considering both quantity of goods and nature of the limitation).

Since tariff quotas are covered by Article 30 TFEU, which forbids customs duties on imports and exports and levies having an equal effect, only non-tariff quotas are caught by Article 34 TFEU.

The other case other than *Dassonville* which changed the interpretation of MEEQRs is the *Cassis de Dijon*[85] case – the most important case in the free movement law according to Schütze[86] - that introduced both the *principle of mutual recognition,* and the concept of *mandatory requirements*.

Cassis de Dijon case concerned the Rewe Zentral Company who asked the Federal Administration of the German Monopoly for wine brands for a licence to enter the German market with the Cassis de Dijon liqueur, a spirit with an alcoholic content of 15-20%. Considering that the German law only allowed a minimum of alcoholic content for liqueurs of 25%, the market of said liqueur was not allowed on the German market.

According to the current EU legislation and the Directive 70/50, this could not really be considered as an infringement of Article 34 since the German rule applied indistinctly to domestic and imported products. At the same time, the imposition set out by Germany went against the interpretation of the ECJ in *Dassonville*, because it was, as a matter of fact, a behaviour that *could* hinder the freedom of movement of goods ("*potential*

[82] See cases C-184/96, Commission v France, EU:C:1998:495, para 17; Case C-169/17, Asociación Nacional de Productores de Ganado Porcino, EU:C:2018:440, para 22

[83] Case C-184/96 Commission v France ECLI:EU:C:1998:495 shows an example of said circumstance: the ECJ decided that the French regulations on the composition of foie gras constituted a violation of Article 34 TFEU even though other Member States produced relatively little amount of foie gras because they had the potential to, at the very least, impede inter-State commerce.

[84] See Joined Cases 177/82 and 178/82 Van de Haar ECLI:EU:C:1984:144; Case C-269/83 Commission v France ECLI:EU:C:1985:115; Case C-103/84 Commission v Italy ECLI:EU:C:1986:229

[85] Case 120/78 Rewe-Zentral AG v Bundesmonopolverwaltung für Branntwein ECLI:EU:C:1979:42

[86] Schütze, R. *(2021) Free Movement of Goods I: Negative Integration. In European Union Law. cit.* p 529

hindering"), even though it was applicable to both domestic and foreign goods. These kinds of provisions have frequently been found to amount to a form of covert discrimination as they tend to place a heavier burden on imported products: in many cases, the necessity of changes to the product once imported has been cause to disincentive traders considering placing their products in another MS[87].

Cassis serves its place of *most important judgement in the EU law* because it states two important principles of the free movement, later become cornerstones of the movement of goods.

The first one is the *principle of mutual recognition,* according to which *"there is no valid reason why, provided that they have been lawfully produced and marketed in one of the Member States[88], [goods] should not be introduced into any other Member State […]"*[89]. A MS may not, in theory, forbid the sale of goods that are lawfully marketed or produced in another MS on its territory, even if those goods were produced in conformity with different technical regulations than those that apply to domestic goods. Variations may happen, but they shall be justified by the State and proportionate to the limitation of the movement.

This principle only applies to all of the sets of products that do not answer to certain harmonised requirements imposed unilaterally by the EU institutions through Regulations, hence leaves the MS free to impose their own rules for production (composition, shape, denomination, quality…)[90] of said goods as "*in the absence of common rules […] it is for the Member States to regulate all matters relating to the production and marketing (of goods) on their own territory."*[91]. It is based on the idea that there must be trust among the MS (and the States that are part of the European Economic Area – EEA) enough to believe that the different norms applied to the

[87] Cases C-217/99, Commission v Belgium, EU:C:2000:638, paras 17–18, C-51/93, Meyhui, EU:C:1994:312, para 13; C-33/97, Colim, EU:C:1999:274, para 36.

[88] According to Rinze, the element of "lawful production or marketing in the MS" has been object of dispute among academic writers, since it creates uncertainty concerning goods that have *not* been *lawfully produced* in a MS, but rather have been produced in a third country and find themselves in free circulation in one of the MS of EU after the payment of custom duties. See "Goods lawfully produced and marketed in a Member State" in Rinze J. J. (1993). *Free Movement of Goods: Art, 30 EEC-Treaty and the Cassis-de-Dijon Case-Law*. Bracton Law Journal, 25, 67-76.

[89] Case 120/78 Cassis de Dijon ECLI:EU:C:1979:42 para. 14

[90] Costato L. e altri (2022), *Compendio di diritto alimentare*, decima ed., Wolters Kluwer, ISBN: 9788813379735 p. 49

[91] Case 120/78 Cassis de Dijon ECLI:EU:C:1979:42 para 8

production of certain goods by another MS guarantee a comparable level of safety and hence cannot justify denying their access to their market[92]. It was also largely applied to the use of *names*[93], so its application was rapidly extended to issues related to communication and language. The ECJ reached the conclusion that a food product, sold in one of the MS under a certain name, must be admitted for sale with the same name in any other MS, even though it may differ for characteristics and qualities requested by the MS of origin and the one of importation, save for the harmonised information and processes[94].

The principle of mutual recognition as such has a huge impact on the development of the internal market of food[95] as it gave the opportunity to manufacturers to be able to enter the EU market by only conforming to the standards of one of the MS.

It creates a simple rule: if there is no harmonisation put into place by the EU, States cannot go against the circulation of products which are lawfully produced according to the rules of one of the MS and have to apply the principle of mutual recognition. On the other hand, if there is harmonisation in place through positive integration, every State has to abide by it, with the consequence that the harmonised rule will prevail over any "non-harmonised" decision[96].

Actually, the application of the principle of mutual recognition had great impact on the application of Article 114 and the positive integration method, as it limited the legislative ambitions of the Commission to those national product requirements that could be justified under Article 36 and mandatory requirements. Schütze states that "positive

[92] Schreib, D. (2006), *The principle of mutual recognition within the EU´s Internal Market*, Czech Ministry of Industry and Trade

[93] Albisinni F. *(2021) The path to the European and global food system* in Costato, L., & Albisinni, F. (2016), European and global food law *cit.* p. 27

[94] An example is given by Case C-90/86 Criminal proceedings against Zoni, ECLI:EU:C:1988:403, in which the matter was discussed about the noun "pasta" for products that were not produced with the same raw materials and procedures of Italian pasta. The Court recognized the necessity for their recognition with that name independently of the difference in the standard procedures. The same reasoning can also be found in C-178/84 Commission of the European. Communities v Federal Republic of Germany ECLI:EU:C:1987:126 about the noun "bier". An important case was also the one about vinegar as "aceto" in Italy, C-788/79 Gilli ECLI:EU:C:1980:171.

[95] COM (85) 310 final White Paper on Completing the Internal Market from the Commission and European Council, paras 58-59

[96] Costato L., (2022) *Compendio di diritto alimentare*, *cit.* p. 50

integration through harmonisation here becomes a second-best solution that only applies where the functional equivalence of national legislation has been shown not to work"[97].

The second principle which was introduced through the *Cassis* judgement concerns instead the possibility for MEEQRs to be justified, the "rule of reason"[98]. Because of the *Cassis* judgement, in fact, the concept described in *Dassonville* according to which *any* rule can be considered a MEEQR if it is, even hypothetically, able to hinder the free movement of goods, is watered down by the introduction of exceptions and justifications through *mandatory requirements*[99]*: "obstacles to movement within the Community resulting from disparities between the national laws relating to the marketing of the products in question must be accepted in so far as those provisions may be recognized as being necessary in order to satisfy mandatory requirements relating in particular to the effectiveness of fiscal supervision, the protection of public health, the fairness of commercial transactions and the defence of the consumer"*[100].

One evidence from *Cassis* is that the mandatory requirements, which can justify the restriction of the market by a State, are only non-economic; States can determine the scope of the derogations other than the mere protection of public interest, which means that the list shown in the *Cassis* judgement is not exhaustive and can still be widened if necessary.

The ECJ states some requirements that must be met in order for the State to be able to apply a derogation to the free movement:

- there should be no harmonising law already in place on the matter;
- the national provision must fall within the categories of derogation (under article 36 TFUE) or a mandatory requirement;

[97] Schütze, R. (2021). *Free Movement of Goods II: Positive Integration. In European Union Law.* cit. p. 584

[98] Van Der Meulen B., *Food law: development, crisis and transition*, in van der Meulen, B. M. J., *EU Food Law Handbook,* in van der Meulen, B. M. J. (2014). *EU Food Law Handbook* (European Institute for Food Law series; No. no. 9). Wageningen Academic Publishers p.142

[99] Often also called "imperative" requirements: i.e., C-130/80 Kelderman ECLI:EU:C:1981:49.

[100] Case 120/78 Cassis de Dijon ECLI:EU:C:1979:42 para 8. Examples of discussion of the mandatory requirements by the ECJ are: C-239/90 SCP Boscher, Studer et Fromentin v SA British Motors Wright and others ECLI:EU:C:1991:180 on consumer protection; C -1/90 and C-176/90 Aragonesa de Publicidad Exterior and Publivía v. Departamento de Sanidad y Seguridad Social de la Generalitat de Cataluña ECLI:EU:C:1991:327 on public health.

- the rule must, in effect, be proportional and not constitute arbitrary discrimination or a disguised restriction on trade. The State that implements the measure has the burden of proof to show that they are non-discriminatory, proportionate and necessary to achieve the legitimate scope[101].

It is not clear whether the implementation of mandatory requirements *justifies* MEEQRs or if the behaviours that hinder the movement but are considered as mandatory requirements are not MEEQRs at all. Some of the ECJ's early judgements suggested that the qualification as "MEEQRs" had to be excluded if the behaviour was a mandatory requirement – "*it must therefore be stated that the protection of the environment is a mandatory requirement which may limit the application of Article 30 of the Treaty*"[102]. At the same time, some authors qualify mandatory requirements as part of Article 36, therefore applicable to either distinctly or indistinctly applicable measures, while the more recent case law qualifies the mandatory requirements as additional to the elements of said article[103].

Mandatory requirements as justifications to the possibility of limitation of the freedom of movement of goods have to be taken into consideration together with the text and case-law of Article 36.

Because of the application of the *Dassonville formula*, and in particular the introduction of a definition of MEEQRs, traders acquired an increased tendency to appeal to the ECJ to challenge any restriction put into action by the State as if it was a restriction of the freedom of movement of goods. The ECJ tried to mediate the situation through the *Keck* judgement in 1993[104] in which it drew a line between "product requirements" (already discussed in the *Dassonville* case) and "selling arrangements". According to the ECJ in *Keck*, selling arrangements could not be considered as MEEQRs "*so long as those*

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[101] İnanılır, Ö., (2008) *Derogation from the Free Movement of Goods in the EU: Article 30 and 'Cassis' Mandatory Requirements Doctrine*. Ankara Bar Review, 1(2), 106-113. Retrieved from https://dergipark.org.tr/en/pub/abr/issue/47977/607000

[102] C-302/86 Commission v. Denmark, ECLI:EU:C:1988:421 para. 9

[103] Raffaele F. (2017) *The free movement of goods* in Torino R. et al, Introduction to European Union internal market law, *cit.* p. 54

[104] Joined cases C-267/91 and C-268/91 Criminal proceedings against Bernard Keck and Daniel Mithouard ECLI:EU:C:1993:905 in which the seller (Keck and Mithouard) sold goods at a loss. That was prohibited by French law, so they went against the State because it deprived them of a method of selling, therefore hindering the free movement of goods on the market. The Court disagreed as it recognized that the intent of the regulation was not to intervene directly on trade.

provisions apply to all relevant traders operating within the national territory and so long as they affect in the same manner, in law and in fact, the marketing of domestic products and of those from other Member States"[105]. Thus, only discriminatory selling arrangements would be against the free movement, while non-discriminatory product requirements would still fall within the scope of Article 34 just like previously stated in *Cassis de Dijon*[106].

Article 36 TFEU[107] grants the MS the space to justify some restrictions of the freedom of movement on grounds of *"public morality, public policy or public security; the protection of health and life of humans, animals or plants; the protection of national treasures possessing artistic, historic or archaeological value; or the protection of industrial and commercial property"*. It contains the exceptions to Articles 34 and 35 of the TFEU[108].

The exemptions stated in this article are parallel to mandatory requirements. However, the latter are applicable to indistinctly applicable measures (to both domestic and imported products) and are also unlimited as they can always be implemented by States in case of need and if there is justification. The exceptions provided by Article 36, instead, are limited and can be applied to whatever measure that goes against the free movement of goods[109], therefore they must be discriminatory between the domestic and imported product. The scope of application of article 36 ends up being more limited than the one of mandatory requirements.

As a matter of fact, the Article must answer to the guidelines of the ECJ and be interpreted more narrowly[110], just like specified in the *Bauhuis* case (1976) *"this provision constitutes*

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[105] Joined cases C-267/91 and C-268/91 Criminal proceedings against Bernard Keck and Daniel Mithouard ECLI:EU:C:1993:905 para. 16

[106] Schütze R., *(2021) Free Movement of Goods I: Negative Integration. In European Union Law. cit. p. 533*

[107] Article 36 (ex 30 TEC) "*The provisions of Articles 34 and 35 shall not preclude prohibitions or restrictions on imports, exports or goods in transit justified on grounds of public morality, public policy or public security; the protection of health and life of humans, animals or plants; the protection of national treasures possessing artistic, historic or archaeological value; or the protection of industrial and commercial property. Such prohibitions or restrictions shall not, however, constitute a means of arbitrary discrimination or a disguised restriction on trade between Member States*".

[108] Article 36 cannot create exceptions for the breach of articles 30 and 110 TFEU. See Barnard C. (2013), *Competence review: The Internal Market* p. 15

[109] Schütze R., *(2021) Free Movement of Goods I: Negative Integration. In European Union Law. cit. p.*541, based on case C-113/80, Commission v Ireland (Irish Souvenirs) ECLI:EU:C:1981:139, para. 11

[110] The interpretation of the article has been stricter according to the ECJ, which stated that the restriction cannot be justified on purely economic grounds. See Case C-229/83, Leclerc, EU:C:1985:1, para. 30; Case C-141/07, Commission v Germany, EU:C:2008:492, para. 50.

a derogation from the basic rule that all obstacles to the free movement of goods between Member States shall be eliminated and must be interpreted strictly and thus cannot be understood as authorizing measures of a different nature from those referred to in Articles 30 to 34" [111].

States that put the restrictions into action must justify them and implement them in a proportionate way[112] to the objective, in a consistent and systematic manner[113]. Simultaneously, the burden of proof falls upon them[114]. Such justifications cannot be purely economical[115] and either produced with the aim of unburdening the administration unless strictly necessary[116].

The second paragraph or Article 36 sets out a limitation to the first paragraph as it states *"such prohibitions or restrictions shall not, however, constitute a means of arbitrary discrimination or a disguised restriction on trade between Member States"* and was implemented in order to prevent that the provisions of the first paragraph could hinder the market with arbitrary discrimination – *"to prevent restrictions on trade based on the grounds mentioned in the first sentence of Article 36 from being diverted from their proper purpose and used in such a way as either to create discrimination in respect of goods originating in other Member States or indirectly to protect certain national products*"[117]. This is the cornerstone of the so-called *principle of proportionality*: whenever the freedom of movement is limited, not only there must be a justification, but it must be proportionate and necessary to the final objective[118] - if there are such requirements, the State can derogate freely thanks to the margin of appreciation granted by the EU[119].

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[111] Cases C-46/76 Bauhuis v. Netherlands State, ECLI:EU:C:1977:6 para. 12, and Commission v. Germany, Case 18/87 ECLI:EU:C:1988:453

[112] Cases C-456/10, ANETT, EU:C:2012:241, para 45; C-390/99, Canal Digital, EU:C:2002:34, para 33; C-254/05, Commission v Belgium, EU:C:2007:319, para 33; Case C-319/05, Commission v Germany, EU:C:2007:678, para 87.

[113] Case C-161/09, Kakavetsos-Fragkopoulos, EU:C:2011:110, para 42; C-98/14, Berlington Hungary, EU:C:2015:386, para 64.

[114] Case 227/82 Criminal Proceedings against Leendert van Bennekom ECLI:EU:C:1983:354, para. 40.

[115] Case 95/81 Commission v. Italy ECLI:EU:C:1982:216, para. 27

[116] Case C–387/18 Delfarma v. Prezes Urzędu Rejestracji Produktów Leczniczych, Wyrobów Medycznych i Produktów Biobójczych EU:C:2019:556, para. 30

[117] Case C-34/79, Queen v Henn and Darby ECLI:EU:C:1979:295, para 21

[118] Case 174/82, Criminal proceedings against Sandoz BV ECLI:EU:C:1983:213 para 18

[119] Just like in the C-34/79, Queen v Henn and Darby ECLI:EU:C:1979:295 *cit.*, the ECJ recognised the possibility for the single States to impose their own level of public morality, provided it was not used as an excuse to limit import.

Just like Article 34, "*recourse to Article 36 is no longer possible where Community directives provide for harmonisation of the measures necessary to achieve the specific objective which would be furthered by reliance upon this provision*"[120]. Protection is then afforded by the Union and there is no mandate for the Member States, the public interest in need of protection having been harmonised[121].

The common denominator between the justifications based on article 36 and the ones that constitute mandatory requirements are mainly two: they can only be used by MS in situations in which there is no harmonised normative by the EU and provided that they are proportionate to the situation at stake.

1.2. Common Agricultural Policy

It is necessary to analyse the role of the Common Agricultural Policy better, to understand its roots and development, as it represents a fundamental element of synergy between positive and negative integration, both for the general policy of EU and for food law. The CAP, in fact, is a way for EU to decide over the matters of the food sector in a direct way and sets out the standards that must be followed in each and every MS, providing harmonisation. The Policy has changed during the years and consequently expanded. The Treaties provide for its application.

1.2.1. Historical context

In 1950, the Consultative Assembly of the Council of Europe set up a special committee to explore the possibilities for a common organization of the agricultural markets, along with the French Charpentier plan, that proposed a cooperation which could be analogue to the Schuman plan for the coal and steel sector. It was absolutely logical both for practical and political reasons that the common market would include agriculture, as not giving a specific description to agriculture products would risk making them freely circulate within the common market without respecting the same restrictions of other goods. At the same time, the current regulations for produce were quite fragmented among states, as they all had different national provisions on the matter. The first

[120] Case C-5/94 Hedley Lomas, ECLI:EU:C:1996:205 paras 18-19. Council Directive 74/577/EEC of 18 November 1974 on stunning of animals before slaughter. OJ L 316, 26.11.1974, p. 10–11

[121] Klamert, M. (2015). *What We Talk About When We Talk About Harmonisation*. Cambridge Yearbook of European Legal Studies, 17, 360-379. doi:10.1017/cel.2015.12 p. 365

proposals were represented in the Spaak report[122], released from the Messina Conference[123] and later became Title II of the Treaty of Rome, specifically on agriculture.

During the 60's, considering the impact of World War II had had on agriculture and the fact that it constituted, for some of the MS, a hight percentage of the employment and Gross Domestic Product (GDP), the MS and institutions of EU had two choices: either establish national policies in order to assure a degree of efficiency in the agricultural sector or let them be replaced with a *common* agricultural policy. The first option appeared to go in detriment of the development of "agricultural" countries, in favour of industrial ones, that is why it was decided to opt for a common policy all over[124].

Early on in the CAP history, entities known as Common Market Organizations (CMOs) were established. These were created to oversee the majority of the EU's agriculture sector's output and trade. Their goal was to guarantee farmers' stable profits and a continuous supply for European customers.

In 2007, with the Treaty of Lisbon[125], they were replaced by a single central CMO, as provided by Article 40 TFEU. CAP was then further reformed in 2013 to increase the support tools and support cooperation.

The legal framework which is currently in place comes directly from the reforms that resulted in 2013. The main objectives were:

- creating a net of multifunctional supports and aids, linked to specific aims and functions;
- consolidating the two CAP pillars – direct payments and market measures through the European Agricultural Guarantee and Guidance Fund (EAGGF), and rural development through co-funding arrangements.

[122] Spaak, P. H. (1956) *The Brussels Report on the General Common Market*, Intergovernmental Committee on European Integration.
[123] The Messina Conference of 1955 was a meeting of the six member states of the European Coal and Steel Community (ECSC) – namely, France, Italy, Luxembourg, Netherlands, Belgium and West Germany – to assess the progress of ECSC
[124] Barents, R. (1994) *The Agricultural Law of the EC. Inquiry into the Administrative Law of the European Community in the Field of Agriculture*, Kluwer Law and Taxation Publishers
[125] Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community (OJ C 306, 17.12.2007); entry into force on 1 December 2009

- combining several CMOs into a single one, in order to provide safety nets for use only in the event of price crises or market disruption;
- abolishing the controls and limit of production volumes;
- making a better integrated and targeted territorial approach for the rural development[126].

The most recent reform to the CAP gives the Commission extraordinary powers to deal with serious market disruption (e.g., market-support measures in the event of animal disease outbreaks or a decline in consumer confidence due to threats to the public, animal, or plant health)[127].

1.2.2. The CAP in the framework of EU competences

A common guideline for agriculture had already been implemented through the Treaty of Rome for the constitution of the EEC[128], Article 38 extended the market rules to agricultural products and made it explicit that it had to be strictly linked to the establishment of a common agricultural policy. The same articles were then kept in the following Treaties that replaced the EC Treaty.

CAP was officially started 5 years later, in 1962, at the same time as the European Agricultural Guarantee and Guidance Fund (EAGGF), with the main aim of providing affordable and high-quality food, ensure a fair standard of living for farmers and preserve the natural resources and environment of EU's MS. Support also would help farmers fulfil requirements which would guarantee some of the highest safety, environmental and animal health and welfare standards in the world.

Considering the point of view of the EU lawmakers, CAP was the first intervention of positive integration aimed directly at the harmonisation of the commerce of agricultural products throughout the MS.

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[126] European Parliament, (2023), The Common Agricultural Policy – Instruments and Reforms, Fact sheet of the EU https://www.europarl.europa.eu/factsheets/en/sheet/107/the-common-agricultural-policy-instruments-and-reforms para. E, p. 3

[127] On the recent reforms, Publications Office of the European Union (2021), Common organisation of agricultural markets (CMO), EUR-lex https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=LEGISSUM:common_agricultural_markets

[128] Treaty of Rome, Title II on Agriculture.

The TFEU sets the current version of the Agricultural Policy in Title III, together with Fisheries Policies, specifically at the core of the part of the Treaty that is related to the establishment of the common market, after the free movement of goods and before the other freedoms. The whole system of Title III reflects the fact that it is necessary that the establishment and functioning of the common market has a coordination with the national policies. It is divided into two parts: the first considers Articles 38-43, which constitute the basic framework for the implementation of the CAP. The second part, with Articles 44-47 contains transitional provisions instead[129].

Article 38 TFEU[130] specifies that the Union has control over the Agriculture and Fisheries policies, and the market of agricultural products. It also puts agricultural products on another level from other products of the market, setting a special status, making it *lex specialis* – mainly to reflect that the common agricultural policy was primarily conceived as a means to extend the free movement of goods to the agricultural sector[131].

The object of application of these articles started as "*products of the soil, of stock farming and of fisheries, products of first stage processing directly related to them*" but was immediately expanded considering the additional list that was included in Annex II of the Treaty[132]. The list was then extended with the years, not only with the legislative additions, but also with the interpretations of the Courts. It also follows from established case law that Article 38(2) TFEU permits a more flexible interpretation of the internal market regulations in cases where the unique demands of the agriculture sector necessitate modifications[133].

[129] Barents, R. (1994) *The Agricultural Law of the EC*, cit. p. 11

[130] Article 38 para 1 "T*he Union shall define and implement a common agriculture and fisheries policy. The internal market shall extend to agriculture, fisheries and trade in agricultural products. 'Agricultural products' means the products of the soil, of stockfarming and of fisheries and products of first-stage processing directly related to these products. References to the common agricultural policy or to agriculture, and the use of the term 'agricultural', shall be understood as also referring to fisheries, having regard to the specific characteristics of this sector*."

[131] Barents, R. (1994) *The Agricultural Law of the EC*. cit. p 26

[132] The mentioned Annex does not only include agricultural products but also food products such as sugar and flour, which are subject to processing beyond the first-stage. This means that CAP was entitled to cover also non-agricultural industries, now included in the definition of "food businesses" under Regulation 178/2002. See Russo L. *Agricultural law and food law* in Costato, L., & Albisinni, F., (2016). European and global food law (Second ed.). CEDAM. pp. 219-236.

[133] Case 120/78 Rewe-Zentral AG v Bundesmonopolverwaltung für Branntwein ECLI:EU:C:1979:42 para. 19

To some extent, the Treaty itself allows for policies that could otherwise be viewed as obstacles to the internal market, including price fixing or quantitative constraints. The fundamentals of the internal market apply to agricultural goods, just as they do to any other kind of goods, aside from such measures (which are being implemented less and less)[134].

As for the structure of Article 39 TFEU, 39(2) elaborates on the factors to be considered when formulating the CAP and the unique techniques for its application, while 39(1) lays out the goals to be accomplished by the policy[135]. The objectives set out in Article 39(1) TFEU are, by nature, vague and undetermined. The fact that the wording of the Article has remained unchanged, independently of the modifications of the policy, is an indicator of the fact that some of the mentioned objectives do not reflect the current policy's, evolved, aims[136]. Specifically, the goals outlined in Article 39 TFEU are mostly quantitative and socioeconomic in character, and they hardly take into account qualitative factors like the standard of products from agriculture and fisheries[137]. That is why the impact of the scopes set out in the Article were considered rather weak[138].

According to case-law[139], the EU institutions have the possibility to implement temporary priorities among the objectives of Article 39, in case of conflict between some of them, and in order to grant permanent harmonisation.

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[134] For example, Articles 39(1)(c) and (d) and 43(3) TFEU.

[135] Article 39 "*1. The objectives of the common agricultural policy shall be: (a) to increase agricultural productivity by promoting technical progress and by ensuring the rational development of agricultural production and the optimum utilisation of the factors of production, in particular labour; (b) thus to ensure a fair standard of living for the agricultural community, in particular by increasing the individual earnings of persons engaged in agriculture; (c) to stabilise markets; (d) to assure the availability of supplies; (e) to ensure that supplies reach consumers at reasonable prices. 2. In working out the common agricultural policy and the special methods for its application, account shall be taken of: (a) the particular nature of agricultural activity, which results from the social structure of agriculture and from structural and natural disparities between the various agricultural regions; (b) the need to effect the appropriate adjustments by degrees; (c) the fact that in the Member States agriculture constitutes a sector closely linked with the economy as a whole*."

[136] Bouquet, A. Erlbacher, F. and Lewis A., (2019) *Article 39 TFEU*, in Kellerbauer M., Klamert M., and Tomkin J., (eds), The EU Treaties and the Charter of Fundamental Rights: A Commentary; online edn, Oxford Academic https://doi.org/10.1093/oso/9780198759393.003.119 pp. 555-557

[137] *Ibidem.*

[138] See also Presidency conclusions of 20 March 2018 (supported by 23 MS), Council document 7324/18, issued in the preparation of the next reform of the CAP, in which the objectives set out in Article 39 TFEU are recalled and qualified as 'still valid and relevant'.

[139] See Joined Cases C-267-285/88, Wuidart, EU:C:1990:79 paras 39 and following.

Articles 40[140] and 41[141] work together to create a framework for the creation of the common organization of agricultural market: the first describes the necessary elements of the organization in order to "*attain the objectives set out in Article 39*" while the second provides for their "enabling".

Article 42 TFEU states some exceptions to the competition rules applicable to the agricultural and fisheries sectors, as they must only answer to the rules determined by the EU legislator. This implies that common competition rules do not apply to these sectors by themselves as the Treaty gives the legislator the authority to choose whether and how much the antitrust and state aid regulations pertaining to competition would apply to the agriculture and fishing industries. On this basis, the Court has held that, in the case of conflict arising between agricultural and competition rules, the agricultural rules take precedence[142].

The reason for which the legislator sometimes excludes the applicability of the same competitive conditions of other goods to agriculture and fisheries is because of their market's particularities, such as the "*natural handicaps* (climate and weather condition risks), *the imbalance between producer* (the farmers and fishermen) *and distributor* (the

[140] Article 40 "*1. In order to attain the objectives set out in Article 39, a common organisation of agricultural markets shall be established. This organisation shall take one of the following forms, depending on the product concerned: (a) common rules on competition; (b) compulsory coordination of the various national market organisations; (c) a European market organisation.*
2. The common organisation established in accordance with paragraph 1 may include all measures required to attain the objectives set out in Article 39, in particular regulation of prices, aids for the production and marketing of the various products, storage and carryover arrangements and common machinery for stabilising imports or exports. The common organisation shall be limited to pursuit of the objectives set out in Article 39 and shall exclude any discrimination between producers or consumers within the Union. Any common price policy shall be based on common criteria and uniform methods of calculation.
3. In order to enable the common organisation referred to in paragraph 1 to attain its objectives, one or more agricultural guidance and guarantee funds may be set up"

[141] Article 41 "*To enable the objectives set out in Article 39 to be attained, provision may be made within the framework of the common agricultural policy for measures such as: (a) an effective coordination of efforts in the spheres of vocational training, of research and of the dissemination of agricultural knowledge; this may include joint financing of projects or institutions; (b) joint measures to promote consumption of certain products*."

[142] Cases C-280/93, Germany v Council, EU:C:1994:367, para 61; Case C- 671/15, APVE, EU:C:2017:860, para 37.

supermarkets), *and the existence of detailed agricultural and fisheries rules at Union level*"[143].

However, this does not imply that agriculture is a field free of competition. Quite the opposite, as one of the CAP's core goals, as highlighted in Article 40 and in case-law[144]. Because of this, as well as the fact that the exclusion of the competition rules represents an exception to a general rule of applicability, the exclusion grounds must be object of strict interpretation[145].

No exclusions have been foreseen for abuses of dominant position in the agricultural sector[146], which means that the derogation from the prohibition of anti-competitive agreements is hereby allowed, in substance, only to agreements between farmers. The question of whether there was opportunity for further exclusions or derogations in addition to these express exclusions was discussed. In the *Chicory* case (2015), the Court's case law has recently acknowledged the possibility of some implicit exclusion grounds[147].

To benefit from this exclusion ground, the agreement has in principle to be necessary for all the five CAP objectives[148]:

- agricultural productivity;
- standard of living of agricultural community;
- stabilization of markets;
- availability of supplies; and
- supplies to consumers at reasonable prices.

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[143] Bouquet, A. Erlbacher, F. and Lewis A., (2019) *Article 42 TFEU*, in Kellerbauer M., Klamert M., and Tomkin J., (eds), The EU Treaties and the Charter of Fundamental Rights: A Commentary; online edn, Oxford Academic https://doi.org/10.1093/oso/9780198759393.003.122 pp. 585-595

[144] Case C-137/00, Milk Marque, EU:C:2003:429, paras 57 and 58 and Case C-671/15, APVE, para 48.

[145] Case C-671/15, APVE, para 46. Traditionally, three explicit or general exclusions have been considered for agriculture: national market organizations, agreements, decisions, and practices which are necessary to the attainment of the objectives of the CAP; and certain agreements, decisions and practices of a cooperative nature.

[146] See, for examples of abuses in the agricultural sector, Case C-40/73, Suiker Unie, EU:C:1975:174 and Case C-27/76, United Brands, EU:C:1978:22.

[147] Case C-671/15, APVE, cit. para 45.

[148] Case C-399/93, Oude Luttikhuis, EU:C:1995:434, para 25; Joined Cases T-217/03 & T-245/03, FNCVB, EU:T:2006:391, para 199.

Therefore, an agreement that only requires the achievement of a subset of goals (such as the producers' standard of living) but conflicts with other goals (such as providing goods to consumers at fair prices) would not be able to gain from the exclusion[149].

The process of positive integration has been possible because of the application of Article 43[150] of the Treaty (ex-Article 37 EC), which states the legal basis for the adoption of measures for the establishment and management of CAP. The versions of this provision preceding the entry into force of the TFEU described the adoption procedure as a qualified majority in the Council and simple consultation of the EU Parliament[151]. Although the EU Parliament's power and participation were diminished by the simple consultation approach, it did have the benefit of allowing the Council to pass laws more quickly and in a way that better suited the marketing year cycles.

The Treaty of Lisbon and the entry into force of the TFEU changed the legislative process: Article 43(2) provided for the application of the ordinary legislative procedure henceforth (co-decision of the EU Parliament and Council with qualified majority), therefore strengthening the role of the Parliament compared to the one recognized until that moment; the added Article 43(3) gives instead power to the Council alone to adopt measures in certain limited circumstances thus preserving the rapidity of legislative action when considered necessary[152], with a non-legislative derogative procedure.

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[149] See joined Cases T-217/03 & T-245/03, FNCVB, para 207.

[150] Article 43 "*1. The Commission shall submit proposals for working out and implementing the common agricultural policy, including the replacement of the national organisations by one of the forms of common organisation provided for in Article 40(1), and for implementing the measures specified in this Title. These proposals shall take account of the interdependence of the agricultural matters mentioned in this Title. 2. The European Parliament and the Council, acting in accordance with the ordinary legislative procedure and after consulting the Economic and Social Committee, shall establish the common organisation of agricultural markets provided for in Article 40(1) and the other provisions necessary for the pursuit of the objectives of the common agricultural policy and the common fisheries policy. 3. The Council, on a proposal from the Commission, shall adopt measures on fixing prices, levies, aid and quantitative limitations and on the fixing and allocation of fishing opportunities.* […]"

[151] Due to the EU Parliament's limited involvement in the process, the Court typically interpreted the law narrowly in order to protect the EP's rights to the greatest extent possible. Thus, it decided that, to the extent that regulations on the production and selling of agricultural products help to achieve any of the CAP's goals as outlined in (now) Article 39 TFEU, then (what is now) Article 43 TFEU provides the appropriate legal foundation for their implementation. See Joined Cases C-164-165/97, EP v Council, EU:C:1999:99, para 19 and Case C-68/86, UK v Council, EU:C:1988:85, paras 11–12

[152] Bouquet, A. Erlbacher, F. and Lewis A., (2019) *Article 43 TFEU*, in Kellerbauer M., Klamert M., and Tomkin J., (eds), The EU Treaties and the Charter of Fundamental Rights: A Commentary; online edn, Oxford Academic https://doi.org/10.1093/oso/9780198759393.003.123 pp. 596-601

The ECJ has held that the second paragraph of Article 43 must be applied for measures involving a political choice[153], while the third paragraph of the same Article provides for the application of technical provisions[154] intended to be taken for the implementation of provisions adopted on the basis of Article 43(2).

However, the passage of Regulation 1370/2013[155] defining measures for fixing certain subsidies and refunds relating to the common structure of the markets in agricultural products, has decreased the practical application of Article 43(3) TFEU with reference to the CAP.

It is on the grounds of these basic (and comparatively outdated in parts) provisions of the Treaties that the Union legislator has, over time and via various reforms[156], established the CAP as it stands today.

In its current form, as adopted in 2013, the EU framework of the CAP is made up of three main policy instruments (which recall the two already established pillars of the Policy) with one basic Regulation respectively:

- direct payment support to farmers, regulated by Regulation 1307/2013[157];
- measures of structural development of rural areas, established by Regulation 1305/2013[158];
- rules laying down a single CMO, contained in Regulation 1308/2013[159];

[153] See joined Cases C-103/12 & C-165/12, EP and Commission v Council, EU:C:2014:2400, para 50; Joined Cases C-124-125/13, EP and Commission v Council, EU:C:2015:790, paras 48 and 50.

[154] Joined Cases C-103/12 & C-165/12, EP and Commission v Council, para 48. Additionally, the Court annulled Article 7 of Regulation 1308/2013 (fixing reference rates in the sugar market), which had been enacted in accordance with Article 43(2) TFEU. This was due to the fact that the Article's provisions, which set monetary values per weight unit for the products it covers, did not entail any political decision-making.

[155] Council Regulation (EU) No 1370/2013 of 16 December 2013 determining measures on fixing certain aids and refunds related to the common organisation of the markets in agricultural products, OJ L 346

[156] Regulations (EU) No. 1303, 1305-1309/2013

[157] Regulation (EU) No. 1307/2013 of the European Parliament and of the Council establishing rules for direct payments to farmers under support schemes within the framework of the common agricultural policy and repealing Council Regulation (EC) No. 637/2008 and Council Regulation (EC) No. 73/2009, OJ L 347

[158] Regulation (EU) No 1305/2013 of the European Parliament and of the Council of 17 December 2013 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) and repealing Council Regulation (EC) No 1698/2005, OJ L 347

[159] Regulation (EU) No 1308/2013 of the European Parliament and of the Council of 17 December 2013 establishing a common organisation of the markets in agricultural products and repealing Council Regulations (EEC) No 922/72, (EEC) No 234/79, (EC) No 1037/2001 and (EC) No 1234/2007, OJ L 347

The Commission later submitted a proposal for the repeal and replacement of said Regulation, with the exception of Regulation 1308/2013 (CMO), for which only minor changes were suggested. Regulation 1308/2013 today achieves the feat of bringing all existing 21 sectoral market organizations under the umbrella of a single common market organization[160].

1.2.3. CAP and positive integration

Once the Articles of the Treaty that provide the foundations of the Policy have been examined, it is necessary to analyse how the CAP has been fundamental in matters of positive integration, as the great power of intervention granted to the Community through the Articles of the TFEU corresponded to a great loss of decision-making power of the MS.

Within a few years from its integration, CAP became the most important and invasive policy of the Community, which – during the top-interventionism period – used half of the total available Community resources in order to fund it[161]. The Treaty thereby provided the Union legislator with a wide spectrum of regulatory methods: it was entitled to adopt "*all measures required to attain the objectives set out in Article 39*"[162].

The road to the current way of harmonisation in EU has gone over many approaches during the years, as the Union legislator principally has a choice whether to fully or minimally harmonise a given matter. The initial "old approach" to harmonisation called for *total* harmonisation, in which every field of Union measures took precedence over those of the MS. After *Cassis de Dijon*, a new approach to harmonisation gradually emerged, based on the idea of mutual recognition and minimum harmonisation in the context of product requirements.

In the framework of the CAP, transitioning away from Union centralization has taken considerably longer. The Union has historically favoured (near) total harmonisation in this case because of the tight relationship between positive and negative integration, which ensures "free" trading of agricultural products regulated by a single market

[160] Schütze, R., (2021). *Free Movement of Goods II: Positive Integration*, *cit. p.* 593

[161] Russo L. *Agricultural law and food law* in Costato, L., & Albisinni, F., (2016). European and global food law (Second ed.). CEDAM. pp. 219-236.

[162] Schütze, R., (2021). *Free Movement of Goods II: Positive Integration*. In European Union Law. Oxford: Oxford University Press. https://www.oxfordlawtrove.com/view/10.1093/he/9780198864660.001.0001/he-9780198864660-chapter-14 p. 590

organization. This vertical and excessively rigid approach to production is, however, gradually changing and the shared CAP competence appears to be increasingly exercised through horizontal legislation[163].

From the actual and potential scope of the Treaty provisions on agriculture as well as the contents of the agricultural legislation it follows that nearly every aspect of agricultural production and trade is or may be regulated by the Community.

The impact of CAP has been fundamental in the development of both the internal market and the food market, as its objectives have been dominant in leading the work of EU institutions regarding food production.

The reason behind the unique status of CAP was the strict correlation between the establishment of a common market and a common policy: together with the implementation of negative integration for the common market and the limitations of freedom imposed by EU to MS in order to grant the free movement of goods, it was also necessary to impose *positive* integration, making it the "*most developed and coherent field in EU law*"[164]. Accordingly, any form of market regulation in the agricultural sector must guarantee the unity of the market in the short term (free movement of goods) and contribute to market unity in the long term (economic and social cohesion), therefore respecting the objectives set out in Article 39. Its importance is reflected by the significant influence which it has exercised on the general institutional and substantive features of Community law[165].

In order to manage production, the Union originally concentrated on the regulation of agricultural prices. The central idea behind price regulation was the "market principle". According to that principle, agricultural producers had to obtain an adequate income from the market and not—at least not directly—from the Union. To secure the growth of the agricultural sector and to stabilize product markets, a sophisticated intervention system was established to keep Union agricultural prices at a constant level. The regulation of common prices eventually evolved into the policy instrument of the CAP[166].

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[163] *Ivi, p.* 594
[164] *Ivi, p.* 588
[165] Barents, R. (1994) *The Agricultural Law of the EC*. cit. p. 366
[166] Schütze, R., (2021). *Free Movement of Goods II: Positive Integration*, *cit. p.* 590

One of the positive approaches was the implementation of the CMOs, which took control over the setting of common prices for each of the agricultural products of the Union[167].

Moreover, in sectors covered by a CMO, and especially when this organization is based on a common price system, MS can no longer take action through national provisions taken unilaterally, affecting the machinery of price formation as established under the common organization[168].

The Commission later intervened with soft law, issuing a communication entitled "The future of food and farming"[169], which sets up its proposal for the next reform, providing more subsidiarity and flexibility for MS and the reduction of the administrative burden. The proposal actually wants to weaken the action of positive integration, requesting that EU does not establish detailed eligibility rules (with consequent control of compliance) but only basic policy objectives, going from a compliance-based regime to a result-based one[170]. The envisaged changes must also be seen in the context of the 2020 7 Multi-Annual Financial Framework (MFF), which the Commission proposed in May 2018[171].

[167] As already mentioned, this organization was later reformed, replacing multiple organization with a single central one with Regulation 1508/2013

[168] Case C-31/74, Galli ECLI:EU:C:1975:8 paras 29-30

[169] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions the Future of Food and Farming, COM/2017/0713 final

[170] Bouquet, A. Erlbacher, F. and Lewis A., (2019) *Article 38 TFEU*, in Kellerbauer M., Klamert M., and Tomkin J., (eds), The EU Treaties and the Charter of Fundamental Rights: A Commentary; online edn, Oxford Academic https://doi.org/10.1093/oso/9780198759393.003.118 pp. 546-554

[171] Communication from the commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions a modern budget for a union that protects, empowers and defends the Multiannual Financial Framework For 2021-2027, COM/2018/321 final

CHAPTER II

FOOD GOVERNANCE AND SAFETY IN EUROPE

Preliminary remarks

A very significant step in the development of Food Law in the EU was the BSE crisis[172], which had various consequences both on the market and the legislation starting from the late 80's and throughout the 90's, until the first years of the new millennium. First of all, in fact, it brought attention to the phase of primary production of beef, which had been exempted from the application of legislation so far. Secondly, it created a general loss of confidence and trust of the consumers over the MS, which had to be restored through various ensuing interventions. The main one was represented by Regulation 178/2002, which took some of the elements already discussed in Regulation 820/97. Specifically, other than introducing provisions on hygiene, one important tool was the *traceability*, that favoured a dialogue between producers and controllers[173].

One concept that was also included in Regulation 178/2002, descending from the international law and later incorporated in the Treaties, is the precautionary principle, which became a foundation of food law also (while in the beginning it was only considered for environmental matters), and one of the main principles that the revolution of food movement and marketing was based on from the BSE emergency on in EU. It sets the basis for the risk assessment that is at the core of the work of the European Food Safety Agency (EFSA).

This chapter will deal with the analysis of the motivations that led to the creation of a system of food governance and safety in Europe, other than the study of Regulation 178/2002.

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[172] Bovine Spongiform Encephalopathy (BSE) is a transmissible, neurodegenerative, fatal brain disease of cattle which came to the attention of the scientific community in November 1986 with the appearance in cattle of a newly recognized form of neurological disease in the United Kingdom (UK). The risk for the spread of the disease caused the ban of exports of the British beef and, consequently, a series of trade controversies between EU and UK. At the same time, it resulted in a general lack of trust of consumers regarding the imported products.

[173] Albisinni F., *The path to the European and global food system* in Costato, L., & Albisinni, F., (2016). European and global food law (Second ed.). CEDAM. pp. 15-43.

2.1 The development of Food law and the growing concern for health and safety

Once again, it must come to attention how, even though Food Law had not yet been fully developed by EU institutions, food still had a fundamental place in the development of the free movement of goods. Some of the most important cases in EU case law that shaped the dimension of the freedom of movement of goods were actually about food. Examples of this are the discussed cases of *Dassonville* and *Cassis de Dijon*, both about the transport, transit, and sale of spirits.

Food, however, could not just be *any good* because of the necessity for protection of consumers, their safety, the MS' economies, the environment, animal welfare etc…[174] In other words, the EU had to intervene to provide more legislation on the matter, and on various fronts. Previously, in the White paper on the completion of the internal market, the Commission had stated the intention for the EU of intervening on the market of foodstuffs, mainly through horizontal directives (on labelling, food additives…) with the final objective of granting safety and health for consumers[175], with the aid of the Scientific Committee for Food[176].

According to Article 168[177], EU cannot intervene on public health with direct measures of harmonisation. Rather, the Union gets involved to stimulate and support[178] some interventions by the States as it cannot impose them directly. However, the first paragraph of the same Article states that "*a high level of human health protection shall be ensured in the definition and implementation of all Union policies and activities*" so it creates a high standard for the protection of public health, yet it leaves the specifics to each MS.

Food law is a matter of "great public concern"[179] since the impact of food on the community is essential: a high level of security on the matter can limit the number of

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[174] Bremmers H. and Purnhagen K., (2018) *Regulating and Managing Food Safety in the EU: A Legal-Economic Perspective* p. 2 in Bremmers, H., Purnhagen, K. (eds) Regulating and Managing Food Safety in the EU. Economic Analysis of Law in European Legal Scholarship, vol 6. Springer, Cham.

[175] COM (85) 310 *cit.* p. 21

[176] The Scientific Committee on Food (SCF), established in 1974, was the main committee providing the European Commission with scientific advice on food safety. Its responsibilities have been transferred to the European Food Safety Authority (EFSA), later introduced via Regulation 178/2002.

[177] Article 168 TFEU "*Union action, which shall complement national policies, shall be directed towards improving public health. […] The European Parliament and the Council, […] may also adopt incentive measures designed to protect and improve human health […]*".

[178] Schütze R., (2006) *Co-operative Federalism Constitutionalized: The Emergence of Complementary Competences in the EC Legal Order*, European Law Review 31 p. 167.

[179] COM(97) 176 final Green Paper on the General principles of Food Law, p. 13

health concerns and at the same time have a strong impact on the economy, due to more demand and consequent profits. That is why the EU has to find an effective framework that can balance everyone's interests.

The EU can, in fact, intervene on the movement of food and its quality *because* of the higher necessity for the protection of the public health, and it does so with positive integration. That is why during the years it has implemented all of the Regulations that had been foreseen in the COM (85) 603 paper[180]. Due to the immense diversity of the food industry, it was fundamental to decide which approach to use. Whether it is best to use a horizontal method, which establishes general rules that apply to all foods, or a vertical approach, which instead creates definite rules for a specific sector, should be preferred. The horizontal approach grants the possibility for the Union to create a general overview of the situation in each MS, while the vertical approach permits to answer the necessities of specific sectors[181].

The area of food hygiene, where the two methods coexist, serves as the best example of how they differ. A number of specific vertical directives indicate in some detail the hygienic criteria that must be followed for food products of animal origin, which are delicate from a health perspective. Other foodstuffs are covered by the general directive on food hygiene, which aspires for a more generic approach, despite the fact that it contains some prescriptive restrictions.

The development of EU food law actually can be identified in three different phases: the first two are considered as "market-oriented", then subdivided into two stages[182].

The first stage was based on harmonisation via vertical directives and ended with the *Cassis de Dijon* judgement and the implementation of the principle of mutual recognition in absence of harmonisation among MS. This ruling changes the whole concept of harmonisation and shifts the attention from a product-specific, vertical legislation to a horizontal one[183]. The second, instead, started from that moment to the BSE crisis of 1997, twenty years later. At this point, the EU went from the vertical directives as main

[180] Examples that will be discussed further are Regulation 178/2002 on General principles and requirements for Food Law, Regulation 1169/2011 on Labelling.
[181] COM(97) 176 final *cit.* p. 17
[182] Van Der Meulen B., *Food law: development, crisis and transition*, in van der Meulen, B. M. J., *EU Food Law Handbook, cit.* p. 138
[183] Van Der Meulen B., makes examples of this development with the Labelling directive and the Hygiene directive, *ivi, cit.* p. 143

instrument of implementation of the EU law in the MS, to horizontal directives to grant a more general action over all MS.

The third stage, which leaves the "market-oriented" approach, is based instead on granting the safety of consumers and their health, and is, in fact, the direct consequence of the previous phase. On a legislative level the EU goes from the use of horizontal directives to the use of horizontal regulations, which means they can be characterised by direct applicability in MS without the need for any more internal implementation[184].

The concern for quality and composition of foodstuffs was left to both the responsibility of the MS, their operators, and the EU as a whole, prevented that they answer to the common standards set out for information and creating barriers to trade.

2.1.1. The need for food safety regulations after the "mad cow disease"

Already in 1989, the growing number of foodstuffs that were in commerce on the EU market justified the necessity for having more legislation on the matter, and at the same time grant harmonisation[185]. The Community felt the need to implement more rules concerning public health protection through information as to the nature, characteristics and, where appropriate, the origin of the foodstuffs placed on the market. Particularly, the attention over health and safety grew following the BSE emergency (Bovine Spongiform Encephalopathy), also known as "mad cow disease" in 1997.

BSE is a kind of Transmissible Spongiform Encephalopathy (TSE), a new – at the time – degenerative brain disease affecting cattle which occurred for the first time in the United Kingdom in 1985. The crisis it created on the market in 1997 highlighted the necessity to radically change the Community's agricultural policy as it basically brought up the risks of intensive farming, which had been ignored up until that moment. At the same time, it was an important lesson for risk regulations, as the Community found itself not ready for the management of the outbreak[186].

The reaction started with the design of a New Approach to Consumer Health and Safety[187] which intended to reinforce the consumer health protection. Later on, the EEC continued

[184] *Ivi,* p. 138
[185] OJ (89/C 271/03) p. 4
[186] Vos, E. *EU Food Safety Regulation in the Aftermath of the BSE Crisis*. Journal of Consumer Policy 23, pp. 227-228. Evidence of the problems of the risk management were then disclosed by the CEE in 1996 through the Temporary Committee Inquiry set up by the Parliament.
[187] COM(97) 183 final Communication of the Commission on consumer health and food safety.

the revolution acting directly on the Treaties, specifically with the Treaty of Amsterdam[188].

At the same time, the Commission also released the White Paper on Food Safety[189] in which, given the past emergency, sets the record straight stating the intentions of the Community, comprising public health and food safety in the priorities of the next legislative measures. Among the measures, one of the objectives is the creation of an independent European Food Authority "*with responsibility for independent scientific advice on all aspects relating to food safety, operation of rapid alert systems and communication of risks*"[190], an improved framework "*from farm to table*", greater harmonisation and more dialogue with both consumers and stakeholders. Some of these objectives would later constitute part of Regulation 178/2002, also known as the "General Food Law", which will be furtherly discussed later.

In the end, the BSE "scandal" represented an important EU policy failure which ended up as a fundamental turning point in the EU law, especially concerning bovine products and their registration, together with the necessity for a specific labelling system.

2.2. The precautionary principle: history and impact on the development of Food Law

After the BSE emergency, and also living in a moment in time that has been identified by Beck as *risk society,* where the concept of *risk* is identified in *"a systematic way of dealing with hazards and insecurities induced and introduced by modernisation itself*"[191], the Community also decided to intervene to enlarge the application of the already existing precautionary principle to the sector of food and make the protection of public health and safety as a priority in its application.

[188] Notably, the Community intervened on Articles 95, 152 and 153 EC (today 114, 168, 169 and 12 TFUE). Specifically, "new scientific facts" have to be taken now into consideration for harmonisation policies, the MS have to "ensure" the protection of public health.
[189] COM/99/0719 final White Paper on food safety presented to the public by the Commission on 12 January 2000
[190] *Ivi*, chapter 4.
[191] Beck, U. (1992). *Risk Society: Towards a New Modernity*. London: Sage Publications. ISBN 978-0-8039-8346-5 p. 21

This principle was originally born in the international dimension through the UN[192] and was only brought officially to the EEC law with the Maastricht Treaty of 1992 in the field of protection of the environment[193], even though it had already been discussed in various cases about the health and safety of food by the ECJ[194].

The Treaty did not give a proper definition of the principle directly and this actually created various problems of ambiguity. The ECJ first stated that *"the precautionary principle can be defined as a general principle of Community law requiring the competent authorities to take appropriate measures to prevent specific potential risks to public health, safety and the environment, by giving precedence to the requirements related to the protection of those interests over economic interests. Since the Community institutions are responsible, in all their spheres of activity, for the protection of public health, safety and the environment, the precautionary principle can be regarded as an autonomous principle stemming from the abovementioned Treaty provisions."*[195].

One definition has later been provided by the European Environment Agency in 2013 *"The precautionary principle provides justification for public policy and other actions in situations of scientific complexity, uncertainty and ignorance, where there may be a need to act in order to avoid, or reduce, potentially serious or irreversible threats to health and/or the environment, using an appropriate strength of scientific evidence, and taking into account the pros and cons of action and inaction and their distribution"*[196].

The two definitions can actually complement each other, as the first one states the obligation for authorities to put health on a higher level of protection compared to the economic interests, and the second one imposes the necessity for a deeper analysis of the product through the lens of scientific evidence, whenever there is a percentage of doubt

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[192] As a matter of fact, during the 80's, it was formalized first in the World Chamber for Nature of 1982, then in various conventions (e.g. the Vienna Convention, and later the Montreal Protocol and the Bremen Conference by OECD). Last but not least, the precautionary principle was also included as Principle 15 of the Rio Declaration on Environment and Development. SEE e Bocchi, M. (2016) *The Reshaping of the Precautionary Principle by International Court: Judicial Dialogues or Parallel Monologues?*, Geneva Jean Monnet Working Paper 2/2016 at: http://www.ceje.ch/files/2314/5933/0264/Geneva_JMWP_02-Bocchi.pdf pp 3-6

[193] Specifically, Article 130 EC (now Article 191 (2) TFEU) which bases the environment protection on *"the precautionary principle and on the principles that preventive action"*.

[194] See cases C-53/80 Kaasfabriek Eyssen BV ECLI:EU:C:1981:35, C-174/82 Sandoz ECLI:EU:C:1983:213

[195] Case C-74/2000 Artegodan v. Commission ECLI:EU:T:2006:286

[196] EEA Report (1/2013) *Late lessons from early warnings II: science, precaution and innovation*

that it could be harmful to health or the environment. The precautionary principle basically requires or at least legitimizes the regulator to intervene even before harm occurs, and data is inconclusive[197].

The intention of the Commission to expand the use of the precautionary principle to the food sector also was made explicit in the *BSE* judgement (1996) by the ECJ in which it was debated whether it was possible to lift the ban that had been imposed on the export of bovine meat from UK in March 1996 since, according to their point of view, the risk to human health was *"negligible, having regard to the measures already adopted or related to the period before steps to control BSE had been taken"* [198].

First, the ECJ stated that the Commission could nonetheless decide not to lift the ban, given the fact that new scientific findings had shown that the disease could be a hazard to human health. Second, it amplified the application of the precautionary principle to the food sector for the first time, stating "*[w]here there is uncertainty as to the existence or extent of risks to human health, the institutions may take protective measures without having to wait until the reality and seriousness of those risks become fully apparent*"[199].

The ECJ furtherly tried to clear up some of the doubts via the *Pfizer*[200] (2002) and *Alpharma*[201] (2002) judgements, stating how to approach a preventive measure, specifically "*[…] a preventive measure cannot properly be based on a purely hypothetical approach to the risk, founded on mere conjecture which has not been scientifically verified […] rather, it follows from the Community Courts' interpretation of the precautionary principle that a preventive measure may be taken only if the risk, although the reality and the extent thereof have not been fully demonstrated by conclusive scientific evidence, appears nevertheless to be adequately backed up by the scientific data available at the time when the measure was taken*"[202]. Therefore, it is not sufficient to use a

[197] Purnhagen K., (2015) *The EU's Precautionary Principle in Food Law is an Information Tool!,* 26, European Business Law Review, Issue 6, p. 912 https://kluwerlawonline.com/journalarticle/European+Business+Law+Review/26.6/EULR2015042
[198] Case C-180/96, United Kingdom v. Commission ECLI:EU:C:1998:192 para 32
[199] *Ivi*, para 63
[200] T-13/99 Pfizer Animal Health v Council ECLI:EU:T:2002:209
[201] T-70/99 Alpharma v Council of EU ECLI:EU:T:2002:210
[202] T-13/99 Pfizer judgement *cit.* paras 143-144

hypothetical approach to establish a scientific certainty, without an adequate scientific data backup[203].

Both judgements made reference to the previous ruling *Surveillance Authority v. Norway*[204] (2001) of the European Free Trade Association (EFTA), in which the association made the analogy between Article 13 EEA[205] and Article 30 TEC[206], consequently granting the limitation of the market only for explicit reasons of public health, if the MS invoking the principle can clearly show the risk behind the market of the product in question.

2.2.1 CO(2000) 1 on the precautionary principle and its impact

Further directions for the correct application of the principle were provided by the Commission Communication on the precautionary principle[207] with the aims of both adapting the use of such principle to the guidelines of WTO Agreement of Sanitary Phytosanitary Standards (SPS) and address the credibility issues of its application born until that moment[208]. Also, the Commission aimed at laying out its rules for using the precautionary principle, on how to handle risks that science is not yet capable of fully evaluating and prevent its unwarranted use as a cover for protectionism.

The circumstances in which the principle shall be applied are "*where scientific evidence is insufficient, inconclusive or uncertain and there are indications through preliminary objective scientific evaluation that there are reasonable grounds for concern that the potentially dangerous effects on the environmental, human, animal or plant health may be inconsistent with the high level of protection chosen for the Community"*[209], while also

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[203] Bocchi, M. (2016) *The Reshaping of the Precautionary Principle by International Court: Judicial Dialogues or Parallel Monologues?*, Geneva Jean Monnet Working Paper 2/2016 at: http://www.ceje.ch/files/2314/5933/0264/Geneva_JMWP_02-Bocchi.pdf p. 9.

[204] EFTA Court Case E-3/00 EFTA Surveillance Authority v. Norway, Judgment of April 5th 2001, Report of the EFTA Court, 2001.

[205] Art. 13 EEA: "*The provisions of Articles 11 and 12 shall not preclude prohibitions or restrictions on imports, exports or goods in transit justified on grounds of public morality, public policy or public security; the protection of health and life of humans, animals or plants; the protection of national treasures possessing artistic, historic or archaeological value; or the protection of industrial and commercial property. Such prohibitions or restrictions shall not, however, constitute a means of arbitrary discrimination or a disguised restriction on trade between the Contracting Parties*".

[206] Article 30 TEC is now 36 TFEU

[207] COM(2000) 1 final Communication from the Commission on the Precautionary principle

[208] Lofstedt R. (2014) *The precautionary principle in the EU: Why a formal review is long overdue* published in Risk Management, August 2014, Vol. 16, No. 3 (August 2014) doi:10.1057/rm.2014.7 p. 137.

[209] COM(2000) 1 final *cit.* p. 2

searching for the balance between the precautionary principle and other principles of EU law: proportionality, non-discrimination, previous measures, cost-risk, especially *"in the fields of environmental protection and human, animal and plant health"*[210].

The Communication provides three prerequisites for invoking the precautionary principle:

1) the identification of possible negative effects,
2) the performance of a scientific evaluation and
3) the existence of scientific uncertainty[211].

It is for the institutions to decide for the level of protection to apply whenever these conditions are met[212].

However, it also does say that, if one product is scientifically already considered harmful for health and a manufacturer decides to use it anyway, the burden of proof will reverse: this means that such good will be considered "*hazardous until proven otherwise*" and it will fall upon the manufacturers to carry out the scientific work to evaluate the risk. Whenever this procedure is not foreseen, the burden of proof will fall on the interested party and, once the potential risk is proven, in certain (not specified) cases institutions will reverse it on the producers[213].

In the end the Communication left the academics with lots of unsolved doubts: it did not give an explicit and unique definition of the principle (which was not a negative thing,

[210] COM(2000) 1 final *cit.* p. 9
[211] COM(2000) 1 final *cit.* p. 13
[212] Scott J. (2018) *Legal aspects of the precautionary principle*, The British Academy p. 10 via COM(2000) 1 final *cit.* p. 12
[213] COM(2000) 1 final *cit.* p 21. This part of the Communication was one of the most criticized by the academic literature because of its ambiguity, since the Commission chooses not to define exactly what are the situations in which the institutions can just decide to reverse the burden of proof onto the manufacturer. This would imply that, in cases in which an interested party (e.g. a MS that wants to prevent the market of a product onto its territory) wants to demonstrate the hazardousness of a product, there would be no fixed threshold or certain level of scientific proof to trigger the precautionary principle, and it could therefore result in a "justification for disguised protectionism". This provision tips in preference of the preventive measures. See Zander, J. (2010). *The precautionary principle in EU law*. In The Application of the Precautionary Principle in Practice: Comparative Dimensions (pp. 76-151). Cambridge: Cambridge University Press. doi:10.1017/CBO9780511779862.006 p. 98 and McNelis, N. (2000) *EU communications on the precautionary principle*, Journal of International Economic Law, Volume 3, Issue 3, September 2000, Pages 545–551, https://doi.org/10.1093/jiel/3.3.545 p. 549

for some scholars, considering the vast application of the principle to different sectors[214]), nor did it specify the criteria for the burden of proof. Also, it did not give a comprehensive framework of how the MS should act to rely on the principle, avoiding the application of harmonised measures[215].

Later in time, with the *Commission v. Denmark* case, the ECJ also tried – according to some, weakly[216] – to define with more certainty the threshold after which the precautionary principle can be invoked (which, as we previously analysed, had not been clearly outlined by the Communication – CO(2000) 1 final – either, leaving uncertainty on the matter), stating that the impossibility to determine the existence of an alleged risk through the studies at hand justifies the use of the principle[217].

In far more recent times, through the *Acino* judgement[218] (2014), then, the ECJ ruled that as long as there is "*solid and persuasive evidence*" capable of raising "*reasonable doubts*" as to the declared composition of the products (and thus their safety), the Commission is required under the precautionary principle to take all appropriate measures, including a product recall, to prevent any potential risk to human health (and without any burden of proof falling upon them).

According to Russo, this was the real phase in which food safety actually acquired its own dignity from a legal standpoint[219].

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[214] De Smedt, K., Vos, E. (2022). *The Application of the Precautionary Principle in the EU*. In: Mieg, H.A. (eds) The Responsibility of Science. Studies in History and Philosophy of Science, vol 57. Springer, Cham. https://doi.org/10.1007/978-3-030-91597-1_8 p. 174

[215] Zander, J. (2010). *Conclusions*. In The Application of the Precautionary Principle in Practice: Comparative Dimensions (pp. 327-348). Cambridge: Cambridge University Press. doi:10.1017/CBO9780511779862.010 p. 330

[216] Bocchi, M. (2016) *The Reshaping of the Precautionary Principle by International Court: Judicial Dialogues or Parallel Monologues?*, *cit.* p. 11

[217] Case C-192/01, Commission v. Denmark ECLI:EU:C:2003:492 para. 52 states "when it proves to be impossible to determine with certainty […] the existence or extent of the alleged risk because of the insufficiency, inconclusiveness or imprecision of the results of studies conducted […] the precautionary principle justifies the adoption of restrictive measures".

[218] C-269/13 Acino AG v Commission ECLI:EU:C:2014:255 para 25.

[219] Russo L. *Agricultural law and food law* in Costato, L., & Albisinni, F. (2016). European and global food law (Second ed.). CEDAM p. 222

2.2.2. Precautionary principle in the General Food Law Directive

The first notable attempt of definition of the principle after the Communication, according to academics, happened in 2002 with the General Food Law Regulation[220] (GFL), specifically in Article 7[221] which imposes the necessity of using the principle whenever there are scientific uncertainties, in order to gain more time to obtain other information "*for a more comprehensive risk assessment*" in its first paragraph. The following paragraph, then, requires for the application of the principle to be proportionate to the level of risk and consequent needed health protection and "*within a reasonable period of time for a more comprehensive assessment*". It was also the first time that the precautionary principle was related to food law in the EU primary or secondary legislation (not considering the COM(2000) 1 final).

Other than Article 7, Article 14 was also dedicated to specifying the food safety requirements for food and feed, putting safety as a maximum priority, deeming as "unsafe" both products that can be damaging to health and products that, even if not "*injurious*" are nonetheless "*unfit for human consumption*" (e.g., products that are no longer fresh, expired or contaminated)[222], considering their normal conditions of use and the provided information though the label. Clearly, a product will be considered safe in every MS until otherwise proven, if it was commercialized in one of the MS, according to the principle of mutual recognition.

With the GFL, various new obligations were born both for the food operators and MS: for food operators, they shall ensure the food safety at every stage of production and subsequent marketing, the traceability of every component, and shall start the procedures

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[220] Regulation (EC) No 178/2002 of the European Parliament and Council laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety.

[221] Article 7 Regulation 178/2002 on the Precautionary principle "*1. In specific circumstances where, following an assessment of available information, the possibility of harmful effects on health is identified but scientific uncertainty persists, provisional risk management measures necessary to ensure the high level of health protection chosen in the Community may be adopted, pending further scientific information for a more comprehensive risk assessment.*
2. Measures adopted on the basis of paragraph 1 shall be proportionate and no more restrictive of trade than is required to achieve the high level of health protection chosen in the Community, regard being had to technical and economic feasibility and other factors regarded as legitimate in the matter under consideration. The measures shall be reviewed within a reasonable period of time, depending on the nature of the risk to life or health identified and the type of scientific information needed to clarify the scientific uncertainty and to conduct a more comprehensive risk assessment."

[222] This was also later discussed by the ECJ in C-636/2011 Karl Berger v Freistaat Bayern ECLI:EU:C:2013:227 paras 35-36

of withdrawal of the product every time it is non-conformant to the health and safety measures. MS, instead, have to put the food law into action and ensure its enforcement and consequent respect.

Apart from the precautionary principle, the GFL Regulation was burdened with the function of giving all of the stipulative definitions[223] that, at that point in time, were missing. That is because of the fact that EU Food Law was still developing from its origin which, as highlighted initially, was just related to the movement of goods and did not have its own rules (e.g. the concepts of "food" and "feed", clarified in Articles 2 and 3). Other than that, it was fundamental to provide a framework for the development of an independent food safety policy in the EU, notably, governed by the concept of food safety and risk analysis, granted by the constitution of the European Food Safety Authority (EFSA)[224].

EFSA is a new independent institution serving as a scientific point of reference on all aspects of food safety, communicating the results of these risk assessments to the consumers of the MS, created mainly to grant more transparency and restore the consumers' confidence that was lost during the BSE period.

The necessity for this kind of Regulation had been made explicit through the White Paper on the Completion of the Market in 1985, meaning that the Parliament and Council wanted to implement more horizontal legislation to harmonise the food market and give it its own rules, apart from the "goods" market, keeping in mind the priority of the food health and safety of consumers as it came to the surface during the BSE emergency.

Another main consequence of the BSE crisis that was directly mirrored in the content of this Regulation is the stricter need for the traceability of food products, to grant more transparency and therefore safety for consumers. After having been taken into account for many years only in the context of sector-based provisions for certain specific products[225], leaving the rest of the food market to the private initiative, traceability became mandatory

[223] Germanò A. e Basile E. *Definitions of European Food Law* in Costato, L., & Albisinni, F. (2016). European and global food law (Second ed.). CEDAM. p. 174

[224] Chapter III of the Directive (Articles 22 and following) specify the mission, tasks, bodies, principles and financial information of the Authority.

[225] See Directive 91/492/EC on bivalve molluscs, Directive 92/102/EEC on food-producing animals and Council Regulation (EEC) No 2092/1991 on organic agricultural products.

for all food businesses through the GFL[226], which states its definition and the way in which it shall be enforced and respected.

Mandatory traceability is today necessary in all stages of the food chain for both production and distribution phases, as neglecting one of the stages would render its practice on all of the following ones useless[227].

Following the Regulation, in January 2000 the Commission also announced the White paper on Food safety[228] which especially highlighted its intent to change the focus in the area of food law from the development of an internal market to assuring high levels of food safety.

[226] Salvi L. *Traceability and hygiene package* in Costato, L., & Albisinni, F. (2016). European and global food law (Second ed.). CEDAM. p. 283

[227] Charlier, C., and Valceschini E. (2008) *Coordination for Traceability in the Food Chain. A Critical Appraisal of European Regulation,* European journal of law and economics. 25.1: 1–15. https://doi.org/10.1007/s10657-007-9038-2

[228] COM (1999) 719 *cit.*

CHAPTER III

FRONT-OF-PACKAGE LABELLING IN EUROPE AND BEYOND

Preliminary remarks

The events of the XX century led to a shift in the priorities in EU legislation, as the centre of attention was drawn from the institution of the internal market to the importance of safety for consumers and their health. As analysed in the second chapter, the direct consequence of this process was new horizontal legislative interventions by the EU institutions which helped creating the structure of the internal market, also finding the autonomous role of Food Law. This process was largely helped by the implementation and growth of the CAP.

One of the main interventions was the implementation of the GFL and the introduction of EFSA as an independent authority for food safety in the Union, as well as the implementation of CAP with its specific role in the development of Food law[229].

At the same time, the expressed intention of the Union was the regulation of labels, directly connected to the establishment of more consumer awareness and self-protection. The more foodstuffs were part of the internal market, the more it was important to provide more in-depth information to the consumers, as they had to be aware of ingredients, place of provenance and quality of the products which were, now, available.

That is why more legislation about labels were introduced in the XXI century and why with time the EU gave more concern to the *comprehensibility* of it by the consumers.

The need for protection of health, together with the need of informing the consumers, resulted in more and more details to be provided through labelling: data like the origin of the components of the product, where it was processed, recycling information, the expiration date and how to store and use it. All of these facts are fundamental to consume the food in the right way and therefore protect the consumers from "injurious products" or "unfit for consumption". This means that the labelling of the products and the scope of the GFL are strictly related to one another, even though the latter does not directly rule over the first. The intention of the legislators was both the creation of more awareness for

[229] See Chapter II of this study on Food Governance and Chapter I, Paragraph II for more information on the CAP.

consumers, and at the same time the hope for a consequent shift in the food production field, with the reformulation of products to be more overall healthier[230].

This led to the development of Front-of-Package Labelling (hereinafter, FOPL). The first paragraph of this chapter will look at the labelling system in Europe, how it developed and its current state, researching the basis of the Front-of-Package in the EU normative. The second will then dive more into FOPLs and their actual use on the market and its growth in EU and beyond. The last paragraph looks a little more in depth on the possibility for such method to impact consumers, and the possibility for lawmakers to actually reach their purposes through it.

3.1. European normative on labels

The first thing to consider in order to go through a thorough analysis of labels is the current normative in the EU territory and the current application and development of the Front-of-Package schemes. Namely, the Regulation 1169/2011[231] (currently in force) is actually the result of numerous previous provisions enacted by the EU Council and Commission.

Labels were already at the centre of attention of the EU legislator during the XX century, together with the whole legislation process for the creation of the internal market that was already analysed in the previous chapters. The label normative journey went from the use of Directives to the creation of a single Regulation that would include every aspect of the subject, with the main objective of granting more information to consumers and create their awareness in order to make healthier choices for foodstuffs and diet in general.

3.1.1. Background on the labelling normative in EU before 2011

The effort of the Union for the implementation of better information on labelling in order to provide more safety for consumers had already been made explicit in 1976, specifically

[230] World Health Organization, European Office for the Prevention and Control of Noncommunicable Diseases (2021) *Front-of-pack food labelling policies in the WHO European Region*, https://cdn.who.int/media/docs/default-source/thailand/ncds/ppt_clare_fopl1_final-presentation_cf.pdf?sfvrsn=388ab823_3 p. 3

[231] Regulation (EU) No 1169/2011 of the European Parliament and of the Council of 25 October 2011 on the provision of food information to consumers, amending Regulations (EC) No 1924/2006 and (EC) No 1925/2006 of the European Parliament and of the Council, and repealing Commission Directive 87/250/EEC, Council Directive 90/496/EEC, Commission Directive 1999/10/EC, Directive 2000/13/EC of the European Parliament and of the Council, Commission Directives 2002/67/EC and 2008/5/EC and Commission Regulation (EC) No 608/2004 Text with EEA relevance. Henceforth, FIC Regulation. Henceforth, FIC Regulation.

by the Commission with their first proposition for a General Labelling Directive, which then resulted in Directive 79/112/EEC[232]. The Directive had the objective of harmonizing the labelling provisions of the EU, provided that the laws of the MS were different from one another, which resulted in "*unequal conditions of competition*" and could consequently lead to a possible overall breach of the freedom of movement of goods.

The GDL sets the standard for the subsequent acts of the EU institutions. It imposes the binding necessity for MS to specify:

1) the product name,
2) the ingredients,
3) the net quantity,
4) the date of minimum durability,
5) any special storage conditions or conditions of use,
6) the name and address of the manufacturer or packager,
7) particulars of the place of origin in cases where the consumer might be misled as to true origin, and
8) instructions for use in cases where it would be impossible to make appropriate use of the food stuff[233].

The label must not attribute properties or effects to the food that the product does not have, nor should the label suggest that food possesses special characteristic when the so-called special characteristics are found in all foods.

Along with said Directive, the Council also decided to provide, years later, another provision to fill in the gaps of labelling left without analysation: notably, the nutritional information – Directive 90/496/EC[234]. The newest Directive applies to the same range of products of its predecessor: the ones "*to be delivered to the ultimate consumer*" and "*foodstuffs intended for supply to restaurants, hospitals, canteens and other similar mass caterers*"[235].

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[232] Council Directive 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, OJ L 33/1

[233] Some academics identify these 8 mandatory elements as "big 8 requirements", see Moore M. (2001) *Food Labeling Regulation: A Historical and Comparative Survey*, Harvard Third Year Paper http://nrs.harvard.edu/urn-3:HUL.InstRepos:8965597 p. 31

[234] Council Directive 90/496/EEC of 24 September 1990 on nutrition labelling for foodstuffs, OJ L 276/40

[235] Article 1, para 1 Directive 90/496/EEC "*This Directive concerns nutrition labelling of foodstuffs to be delivered as such to the ultimate consumer. It shall also apply to foodstuffs intended for supply to*

Contrary to the application of the GDL, the application of Directive 90/496/EC is not mandatory unless a nutritional *claim*[236] is already represented in the label or in presentation or advertising of the product[237]. It imposes the necessity for the indication of energy value, proteins, carbohydrates, fat, dietary fibres, sodium, vitamins and minerals and substances which belong to one of the categories of these nutrients or which are components of them, all in a comprehensible language to the purchaser, and positioned in legible place on the label[238].

With the advent of the new millennium and considering all the substantial amendments Directive 79/112/EEC was subjected to during the years, and, at the same time, all of the changes and new aims of the Union that had risen throughout that time, the EU Parliament felt the necessity to codify a consolidated single text, which resulted in Directive 2000/13/EC[239]. Some of the main milestones which led to this version were already discussed in the previous chapter[240].

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restaurants, hospitals, canteens, and other similar mass caterers (hereinafter referred to as "mass caterers")".

[236] The definition of nutritional claim is specified in Article 1 para 4 (b) as "b) 'nutrition claim' means any representation and any advertising message which states, suggests or implies that a foodstuff has particular nutrition properties due to the energy (calorific value) it provides, provides at a reduced or increased rate or does not provide, and/or due to the nutrients it contains, contains in reduced or increased proportions or does not contain."

[237] Article 2 Directive 90/496/EEC "*1. Subject to paragraph 2, nutrition labelling shall be optional.*
2. Where a nutrition claim appears on labelling, in presentation or in advertising, with the exclusion of generic advertising, nutrition labelling shall be compulsory."

[238] Article 1 para 4 Directive 90/496/EEC "*For the purposes of this Directive : (a) 'nutrition labelling' means any information appearing on labelling and relating to :*
(i) energy value ;
(ii) the following nutrients : protein, carbohydrate, fat, fibre, sodium, vitamins and minerals listed in the Annex and present in significant amounts as defined in that Annex." and
Article 3 Directive 90/496/EEC "The only nutrition claims permitted shall be those relating to energy, to the nutrients listed in Article 1 (4) (a) (ii) and to substances which belong to or which are components of a category of those nutrients. Provisions restricting or prohibiting nutrition claims within the meaning of this Article may be adopted by the procedure laid down in Article 10."

[239] Directive 2000/13/EC of the European Parliament and of the Council of 20 March 2000 on the approximation of the laws of the Member States relating to the labelling, presentation and advertising of foodstuffs, OJ L 109/29

[240] They can be identified, for example, in the White Paper for the Completion of the Internal Market of 1985, the Commission Green Paper on the General Principles of Food Law of 1997 or the White Paper on Food Safety of 1999. Not only, Food law had an important development thanks to the positive integration of the CAP. It is also fundamental to consider the consequences of the BSE emergency and the shift of focus on the consumer health and safety. The emergency also created an overall mistrust in the institutions and the market, and more detailed labelling was seen as one of the possible solutions to this problem.

The objective was granting the consumers with enough comprehensible information to protect themselves from the incorrect consumption of foodstuffs through *detailed labelling*[241]. The main aims of the consolidation resulted in giving information to the consumer to provide its maximum protection through awareness, and at the same time granting fairness in trade, with equal opportunities for the promotion of comparable foods[242]. The label's task was to inform customers at the moment of sale hence they may decide whether to buy a product and, if they did, how to use it most effectively[243].

The *big 8 requirements* were kept in the text of the Directive of 2000's Article 2, with the addition of two other mandatory elements: first, the indication of the quantity of certain ingredients or categories of ingredients in certain cases[244]; and second, with respect to beverages containing more than 1,2 % by volume of alcohol, the actual alcoholic strength by volume. Exceptions for almost all items are possible and given in Articles 4, 6, 7, 8, 9 and 13 of the Directive. For example, ingredient lists are not required in the case of fresh fruit, vegetables, and potatoes, of carbonated water, of single-base vinegars, of cheese, butter, fermented milk, and cream, and of products consisting of a single ingredient[245].

Because of the necessity for foods and labels to be readable and safe for consumers, in 2003 the Directive was modified by Directive 2003/89/EC[246], who added an Annex listing food ingredients with a high potential to cause allergic or intolerance reactions and which,

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[241] Directive 2000/13/EEC, Recital (6-8) "*The prime consideration for any rules on the labelling of foodstuffs should be the need to inform and protect the consumer" […] "Detailed labelling, in particular giving the exact nature and characterisation of the product which enables the consumer to make his choice in full knowledge of the facts, is the most appropriate since it creates fewest obstacles to free trade*".

[242] Przyrembel, H. (2004). *Food labelling legislation in the EU and consumers information*. Trends in Food Science & Technology, 15(7), 360–365. https://doi.org/10.1016/j.tifs.2003.12.006 p. 360

[243] Health and Consumer Directorate General (2006), *Labelling: competitiveness, consumer information and better regulation for the EU https://food.ec.europa.eu/system/files/2016-10/labelling-nutrition_better-reg_competitiveness-consumer-info_en.pdf* p. 2

[244] The cases are stated in Article 7 Directive 2000/13/EEC "*2. (a) where the ingredient or category of ingredients concerned appears in the name under which the foodstuff is sold or is usually associated with that name by the consumer; or*
(b) where the ingredient or category of ingredients concerned is emphasised on the labelling in words, pictures or graphics; or
(c) where the ingredient or category of ingredients concerned is essential to characterise a foodstuff and to distinguish it from products with which it might be confused because of its name or appearance; or
(d) in the cases determined in accordance with the procedure laid down in Article 20(2)."

[245] The list has been summarized from the text of Article 6 para 2 of the Directive 2000/13/EC

[246] Directive 2003/89/EC of the European Parliament and of the Council of 10 November 2003 amending Directive 2000/13/EC as regards indication of the ingredients present in foodstuffs, OJ L 308

when added, must necessarily have to be listed on the label[247]. Also, three years later, Regulation 1924/2006[248] was published, specifically directed at setting guidelines for nutrition and health declarations on pre-packaged food products in cases of commercial communications.

At this point in time optional labelling still consists in:

- nutrition labelling, as stated in Directive 90/496;
- nutritional claims.

The two Directives of 1990 and 2000 coexisted for years, just until the entry into force of Regulation 1169/2011, which only happened three years later from its signature, in December 2014[249].

In 2008, the Commission intervened with a proposition for the merge of the two Directives, mainly to grant more room to introduce new requirements for labelling when it would appear necessary, and to make nutritional labelling mandatory (and more easily legible on the labels). All the same and according to the Commission in the Regulation's recital, the majority of the provisions laid down in Directives 2000/13/EC and 90/496/EC date back to 1978 and 1990 and should therefore be updated.

The proposal, stated in the Proposal[250], was published after consultation of consumers. The overall result showed that some labels created confusion about allergens and difficulty in comprehension; it also displayed the overall necessity to introduce more mandatory information in nutritional labels. EU consumers declared the desire to be better informed when purchasing food and to have labels that are simpler, more legible, understandable, and not misleading. The public showed an interest in the relationship between diet and health and in the choice of an appropriate diet to suit individual needs, which was displayed in the EU Commission's White Paper on a Strategy for Europe on

[247] Przyrembel, H. (2004). *Food labelling legislation in the EU and consumers information*. *cit.* p. 361

[248] Regulation (EC) No 1924/2006 of the European Parliament and of the Council of 20 December 2006 on nutrition and health claims made on foods OJ L 404

[249] Article 55 Regulation 1169/2011 "*This Regulation shall enter into force on the 20th day following its publication in the Official Journal of the European Union. It shall apply from 13 December 2014, with the exception of point (l) of Article 9(1), which shall apply from 13 December 2016, and Part B of Annex VI, which shall apply from 1 January 2014*."

[250] COM(2008) 40 final, Proposal for a Regulation of the European Parliament and of the Council on the provision of food information to consumers

Nutrition, Overweight and Obesity related health issues[251], which noted that nutrition labelling is one important method of informing consumers about the composition of foods and help them to make an informed choice.

The mentioned proposal also advertised the Union for the implementation of the new modifications via Regulation, thus with a measure that is directly and immediately applicable, to prevent inconsistencies created by heterogeneous applications of the law by the single MS, and also to grant industries the reduction of the administrative burden of familiarising themselves with individual normative in the MS of exportation.

3.1.2. An Analysis of the EU Food Information to Consumers Regulation

EU Regulation 1169/20011, also known as Food Information to Consumers Regulation (FIC), brings together in a single legislative text the set of rules on food labelling, presentation, and advertising[252]. The innovations introduced by the new Regulation are marked by the need for mandatory nutrition labelling and specific information about the presence of allergens in the ingredients.

The adoption of such Regulation marks the mutation of the EU legislator paradigm on various levels. As a matter of fact, it is the first time that such normative is represented by a Regulation instead of a Directive, by reason of the principle of *direct applicability* and therefore the fact that it does not leave single MS margins of adaptation[253], with the exception of national measures and additional mandatory particulars, which are explicitly contemplated by the text of law[254].

The Regulation differs from its predecessors both subjectively[255] and objectively[256]. Also, it changes the traditional approach of the Community's harmonization as its main purpose

[251] COM(2007) 279 final, White Paper on a Strategy for Europe on Nutrition, Overweight and Obesity related health issues

[252] These last two elements will not be object of study. Nonetheless, Article 7 of Regulation 1169/2011 imposes Fair information practices, with the objective of providing information that must not be misleading for consumers and thus does not interfere with competition on the market.

[253] Contrary to Directives, which instead leave a certain margin of action to MS, as they tend to impose a certain result that can be freely accomplished in the MS' own way.

[254] Articles 38 and 39 of Regulation 1169/2011 expressly consider the possibilities for States to intervene for matters that are not part of the harmonisation or elements with particular characteristics.

[255] Article 1 para 3 of Regulation 1169/2011 extends its application to "*food business operators at all stages of the food chain, where their activities concern the provision of food information to consumers*."

[256] Article 1 para 3 also mentions the products that the Regulation refers to as "*It shall apply to all foods intended for the final consumer, including foods delivered by mass caterers, and foods intended for supply to mass caterers*.", broadening the object of application in comparison to the previous Directive 13/2000/EC.

changes from simply granting the free movement of goods across EU to also shifting the attention to the importance of a healthy diet and food safety[257].

Such changes of the previous century are also reflected in the fact that the Regulation considers the progression in the methods of retailing via the internet, thus it provides with specifics on how to market food through distance selling. As a consequence, it states that the required information on the label must be available before the sale is completed and must appear on the webpage, catalogue, or other suitable medium that supports the distance selling[258].

It does more than just specify what has to be included in food packaging, labelling, and advertising as it also has a major impact on what can be shared as well. It contains numerous and highly technical rules, making it a veritable EU law. The EU Commission is accorded extensive powers to pass implementing and delegated acts. At the same time, there are many provisions that expressly reserve the right for MS to adopt their own national measures. This makes EU Food information law a rather complex legal area to understand and comply with.

The Regulation was born as the consequence of the EU Commission's proposal of 2008 and numerous other positions and statements[259]. The general labelling requirements are complemented by a number of provisions applicable to all foods in specific circumstances or to certain categories of foods[260].

The FIC Regulation was employed as a horizontal harmonizing measure[261], with the intention of simplifying a healthy and *informed* choice for consumers when providing

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[257] Costato L. et al. (2022), *Compendio di diritto alimentare*, cit. p. 179

[258] Article 14 Regulation 1169/2011 para 1 "*Without prejudice to the information requirements laid down in Article 9, in the case of prepacked foods offered for sale by means of distance communication: (a) mandatory food information, except the particulars provided in point (f) of Article 9(1), shall be available before the purchase is concluded and shall appear on the material supporting the distance selling or be provided through other appropriate means clearly identified by the food business operator. When other appropriate means are used, the mandatory food information shall be provided without the food business operator charging consumers supplementary costs; (b) all mandatory particulars shall be available at the moment of delivery*."

[259] An example is the Communication from the Commission to the Council, the European Parliament and the European Economic and Social Committee, EU Consumer Policy Strategy 2007-2013 on Empowering consumers, enhancing their welfare, effectively protecting them, COM(2007) 99 final.

[260] As a matter of fact, The FICR is complemented by other legislation with a horizontal effect, such as Regulation (EC) No 1924/2006 on nutrition and health claims, and by a large number of other laws on specific products.

[261] Costato L. et al. (2022), *Compendio di diritto alimentare*, cit. p. 174

their food and granting more legible and understandable information. It imposes new additional requirements about allergies, intolerances, and nutrients (energy, fat, saturated fat, carbohydrate, sugars, protein, and salt) expressed per 100 g or per 100 ml[262] (and optionally per portion), other than mandatory information about the origin of meat (notably pigs, sheep, goat, and poultry).

The ultimate aims of the Regulation are:

1) meeting consumers' need to be better informed on food products, in order to grant their protection, while at the same time creating "*safe use of food, with particular regard to health, economic, environmental, social and ethical considerations*"[263];

This was both a fundamental element in order to gain back the trust of consumers after the events of the 90's and an explicit request of said category during the 10's of the new millennium[264]. The promotion of nutrition and health benefits is becoming a crucial aspect due to the growth of malnutrition-related issues[265]. The ever-growing emergency of Non-Communicable Diseases (e.g., cardiovascular disease, cancer, obesity, and type 2 diabetes) in MS is attributable to dietary risks[266].

2) meeting the competition law need to avoid misleading information to be put on the label, which could give false information to the consumer, or at least lead them to believe something that is not, partially or entirely, true.

[262] Article 32 Regulation 1169/2011 on "Expression per 100 g or per 100 ml"

[263] Article 3 para 1 Regulation 1169/2011 on Consumer safety

[264] They are also described as "prosumers" as they are more aware of their rights, meanwhile being very active in collection of significant information resources, involved in co-creating and promoting their favourite products. See Wyrwa J., Barska A., (2017) *Packaging as a Source of Information About Food Products*, Procedia Engineering,Volume 182, ISSN 1877-7058, https://doi.org/10.1016/j.proeng.2017.03.199 p. 771

[265] World Health Organization (2020) *Obesity and Overweight*. World Health Organization; Geneva, Switzerland. https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight

[266] Weight problems and obesity are increasing at a rapid rate in most of the EU Member States, with estimates of 51.6 % of the EU's population (18 and over) overweight in 2014. Obesity is a serious public health problem, as it significantly increases the risk of chronic diseases. See Eurostat (2019), *Overweight and obesity BMI Statistics*, at https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Overweight_and_obesity_-_BMI_statistics

It wants to meet the interests of the internal market by simplifying the law, ensuring legal certainty, and reducing administrative burden, and benefit citizens by requiring clear, comprehensible and legible labelling of foods[267].

These arguments are what brought a fundamental evolution in labels. Particularly, among the tools adopted by the food industry and policy-makers, packaging could intensely contribute to changing consumers' unhealthy habits, nudging them towards salutary choices through informative cues and prevent diseases.

As far as the mandatory particulars of the label are concerned, the Regulation kept, in part, the same obligatory elements which were stated in the previous normative, with the addition of new ones, namely:

1) any ingredient or processing aid listed in Annex II or derived from a substance or product listed in Annex II causing allergies or intolerances used in the manufacture or preparation of a food and still present in the finished product, even if in an altered form;
2) the date of minimum durability or the "use by" date[268];
3) the country of origin or place of provenance where provided for in Article 26[269];
4) a nutrition declaration[270].

[267] See FoodDrinkEurope for more guidelines about the concept of legibility (2022) https://www.fooddrinkeurope.eu/resource/guidelines-on-the-legibility-of-labelling/

[268] This particular element was not entirely new, as the minimum durability was already a mandatory detail imposed by Directive 2000/13/EC. However, it was modified to also include the "*use by date*", specifically described in Article 24 para 1 "In the case of foods which, from a microbiological point of view, are highly perishable and are therefore likely after a short period to constitute an immediate danger to human health, the date of minimum durability shall be replaced by the 'use by' date. After the 'use by' date a food shall be deemed to be unsafe in accordance with Article 14(2) to (5) of Regulation (EC) No 178/2002"

[269] Namely, Article 26 partially quotes the same element of possible misleading of the consumers and adds the mandatory element of mentioning the origin in para 2 (b) "*for meat falling within the Combined Nomenclature ('CN') codes listed in Annex XI*". In this context, according to para. 9 of the same Article, the place of birth of the animal, the place of rearing and the place of slaughter need to be specified on the label. Additionally, compulsoriness is expanded to the country of origin and place of provenance for milk (products), unprocessed foods, single ingredient products and ingredients that represent more than 50% of food.

[270] The requirements of the nutrition declaration are partially the same as the ones listed in Directive 90/496/EC. They are specified in Section 3 of the Regulation, specifically from Article 29 to 35. Nutrition labelling is one example of a population-based strategy, which informs customers about a food's nutrient composition in an effort to improve the environment for making good food choices. See Cowburn, G., & Stockley, L. (2005) *Consumer understanding and use of nutrition labelling: A systematic review*. Public Health Nutrition, 8(1), 21-28. doi:10.1079/PHN2005666 p. 21

In the end, mandatory information must concern either information on the identity and composition, properties or other characteristics of the food or information on the protection of consumers' health and the safe use of a food product[271]. The main factor to be taken into account when requiring mandatory food information should be "*to enable consumers to identify and make appropriate use of a food and to make choices that suit their individual dietary needs*"[272]. It explicitly states that information should only be made mandatory where there is "*a widespread need on the part of the majority of consumers for certain information to which they attach significant value or of any generally accepted benefits to the consumer*"[273]. Thus, it is imperative to conduct consumer research to investigate and validate the necessity of including additional, mandatory food information on labels[274].

This rule also comes with exceptions, as sometimes some of the elements are not compulsory for certain kinds of products while others must display additional information[275].

Along with mandatory information, and just like the previous law provision, the FIC Regulation foresees that labels can also include additional voluntary information. Particularly, as stated in Article 36(2), provided that it meets the following criteria:

"*(a) it shall not mislead the consumer, as referred to in Article 7;*

(b) it shall not be ambiguous or confusing for the consumer; and

(c) it shall, where appropriate, be based on the relevant scientific data."

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[271] i.e., attributes that may be harmful to the health of certain groups of consumers, durability, storage and safe use, health impact, and nutritional characteristics, including for special dietary requirements.

[272] Regulation 1169/2011 Recital (17)

[273] Article 4 Regulation 1169/2011 para 2 "*When considering the need for mandatory food information and to enable consumers to make informed choices, account shall be taken of a widespread need on the part of the majority of consumers for certain information to which they attach significant value or of any generally accepted benefits to the consumer*."

[274] Purnhagen K.P., Schebesta H., (2019) *Food Labelling for Consumers EU Law, Regulation and Policy Options*, Requested by the PETI committee and EU Parliament. Available at https://sante.gouv.fr/IMG/pdf/food_labelling_for_consumer_eu.pdf p. 28

[275] For example, it is not needed to specify the nutrition declaration for foods listed in Annex V, such as glass bottles for reuse. It is instead needed to insert additional information (as drawn up by EC delegated acts) in cases listed in Annex III. Article 44 of the Regulation exempts non pre-packaged foods from the mandatory particulars at EU level, which means that the single MS can decide to provide internal provisions. See *ivi* p. 30

3.1.3. Display of mandatory and voluntary information on label in Regulation 1169/2011

An important element to be considered and analysed for the purposes of this study for both mandatory and voluntary information is the way they can be displayed on the label, because of the importance of packaging and labels and the impact they can have on the consumer, their perception, and the consequent purchasing-power they exert on their decision.

Considering the mandatory elements, their presentation and expression are described by Articles 32, 34 and 35 of the Regulation. Specifically, the first two Articles impose (respectively) the expression per quantity and via tabular format, other than the possibility for the EU Commission to issue other implementing acts to ensure uniform application.

Following the provisions of the mentioned Articles, the mandatory nutrient information usually results in a standardized lists of the amounts of nutrients contained in food products or beverages that are typically placed on the back or on the side of the package (and therefore identified as Back-of-package Labels or BOPL)[276]. However, research evidence consistently identifies that consumer use and understanding of this type of labelling is poor, particularly for low socioeconomic groups, because of the complexity of the numerical information, small print size and positioning on the back or side of packs[277].

[276] Muzzioli, L., Penzavecchia, C., Donini, L.M., Pinto, A. (2022) *Are Front-of-Pack Labels a Health Policy Tool?* Nutrients, 14, 771. https://doi.org/10.3390/nu14040771 p. 3. Consumers have been reported to perceive classical nutrition declaration tables, BOPLs, as inaccessible and hard to understand. Several attempts have therefore been made at making nutrition information simpler, more practical, and easily accessible. See European Commission, Joint Research Centre, Storcksdieck genannt Bonsmann, S., Marandola, G., Ciriolo, E. (2020). *Front-of-pack nutrition labelling schemes: a comprehensive review*, Publications Office of the European Union. https://data.europa.eu/doi/10.2760/436998 p. 15

[277] World Health Organization, Regional Office for Europe. Kelly B. Jewell Jo (2018) Health evidence network synthesis Report 61, *What is the evidence on the policy specifications, development processes and effectiveness of existing front-of-pack food labelling policies in the WHO European Region?* https://iris.who.int/bitstream/handle/10665/326187/9789289053686-eng.pdf?sequence=3

Article 35 admits the possibility for mandatory elements to be included in a visual, graphic or symbolic representation as long as it respects some requirements[278], and if such requirements are appropriately monitored by the MS, they are implemented in[279].
The FIC Regulation basically allows, on a voluntary basis, to repeat the main elements of the mandatory nutrition declaration on the front of food packaging, in order to "*appeal to the average consumer and to serve the informative purpose for which it is introduced*"[280], to help consumers to see at a glance the essential nutrition information when purchasing foods. This kind of label is now recognized as Front-of-Package Labelling or FOPL.

As far as the voluntary information is concerned, Article 37 specifies that it cannot *"be displayed to the detriment of the space available for mandatory food information"*[281].

Considering the possibility recognized by the text of the Regulation to create new graphic ways to display nutrient declarations, paragraph 5 of the Article 35 required the Commission to submit a report to the EU Parliament and the Council on additional forms of expression and presentation of the nutrition declaration and their effect on the EU internal market by 13 December 2017. Its aim was to gather experiences on the functioning of the various schemes in the EU MS in order to take a more informed

[278] Article 35 Regulation 1169/2011 para 1 "*In addition to the forms of expression referred to in Article 32(2) and (4) and Article 33 and to the presentation referred to in Article 34(2), the energy value and the amount of nutrients referred to in Article 30(1) to (5) may be given by other forms of expression and/or presented using graphical forms or symbols in addition to words or numbers provided that the following requirements are met:*
(a) they are based on sound and scientifically valid consumer research and do not mislead the consumer as referred to in Article 7;
(b) their development is the result of consultation with a wide range of stakeholder groups;
(c) they aim to facilitate consumer understanding of the contribution or importance of the food to the energy and nutrient content of a diet;
(d) they are supported by scientifically valid evidence of understanding of such forms of expression or presentation by the average consumer;
(e) in the case of other forms of expression, they are based either on the harmonised reference intakes set out in Annex XIII, or in their absence, on generally accepted scientific advice on intakes for energy or nutrients;
(f) they are objective and non-discriminatory; and
(g) their application does not create obstacles to the free movement of goods."
[279] Ivi, para 3 "*Member States shall ensure an appropriate monitoring of additional forms of expression or presentation of the nutrition declaration that are present on the market in their territory. […]"*
[280] Regulation 1169/2011 Recital (41)
[281] Article 37 Regulation 1169/2011 on *Presentation* of voluntary information.

decision on possible further harmonisation at a later stage[282]. The study was later updated in 2022 with the evidence and more research gathered from 2018 on[283].

The real intention of the harmonisation is exploiting the purchase-power exerted by the labels on consumers to push them towards healthier choices in order to face the growing health emergencies connected to food and diet, spreading during the years according to various studies[284]. The provision of on-pack nutrition information can be an important element of consumer protection – consumers have as much right to know the nutrient content of the foods they choose to purchase as they do to know its country of origin and that it is safe to eat.

The policy objectives of FOP nutrition labelling are typically twofold:

1) to provide additional information to consumers to inform healthier food choices; and
2) to encourage the industry to reformulate products towards healthier options[285].

It has long been recognised that the EU nutrition labelling formats – existing at the moment of the Regulation and the following study – did not meet consumers' needs and

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[282] European Commission, Joint Research Centre, Storcksdieck genannt Bonsmann, S., Marandola, G., Ciriolo, E. (2020). *Front-of-pack nutrition labelling schemes: a comprehensive review*, cit. p. 13. The presence of various FOPL schemes at the same time on the market can create various negative effects: first, it can be confusing to consumers, making it more difficult to evaluate and compare the nutritional profiles; second, it can be misleading "*due to the potential for selective reporting and manipulation of information*". In general, consumers have reported confusion with having to contend with multiple FOP label formats in various countries, see Becker, M.W., Bello, N.M., Sundar, R.P., Peltier, C., & Bix, L. (2015). *Front of pack labels enhance attention to nutrition information in novel and commercial brands*. Food Policy, 56, 76-86. https://doi.org/10.1016/j.foodpol.2015.08.001 p. 77

[283] European Commission, Joint Research Centre, Nohlen, H., Bakogianni, I., Grammatikaki, E. (2022). *Front-of-pack nutrition labelling schemes: an update of the evidence: addendum to the JRC Science for Policy report "Front-of-pack nutrition labelling schemes: a comprehensive review*", published in 2020, Publications Office of the European Union. https://data.europa.eu/doi/10.2760/932354

[284] See Lim, S. S., Vos, T., et al. (2012), *A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990-2010: a systematic analysis for the Global Burden of Disease Study 2010*. Lancet (London, England), 380(9859), 2224–2260. https://doi.org/10.1016/S0140-6736(12)61766-8, and World Health Organization joint with FAO; (2003) *Diet, nutrition, and the prevention of chronic diseases*. Geneva https://www.who.int/publications/i/item/924120916X. It is also specified in the World Health Organization, *European Food and Nutrition Action Plan 2015-2020* mentioned in note 298.

[285] World Health Organization, (2018) *Guiding principles and framework manual for front-of-pack labelling for promoting healthy diets*. Geneva. https://cdn.who.int/media/docs/default-source/healthy-diet/guidingprinciples-labelling-promoting-healthydiet.pdf?sfvrsn=65e3a8c1_7&download=true p. 10. According to some studies, the impact of the FOPL on the reformulation by the industry may be even greater then the one on the perception of consumers, see Kanter R, Vanderlee L, Vandevijvere S. *Front-of-package nutrition labelling policy: global progress and future directions*. Public Health Nutr. 2018;21(8):1399–1408. https://doi.org/10.1017/S1368980018000010 p. 1406

were quite difficult to understand[286], perhaps because their content and format have primarily been consequences of legislative requirements rather than being designed specifically as an aid to consumers. Thus, there have been calls for changes to be made to nutrition labelling in EU to make it comprehensive, clear and easier to use[287].

At the time of finalisation of the review (expressly requested in the Regulation) in July 2019, the only implemented EU FOP schemes that fell under Article 35 of the FIC Regulation were the public-sector UK Multiple-Traffic-Light hybrid scheme and the private-sector Reference Intakes scheme (formerly Guideline Daily Amounts, GDA), which will be object of further analysis later in this chapter.

There were other public and private sector schemes that currently existed in EU that, strictly speaking, did not fall under Article 35 as they did not repeat the information provided in the nutrition declaration. The most well-known among these schemes, which should legally be considered as voluntary information under Article 36 of the FIC Regulation were the Keyhole, developed by the Swedish National Food Agency and later adopted by the Nordic Council, the Choices logo, developed by Unilever and now managed by the Choices International Foundation and the Nutri-Score scheme, developed by French researchers, and endorsed by the French government first and later by other EU governments[288].

3.2. Front-of-Package Labelling

FOPL, in the end, turns out as an important element of policy for EU lawmakers and not only. Particularly, by reason of the already mentioned purposes, it has become one of the main government-led strategies and policies that have been introduced to improve the diet of the population[289].

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[286] Campos S, Doxey J, Hammond D. (2011) *Nutrition labels on prepackaged foods: a systematic review.* Public Health Nutr. 2011;14:1496–506. doi:10.1017/S1368980010003290 p. 1498

[287] Cowburn, G., & Stockley, L. (2005). *Consumer understanding and use of nutrition labelling: A systematic review. cit.* p. 22

[288] Namely, Belgium, Spain, Denmark, the Netherlands and Luxembourg. See European Commission, Joint Research Centre, Storcksdieck genannt Bonsmann, S., Marandola, G., Ciriolo, E. (2020). *Front-of-pack nutrition labelling schemes: a comprehensive review,* cit. p. 13.

[289] World Health Organization Regional Office for EU, (2020), *EU and Manual to develop and implement front-of-pack nutrition labelling*, Guidance for countries on the selection and testing of evidence-informed front-of-pack nutrition labelling systems in the WHO European Region https://iris.who.int/bitstream/handle/10665/336988/WHO-EURO-2020-1569-41320-56234-eng.pdf?isAllowed=y&sequence=1 p. 5

Its first introduction on an international level dates back to the late 1980s by Non-Governmental Organizations (NGOs) and some government agencies. Today, there are many different types of FOPLs, developed not only by government agencies, but also by NGOs, food industries (including retailers) and health experts.

The WHO first proposed FOP nutrition labelling as a policy measure to improve diet and health in 2004[290]. Thereafter, it has repeatedly sought to promote FOP nutrition labelling as part of a comprehensive policy response to the global epidemic of obesity and diet related NCDs[291].

According to the WHO description[292], FOPL refers to nutrition labelling systems that:

- are presented on the front of food packages (in the principal field of vision) and can be applied across the packaged retail food supply;
- comprise an underpinning nutrient profile model that considers the overall nutrition quality of the product or the nutrients of concern for NCDs (or both); and
- present simple, often graphic information on the nutrient content or nutritional quality of products, to complement the more detailed nutrient declarations usually provided on the back of food packages.

WHO's recommendations regarding FOP nutrition labelling are not specific regarding format, content and criteria of such labelling. Thus, unlike BOP panels and ingredients lists, there is currently no explicit international agreement for national mandatory FOP nutrition labelling in the current standards of the Codex Alimentarius Commission[293]. The

[290] World Health Organization, Fifty-Seventh World Health Assembly (2004) *Global strategy on diet, physical activity and health* https://apps.who.int/gb/archive/pdf_files/WHA57/A57_9-en.pdf

[291] More information about NCDs are provided by WHO, i.e. thorough the *Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013-2020* (2013) https://www.who.int/southeastasia/publications-detail/9789241506236 and the Report of Commission on Ending Childhood Obesity (2015) https://www.who.int/publications/i/item/9789241510066

[292] World Health Organization, (2018) *Guiding principles and framework manual for front-of-pack labelling for promoting healthy diets*. Geneva. https://cdn.who.int/media/docs/default-source/healthy-diet/guidingprinciples-labelling-promoting-healthydiet.pdf?sfvrsn=65e3a8c1_7&download=true p. 11.

[293] World Health Organization and Food and Agriculture Organization, (2018) General Standard for the Labelling of Prepackaged Foods in Codex Alimentarius https://www.fao.org/fao-who-codexalimentarius/sh-proxy/es/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252FStandards%252FCXS%2B1-1985%252FCXS_001e.pdf

development of such a standard, however, is now under formal consideration by the Codex Committee on Food Labelling[294].

In 2012, the Institute of Medicine[295] published a comprehensive review on FOP nutrition labelling that issued the following recommendations regarding any FOP nutrition labelling evaluation scheme[296]:

- allow only four items (energy in calories, saturated fat, trans-fat, sodium, sugars); and
- keep the format simple, easy to interpret, integrated with other nutrition information and supported by communication.

Responding to increasing requests by MS for guidance, WHO held a technical meeting in 2015, to review the available evidence and to compile various country experiences and lessons learned in developing and implementing FOPL systems[297].

In the EU region, FOPLs are also recommended by the WHO European Food and Nutrition Action Plan for 2015-2020, as a key lever to help consumers make healthier choices, drive reformulation, and thereby promote healthier diets[298].

Particularly, FOPL is considered as a part of its first objective – *creating healthy food and drink environments* – as a way for the government leadership to "*promote product reformulation and improvements to the nutritional quality of the food supply*" through the use of "*easy-to-understand or interpretative, consumer- friendly labelling on the front of packages and healthy retail environments*". Easy-to-understand or interpretative FOPLs should help consumers identifying healthier options as they can facilitate consumer

[294] Joint FAO/WHO, (2016) *Food Standards Programme Codex Alimentarius Commission,* Thirty-ninth Session FAO Headquarters, Rome, Italy 27 June – 1 July 2016 https://jhnfa.org/k162.pdf

[295] The Institute of Medicine, now known as National Academy of Medicine, is an independent scientific advisor based in the United States. Its main mission is improving health for all by advancing science, accelerating health equity, and providing independent, authoritative, and trusted advice nationally and globally. Find more information on https://nam.edu/about-the-nam/

[296] McGuire S. (2012). Institute of Medicine. *Front-of-Package Nutrition Rating Systems and Symbols: Promoting Healthier Choices.* Washington, DC: The National Academies Press. Advances in nutrition (Bethesda, Md.), 3(3), 332–333

[297] World Health Organization, (2018) *Guiding principles and framework manual for front-of-pack labelling for promoting healthy diets*. cit. p. 9

[298] World Health Organization. Regional Office for Europe, (2014) Regional Committee for Europe 64th session. *European Food and Nutrition Action Plan 2015-2020*. Copenhagen, Denmark, 15-18 September 2014. https://iris.who.int/bitstream/handle/10665/329405/9789289051231-eng.pdf?sequence=1

understanding of the nutritional content of many foods, especially complex processed foods[299].

The creation of awareness of the public concerning the elements of food products might also have another collateral advantage, searched by policy makers: the incentive to food manufacturers to reformulate products to prefer healthier alternatives to the current ingredients. As long as FOPLs may affect consumers' choices, producers have an incentive to adapt the content of their products to the requirements needed to obtain a good nutritional rating, thus, the goal of the regulator to foster the consumption of healthier diets may be achieved also through the food supply side[300].

Together with the enhanced intelligibility of the text, another important element to reach the objective is adopting interventions and initiatives that focus on making the public develop food and nutrition skills. The latter may not only improve knowledge, competence and attitudes, but may amplify the impact of other policies (such as the use nutrition labelling) as they would provide customers with the needed information to really comprehend the components of the labels[301].

As a matter of fact, for FOPL to support consumers to make informed food purchases and healthier eating choices, it is necessary for them to recognise and be aware of its presence, understand what it means and be able to use it correctly. Label awareness is facilitated by systems that are widely adopted across the retail supply[302]. Consumers' ability to use FOPL is also assisted by labels that contain interpretive elements, while motivation to use it may be supported by systems that are quick to interpret and that apply across foods of all prices[303].

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[299] Easy-to-understand or interpretative front- of-package labelling can limit consumption of foods high in energy, saturated fats, trans fats, sugar or salt in the context of overall improvements to the nutritional quality of diets. See *ivi,* p. 19.

[300] The evidence suggests that evaluative FOPLs actually influence food product composition. Adoption of the Choices nutrition logo in the Netherlands, the Health Check symbol in Canada, and the Health Star Rating and Pick the Tick in New Zealand and Australia brought about improvements in the nutrient profile of food products on the market. See European Commission, Joint Research Centre, Storcksdieck genannt Bonsmann, S., Marandola, G., Ciriolo, E. (2020). *Front-of-pack nutrition labelling schemes: a comprehensive review*, cit. p. 143

[301] World Health Organization. Regional Office for Europe, (2014) Regional Committee for Europe 64th session. *European Food and Nutrition Action Plan 2015-2020*, cit. p. 20.

[302] Some examples could be: being large in size, placed in a consistent position on the front of packages (e.g. top right hand side) and using contrasting colours.

[303] World Health Organization, (2014) Regional Committee for Europe 64th session. *European Food and Nutrition Action Plan 2015-2020,* cit. p 8

The EU Commission aimed at selecting and proposing a single mandatory FOPL to use in the entire EU by the last quarter of 2022. This can be seen as part of an effort to restructure sustainably the whole EU agri-food landscape, as expressed in the *Farm to Fork Strategy*. Specifically, as part of the actions to "*promote sustainable food consumption, facilitating the shift towards healthy, sustainable diets*", through two proposals: one for a harmonised mandatory FOPL to enable consumers to make health-conscious food choices, and the other for a sustainable food labelling framework to empower consumers to make sustainable food choices[304].

3.2.1. Classification of FOPL in Europe

There are currently many different FOP labelling schemes in the EU (implemented or proposed), several of these in use in multiple countries[305]. Forms range from those which detail specific nutrients, sometimes overlaying text with symbols or colour, to simple visual "health logos" that sum product healthfulness in general or with regard to specific parameters (e.g. heart health)[306].

The EU Commission report of 2019[307] actually distinguishes its own categories:

1) *Reference Intakes* and similar schemes;

FOP labelling scheme	Country	Examples of visuals	Key features
Reference Intakes label, previously referred to as Guideline Daily Amounts (GDA)	EU-wide		• Nutrition information (energy plus four nutrients: fat, saturated fat, sugars, and salt) in grams and as percentage of daily reference intake. • Portion as main reference base; 100 g or 100 ml as reference base for additional energy info. • Typically monochrome.

[308]

[304] European Commission (2020) *Farm to Fork Strategy: for a fair, healthy and environmentally-friendly food system* https://food.ec.europa.eu/system/files/2020-05/f2f_action-plan_2020_strategy-info_en.pdf Annex, p. 22

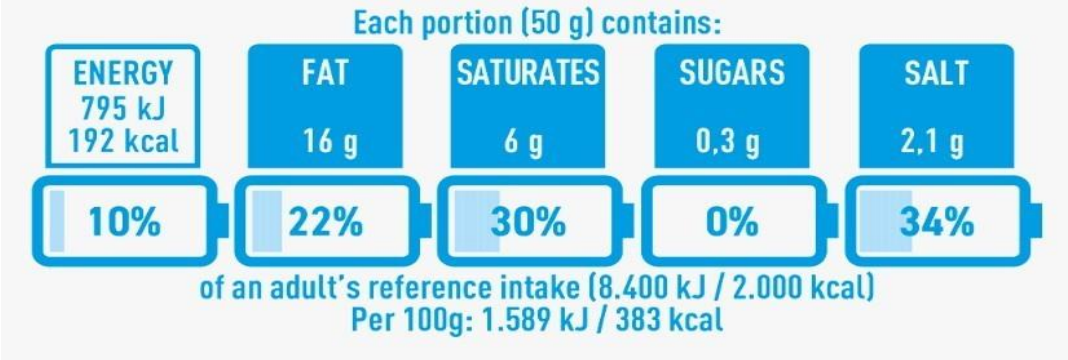
[305] European Commission, Joint Research Centre, Storcksdieck genannt Bonsmann, S., Marandola, G., Ciriolo, E. (2020). *Front-of-pack nutrition labelling schemes: a comprehensive review*, cit. p. 16

[306] Hodgkins, C., Barnett, J., et al. (2012). Understanding how consumers categorise nutritional labels: A consumer derived typology for front of-pack nutrition labelling. Appetite, 59(3), 806–817. https://doi.org/10.1016/j.appet.2012.08.014 p. 807

[307] See note 276

[308] Table 2. Examples of nutrition schemes used on the front-of-pack in use (or proposed) in and outside Europe, including visuals and key features, in European Commission, Joint Research Centre, Storcksdieck

One of the other EU proposed systems that fall under such category is the *NutrInform Battery*, by Italy. The scheme is based on the Reference Intakes label with an added battery symbol indicating the amounts of energy and nutrients in a single serving as percentage of the daily intake. The scheme has been presented on the market in 2022.



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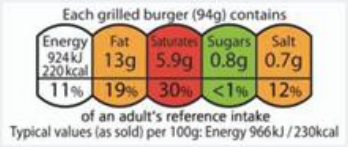
2) *Colour-coded nutrient-based* schemes;

FOP labelling scheme	Country	Examples of visuals	Key features
UK Multiple Traffic Lights (MTL) (hybrid scheme)	UK		• Nutrition information (energy plus four nutrients fat, saturated fat, sugars, and salt) in grams and as percentage of daily reference intake. • Traffic light colour coding indicating low (green), medium (amber, and high (red) levels of the nutrients stated. • Portion as reference base for numerical information; 100 g or 100 ml as reference base for colour coding[7] and additional energy info. • Separate colour thresholds for solid foods and beverages.

genannt Bonsmann, S., Marandola, G., Ciriolo, E. (2020). Front-of-pack nutrition labelling schemes: a comprehensive review, cit. p. 20

[309] Example of NutrInform Battery shown by Ministero delle imprese e Made in Italy, on the dedicated NutrInform Battery website at https://www.nutrinformbattery.it/en/home

3) *Overall rating* schemes;

FOP labelling scheme	Country	Examples of visuals	Key features
Nutri-Score (previously called 5-Colour Nutrition Label (5-CNL))	France, Belgium (Spain, Germany, the Netherlands Luxembourg)		• Graphic scale that divides the nutritional score into 5 classes (expressed by a colour and a letter), based on the food's content of energy, sugars, saturated fat, sodium, 'fruit, vegetables, and nuts', fibre, and protein. • Algorithm based on UK Food Standards Agency (FSA) Nutrient Profiling system; minor modifications to FSA score algorithm for cheese, added fats, and beverages to improve consistency between Nutri-Score classification and French nutritional recommendations.[5] • Reference base for the nutritional score calculation is 100 g or 100 ml.

[310]

4) *Endorsement schemes or "positive logos"*;

Other forms of expression of nutrition information consist in attributing a "positive logo" (also referred to as "endorsement logo" or "health logo") to foods with favourable nutrient profiles compared to same-category alternatives.

FOP labelling scheme	Country	Examples of visuals	Key features
Keyhole	Sweden, Norway, Denmark, Iceland, Lithuania, North Macedonia		• Endorsement scheme ('positive logo') based on threshold levels for energy and various nutrients depending on product category. • Foods labelled with the Keyhole contain less sugars and salt, more fibre and wholegrain and healthier or less fat than food products of the same type not carrying the symbol. • Some food categories are not permitted to carry the logo (*e.g.* sweet and savoury snacks). • Reference base typically is 100 g or 100 ml.
Finnish Heart Symbol	Finland		• Endorsement scheme ('positive logo') based on threshold levels for energy and various nutrients depending on product category. • The logo identifies options with a better nutrient profile in a given category regarding fat (quantity and quality) and salt; in some product groups, also sugar and fibre contents are taken into account. • Reference base is 100 g.

[310] The Nutri-score scheme is object of in-depth analysis in Chapter 4 of this research.

FOP labelling scheme	Country	Examples of visuals	Key features
Choices Logo	Poland, Czech Republic		• Endorsement scheme ('positive logo') based on threshold levels for saturated and trans fatty acids, added sugar, salt, dietary fibre, and/or energy, with category-specific cut-offs. • Foods are generally subdivided into core and non-core foods, and the logo is meant to identify the healthiest options in a given category. • Applicable to most foods and beverages.[6] • Reference base typically is 100 g or 100 ml.

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Keeping now in mind their description and their division by type as set up by the research of the EU Commission and JRC, there are various studies (some of them are also mentioned in said report) that divide them for typologies.

FOP schemes can vary in a number of ways: some highlight subsets of the numerical energy and nutrient information, and the percentage this represents of the daily reference intake for a 2000 kcal diet. Meanwhile, others provide an evaluative element indicating low, medium, or high levels of a certain nutrient, and yet others compute summary indicators of the overall nutritional value of a given product. Some FOP schemes employ a common reference base such as 100 g or 100 ml, others operate on a "*per portion*" or "*per serving*" basis.

The various formats of FOP nutrition labelling currently in use throughout the world can be organized depending on the level of interpretation of the nutritional composition that they provide to the consumer: some schemes are considered purely informative if they only reproduce part of the information already available on the back of the pack without additional interpretation (as the % *Reference Intakes* label) while other schemes may vary in the degree of interpretation that they provide[312].

[311] Table 2. Examples of nutrition schemes used on the front-of-pack in use (or proposed) in and outside Europe, including visuals and key features, in European Commission, Joint Research Centre, Storcksdieck genannt Bonsmann, S., Marandola, G., Ciriolo, E. (2020). *Front-of-pack nutrition labelling schemes: a comprehensive review*, cit. p. 20

[312] World Health Organization Regional Office for EU, (2020), *EU and Manual to develop and implement front-of-pack nutrition labelling*, Guidance for countries on the selection and testing of evidence-informed front-of-pack nutrition labelling systems in the WHO European Region cit. pp. 5-6

Feunekes *et al.* (2008)	Hodgkins *et al.* (2012)	Newman *et al.* (2014)	Savoie *et al.* (2013)	Julia & Hercberg (2017)	Muller & Ruffieux (2020)						
					Directiveness	Scope	Gradation	Set of Reference	Signs		
More complex schemes	Non-directive	Reductive (non-interpretative)	Nutrient-specific labels	Numerical	Non-directive	All foods	Cardinal	Across-category	Numbers	*Reference Intakes label*	
									Numbers Ideograms	*Nutrinform*	
	Semi-directive	Evaluative (interpretative)		Colour-coded	Diet-directive		Ordinal		Colours Words Numbers	*UK MTL label*	
Simple schemes	Directive	Evaluative (interpretative)	Summary indicator labels	Graded indicators	Food-directive				Colours	*Nutri-Score*	
				Endorsement schemes *('positive logos')*		Recommended Food	Binary	Within-category	Ideograms	*Keyhole* *Heart/Health logos* *Healthy Choice*	

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Some of the same studies are also reported and explained in the EU Commission in COM(2020) 207 final[314]. According to the Commission's soft law the typologies of FOPLs can be, in fact, divided considering:

1) the *directiveness* of the scheme, as described by Hodginks et al.[315]. That is to say, the extent to which the label provides a direct indication whether the product is nutritionally good for the consumer or not, the kind of guidance or evaluative message with regard to healthiness. On this basis, they could be categorized as follows:
   - *non-directive* labels that provide information such as the name of the nutrient, the amount in grams, and the percentage of the total (i.e., *Reference Intakes, Nutrinform Battery*);
   - *semi-directive* labels that not only provide nutritional information but are completed by an evaluative element such as a colour, a word, or a sign that gives additional information on the healthiness level of single nutrients, emphasizing them (i.e., the English traffic light or *Multiple Traffic Light*—MTL, *Warning Signs* which may feature the octagon "stop" or the words "rich in")
   - *directive* labels, that include little information, often aggregated in a single symbol (i.e., *Swedish Keyhole, Nutri-Score*) and combining several criteria. They give

[313] Table 1 Front-of-pack nutrition labelling typologies and examples of corresponding schemes in the EU in European Commission, Joint Research Centre, Nohlen, H., Bakogianni, I., Grammatikaki, E. (2022). *Front-of-pack nutrition labelling schemes: an update of the evidence: addendum to the JRC Science for Policy report "Front-of-pack nutrition labelling schemes: a comprehensive review"* cit.

[314] COM/2020/207 final, Report from the Commission to the European Parliament and the Council regarding the use of additional forms of expression and presentation of the nutrition declaration

[315] Hodgkins, C., Barnett, J., et al. (2012). *Understanding how consumers categorise nutritional labels: A consumer derived typology for front of-pack nutrition labelling.* Cit. p. 813

information about the healthiness of the product, expressing judgments, opinions and/or recommendations, without providing specific information on single nutrients.

According to the cited study, the concept of directiveness applied in FOPLs leads to a better understanding of why some labels might be more effective than others in particular situations or for particular consumers; the study states that schemes combining both directive and non-directive elements can be an effective format.

Also, in terms of directing individual dietary patterns towards a healthy and sustainable diet, non-directive FOPLs were found to be informative and helpful in increasing consumers' knowledge, while directive ones were strongly capable of helping consumers categorize foods[316].

2) reductive vs evaluative schemes by Newman[317], where:
   - *reductive* schemes are a reduced version of the nutrition information contained on the BOPL and
   - *evaluative* schemes display an evaluation of the nutrition information for the consumer.
3) Nutrient specific labels vs Summary indicators by Savoie et al.[318]:
   - *nutrient-specific schemes* providing more or less detailed nutritional information on specific nutrients.
   - *summary indicator schemes* that rather provide a synthetic appreciation of the product's overall nutritional quality/healthfulness.

By definition, all evaluative FOP schemes, be they nutrient-specific or summary indicators, are based on nutrient profiling models[319].

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[316] Muzzioli, L.; Penzavecchia, C.; Donini, L.M.; Pinto, A. (2022) *Are Front-of-Pack Labels a Health Policy Tool?* Cit. p. 12

[317] Newman, C. L. L., Howlett, E., & Burton, S. (2014). *Shopper Response to Front-of-Package Nutrition Labeling Programs: Potential Consumer and Retail Store Benefits*. Journal of Retailing, 90(1), 13–26. https://doi.org/10.1016/j.jretai.2013.11.001

[318] Examples of the first category are the Traffic Light (TL) Labelling System or the Guideline Daily Amount (GDA) System. The second, instead, is represented by the NuVal® system or My-5®. See Savoie, N., Barlow Gale, K., Harvey, K. L., Binnie, M. A., & Pasut, L. (2013). *Consumer perceptions of front-of-package labelling systems and healthiness of foods*. Canadian journal of public health, Revue canadienne de santé publique, 104(5), e359–e363. https://doi.org/10.17269/cjph.104.4027 p. e360

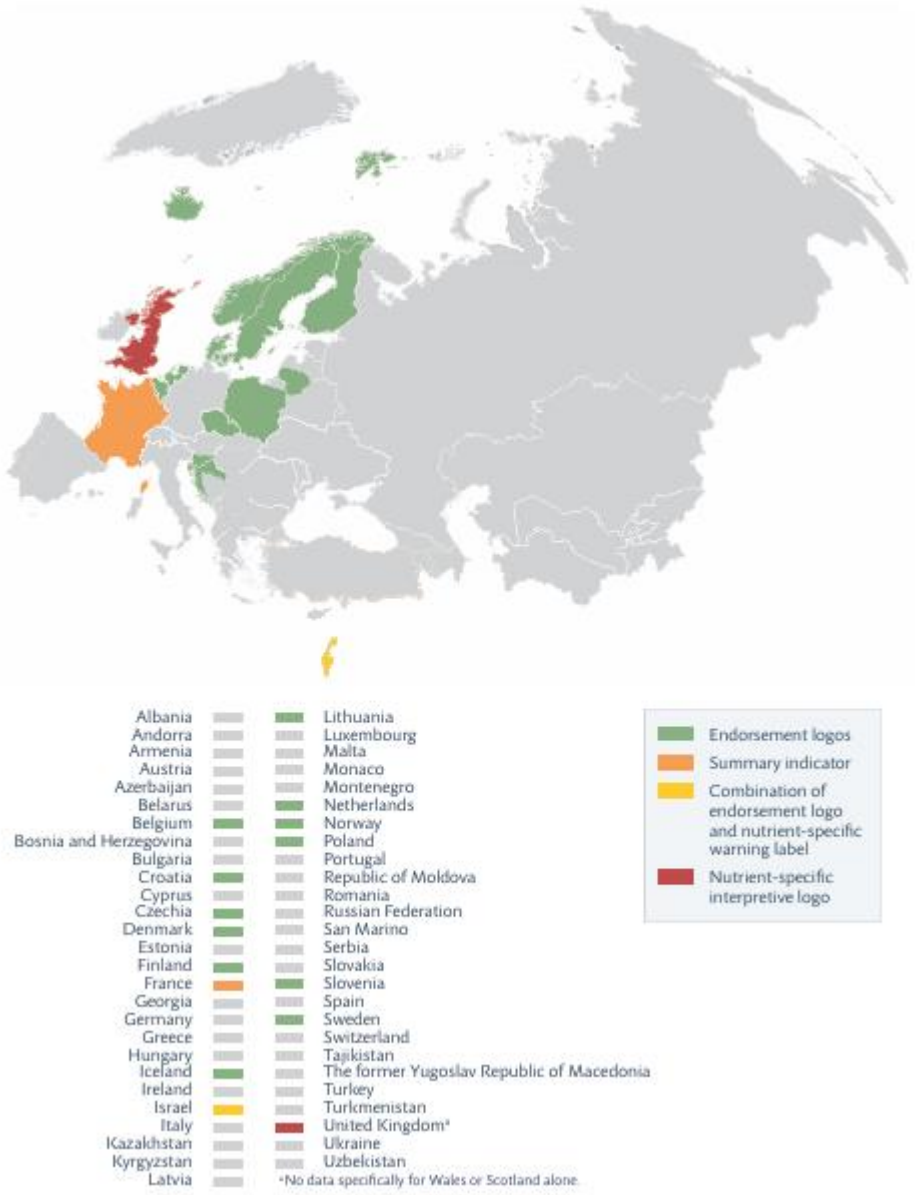
[319] COM (2020) 207 final p. 5

At the same time, these two categories were sub-divided into another two groups each by Julia & Hercberg[320]:

- *nutrient-specific with numeric information* (*Guideline Daily Amount, GDA*), providing numerical information on the content of four nutrients (fat, saturates, sugars, salt) and on the energy value, as well as on how much this represents as a percentage of the daily reference intake,
- *nutrient-specific with colour-coded information* (*Multiple Traffic Light, MTL*) where the label provides numerical information on the content of four nutrients (fat, saturates, sugars, salt) and on energy value, as well as on how much this represents as a percentage of the daily reference intake. Colours are used to classify those nutrients as "low" (green), "medium" (amber) or "high" (red),
- (summary indicator) *endorsement scheme or logo*, provides a synthetic appreciation of a product's overall nutritional value through a positive (endorsement) logo that is applied only to foods that comply with nutritional criteria (*Tick*, similar to the *Danish Keyhole* and the *Dutch Choices*) and
- *graded summary systems* (*5-CNL*, the former graphical format for the *Nutri-Score*) which provides a synthetic appreciation of a product's overall nutritional value through a "graded indicator" that provides graded information on the nutritional quality of foods that is applied on all food products[321].

[320] Julia C. & Hercberg, S. (2017). *Nutri-Score: Effectiveness of the Nutrition Label introduced in France*. Ernahrungs Umschau, 64(12), M685–M691. DOI: 10.4455/eu.2017.048 p. 184

[321] Baccelloni A, Giambarresi A, Mazzù MF. (2021) *Effects on Consumers' Subjective Understanding and Liking of Front-of-Pack Nutrition Labels: A Study on Slovenian and Dutch Consumers*. Foods. 10(12):2958. https://doi.org/10.3390/foods10122958 p. 2



[322]

[322] Fig. 1 Framework of the FOPL outcomes, from World Health Organization, Regional Office for EU Kelly B. Jewell Jo (2018) Health evidence network synthesis report 61, *What is the evidence on the policy specifications, development processes and effectiveness of existing front-of-pack food labelling policies in the WHO European Region?* https://iris.who.int/bitstream/handle/10665/326187/9789289053686-eng.pdf?sequence=3

3.2.2. Classification of FOPL beyond Europe

FOP labels also spread in the rest of the world. Some of the features resemble the ones that were introduced in EU while others are somewhat different.

Particularly, some of them can be traced back to the so-called "*Reference Intake* schemes", identified by the EU Commission. Examples are:

FOP labelling scheme	Country	Examples of visuals	Key features
Health Star Rating	Australia & New Zealand		• Points-based scheme that attributes a summary score between 0.5 and 5 stars, from poorest to best nutrient profile. • Contents of the food in qualifying and disqualifying nutrients are computed to calculate a raw score, using 100 g or 100 ml as the reference base. • This raw score is converted into the Health Star Rating using food group-specific conversion keys. • May be complemented with quantitative energy and nutrient content information, per 100 g, 100 ml, or pack.
Daily Intake Guide	Australia		• Nutrition information (energy in kilojoules plus four nutrients fat, saturated fat, sugars, and sodium) in (milli)grams and as percentage of daily reference intake. Additional nutrients permitted for display are protein, carbohydrates, vitamins and minerals. • Portion as reference base. • Typically monochrome.
Facts-Up-Front	USA		• Nutrition information (energy in calories alone or together with saturated fat, sugars, and sodium) in (milli)grams; it can also include information on up to two nutrients to encourage. • Portion as reference base. • Typically monochrome.

[323]

The *Health Star Rating*, employed both in Australia and New Zealand, actually merges two kinds of schemes: the "*Reference Intake*" one and the "*Overall rating* scheme"[324] considering it represents the nutrition information in amounts and a star rating at the same time.

[323] Table 2. European Commission, Joint Research Centre, Storcksdieck genannt Bonsmann, S., Marandola, G., Ciriolo, E. (2020). *Front-of-pack nutrition labelling schemes: a comprehensive review*, cit. p. 20 ss.

[324] To better understand the classification of the mentioned schemed by the EU Commission, see notes 308 and following.

A whole new category which resembles the "*endorsement logos*" for its concept but has a different meaning, is recognized as "*warning signs*". They denote foods that are high in certain critical nutrients. In 2016, Chile was the first country to require "high in" symbols for products that exceed limits for three critical nutrients (sodium, saturated fats, total sugars) and total energy (kilocalories). The same Chilean Law of Food Labelling and Advertising includes the prohibition of marketing foods that qualify for these FOP labels to children under 14 years old, as well as their sale on primary school premises[325].

Warning signs are not strictly considered FOP labels but are nevertheless considered in studies when testing different FOPLs. In the same way, nutrition and health claims are not technically FOPLs, although they may, in part and in some circumstances, be assimilated into, or used in conjunction with, other FOPLs[326].

FOP labelling scheme	Country	Examples of visuals	Key features
Warning signs	Chile, Uruguay, Peru, Canada (under discus-sion)		• Warning label on foods high in energy, sugar, sodium, saturated fat or potentially other nutrients that should be consumed less. • Depending on the country/scheme, the reference base is 100 g or 100 ml, or portion/serving. • Everywhere these schemes have been implemented, they are mandatory.

FOPL International guidelines, in the form of the Codex General Standard for the labelling of pre-packaged foods, were most recently updated in 2001[327]. Since 2012, Codex guidelines[328] have recommended the mandatory use of nutrient declarations on

[325] Kanter, R., Vanderlee, L., & Vandevijvere, S. (2018). *Front-of-package nutrition labelling policy: global progress and future directions.* cit. p. 1401

[326] Muzzioli, L.; Penzavecchia, C.; Donini, L.M.; Pinto, A. (2022) *Are Front-of-Pack Labels a Health Policy Tool?* Cit. pp. 4-5

[327] Cowburn, G., & Stockley, L. (2005). *Consumer understanding and use of nutrition labelling: A systematic review.* cit. p. 21

[328] The Codex Alimentarius Commission (Codex) is the Joint WHO/Food and Agriculture Organization of the United Nations body that produces internationally adopted food standards and guidelines intended to facilitate international trade and promote food safety and public health Codex categorizes nutrition labelling into two components: nutrient declarations and supplementary nutrition information. The guidelines on

food packages, even in the absence of nutrition and health claims, but much progress in this area has been granted by the compulsoriness introduced in the EU through Regulation 1169/2011, which granted a much quicker progress in the WHO EU Region, with more than three quarters of countries now mandating the use of nutrient declarations on pre-packaged foods.

It should be noted that while most research studies identify endorsement symbols as a form of FOPL, logos that identify better-for-you products are referred to as health claims under Codex guidelines.

3.3. FOPL action on consumers

In order for the lawmakers' attempts at using FOPL to nudge the public to better choices when buying food products, it is necessary that such FOPLs actually have an impact on the consumers. There have been many studies, along with the already mentioned EU Commission report of 2020 and its later update of 2022, that tried to understand how and how much that happens.

Labels and packaging are, in fact, the first contact of a costumer to the products and they frequently determine the interest in the product itself: as a matter of fact, packaging has an active role in the marketing communication of companies. The latest research area consists of communication aspects of packaging and, in particular, of the use of packaging for symbolic communication and its role of in shaping consumers' buying behaviours. One of the most important packaging marketing functions is the communication function, which involves transferring specific information on a given product and its manufacturer to prospective buyers in order to encourage them to buy it. The concept of communication should be understood as both informing, educating as well as promoting a product.

The perception of information shown on packaging is a multi-dimensional process, which consists of transmitting information (the cognitive phase), inducing emotions (the affective phase) and action (the behavioural phase)[329].

nutrition labelling were introduced in 1985 and were last modified in 2021 https://www.fao.org/fao-who-codexalimentarius/sh-proxy/en/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252FStandards%252FCXG%2B2-1985%252FCXG_002e.pdf

[329] Wyrwa J., Barska A., (2017) *Packaging as a Source of Information About Food Products*, *cit.* p. 772

Verbeke[330] indicates that consumers increasingly rely on the information contained on packaging, which shows a specific combination of quality attributes determining the expected quality, while taking decisions for subsequent purchase. That is the reason why, during the years, more and more importance has been given to the information displayed on the product and the nutrition-related elements to be brought to the attention of the consumer: such elements, as shown by research, are fundamental to bring the consumer to the purchase and the following use of the product.

De La Fuente considers 5 processing stages that the label must respect in order to really impact the consumers' behaviours, as simply providing the information on the labelling does not guarantee its use. These sum up in *exposure, perception, "encodation", comprehension* and, finally, *execution*. In order, the consumer must be exposed to the labelling information, perceive it with their senses (for example, the consumer must direct their vision toward the information), represent the information inside their head, associate it with long-term memory experiences and lastly, translate the thought into action, engaging their motor system to an informed conclusion[331].

Utilizing this as a conceptual frame, a great deal of the research on FOPLs has focused on the late stages of information processing, specifically, *comprehension* and *execution*.

A label that is effective at attracting attention, even among those without the specific goal of assessing the nutritional value of a product, will have the greatest potential to impact the widest segment of the population[332].

Following this reasoning, there are two stages to analyse in order to understand if consumer FOPL is an optimal way to influence consumer choice: first, the labelling must have an impact on the attention of consumers at the moment of purchase; and second, it has to be shown if, after grabbing their attention, it effectively *makes* the consumer *purchase* the product because of its impact on the "perceived healthiness".

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[330] Verbeke W, et al. (2007) *Why consumers behave as they do with respect to food safety and risk information.* Analytica Chimica Acta, https://doi.org/10.1016/j.aca.2006.07.065

[331] de la Fuente J, Bix L. (2011) *A tool for designing and evaluating packaging for healthcare products*. J Patient Compliance; 48–52. p. 49

[332] Becker, M.W., et al. (2015). *Front of pack labels enhance attention to nutrition information in novel and commercial brands*. cit. p. 78

3.3.1. Attention-grabbing effect of FOPL on consumers

The impact of the FOPL on the consumer has been object of various studies. Such studies show how the attention to labels tends to differ from one consumer to another, considering a series of elements. The different elements can either be dependent on the nature of the consumer, or the characteristics of the label itself.

Examples of the first kind are, among others, impulsive or effortful thinking[333], myopia[334], loss aversion, information overload, relativity, and social norms[335]. The characteristics of the label, instead, can include label size, colour[336], contrast, and placement as well as overall package context.

Notably, there are also characteristics that do not refer to the label itself, but rather to the interplay between a label and the specific environment in which it is placed. For example, Bialkova & van Trijp[337] showed that attention was greater when the type of label and its location on the package did not change, suggesting that FOP labelling should be uniform and printed in a consistent location on food packages.

A later study[338] then additionally showed that a combination of labels had superior attention-grabbing ability compared to a single label, which also depended on the density of the information found on the package[339]. FOPLs with interpretative information about

[333] On the identification of the two ways of thinking, see Kahneman, D. (2011). *Thinking, Fast and Slow*. New York: Farrar, Strauss and Giroux.

[334] Not in a strict sense, myopia means the fact that people tend to underestimate long-term benefits, and rather focus on immediate gratification when choosing what to buy and eat.

[335] European Commission, Joint Research Centre, Storcksdieck genannt Bonsmann, S., Marandola, G., Ciriolo, E. (2020). *Front-of-pack nutrition labelling schemes: a comprehensive review*, cit. pp. 43 ss.

[336] Colour increases attention to FOP schemes, as long as contrast between the label and the package is achieved and the label is clear and big enough to be easily legible. Studies outside of the labelling literature suggest that colour increases the salience of stimuli and reduces the time necessary to detect them. See *ivi* p. 53

[337] Bialkova, S., & van Trijp, H. (2010). *What determines consumer attention to nutrition labels?* Food Quality and Preference, 21(8), 1042-1051. https://doi.org/10.1016/j. foodqual.2010.07.001

[338] Bialkova, S., Grunert, K.G., & van Trijp, H. (2013). Standing out in the crowd: The effect of information clutter on consumer attention for front-of-pack nutrition labels. Food Policy, 41, 65-74. https://doi.org/10.1016/j.foodpol.2013.04.010 p. 71

[339] As a matter of fact, the attention resulted higher whenever there was less information on the package (the package is "less cluttered"). *Ivi,* p. 69

nutrient content – explained with words, symbols and colours – have been found to be the easiest for consumers to understand and interpret correctly[340].

An essential condition for nutrition labels to have any effect is that consumers must be exposed to and aware of them. Exposure, however, does not imply direct effectiveness as the effect will be mediated by consumer understanding which, in turn, will be affected by consumers' nutrition knowledge[341].

Usually, authors differentiate between conceptual and substantive understanding. The former refers to consumers' ability to understand the general concept behind a specific FOP scheme and the meaning of specific codes and/or colours, while the latter refers to whether respondents interpret the information on the label correctly[342].

Significant research efforts have been dedicated to testing people's substantive understanding of different FOP schemes. Many of the said studies used the *eye-tracking devices* in realistic shopping scenarios, results were various:

- some, more generic, found that the presence of color-coded, FOPLs increased the number of gazes and the total gaze duration spent inspecting packages while making a selection; this was not true on monochromatic FOPLs[343];
- some others compared the attention grabbed by BOPLs and *Traffic Light*, finding a clear benefit to the consumer in the second one. Specifically, the study found that it brought more attention to nutrients, reducing the amount of information for people to examine, therefore helping to make an easier, more healthful decision[344];

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[340] Hersey, J. C., Wohlgenant, K. C., Arsenault, J. E., Kosa, K. M., & Muth, M. K. (2013). Effects of front-of-package and shelf nutrition labelling systems on consumers. Nutrition reviews, 71(1), 1–14. https://doi.org/10.1111/nure.12000 p. 8

[341] Grunert, K.G., Wills, J.M., & Fernández-Celemín, L. (2010). *Nutrition knowledge and use and understanding of nutrition information on food labels among consumers in the UK*. Appetite, 55(2), 177-189. https://doi.org/10.1016/j.appet.2010. 05.045 p. 178

[342] European Commission, Joint Research Centre, Storcksdieck genannt Bonsmann, S., Marandola, G., Ciriolo, E. (2020). *Front-of-pack nutrition labelling schemes: a comprehensive review*, cit. p. 67

[343] Koenigstorfer, J., Wąsowicz-Kiryło, G., Styśko-Kunkowska, M., & Groeppel-Klein, A. (2014). *Behavioural effects of directive cues on front-of-package nutrition information: the combination matters!,* Public Health Nutrition, 17(9), 2115-2121. doi:10.1017/S136898001300219X p. 2115

[344] Apparently, according to the study, in the BOPL, the nutrients that people examined bore little resemblance to the nutrients that people actually used when making a healthiness judgement. The difference showed that "standard BOPL" may bear too much information for the consumer to comprehend. See Jones, G., & Richardson, M. (2007). *An objective examination of consumer perception of nutrition information based on healthiness ratings and eye movements*. Public Health Nutrition, 10(3), 238-244. doi:10.1017/S1368980007258513

- some found that people with motivation to purchase healthful products spent significantly more time on nutrition information compared to people with taste motivation[345], therefore assessing that the ones who chose to make a healthier choice were already motivated to do so at the moment of shopping.

It must be pointed out that some studies also reveal some situations in which the use of FOPLs can be counterproductive to the objective: notably, situations in which, if the consumers are sceptical, they might be negatively affected by its presence[346].

Studies of perception of labels were also employed in order to understand how it could vary among different social groups. Behavioural evidence challenges the very existence of an average consumer, who would be "*reasonably well-informed and reasonably attentive and circumspect*". Much rather, there are various types of consumers, differing by level of education, environmental awareness, health-consciousness, wealth, age, gender, etc[347].

As a result, it is unlikely that the same procedure will have the same effect on several different categories of customers. In fact, research across several policy domains indicates that a given policy intervention may work well for one set of consumers or citizens while having little to no effect – or even negative effect – on another.

Considering the various research, the results are multiple[348]:

- women result as more likely to read the nutrition labels compared to men;
- people who are more highly educated are more associated with understanding the use of nutritional information more than others;
- label use is often linked to having an interest in healthier eating habits and knowledge in "diet-disease relationships".

[345] Turner, M., Skubisz, C., Pandya, S.P., Silverman, M., & Austin, L. (2014). *Predicting Visual Attention to Nutrition Information on Food Products: The Influence of Motivation and Ability*. Journal of Health Communication, 19(9), 1017- 1029. https://doi.org/10.1080/10810730.2013.864726

[346] European Commission, Joint Research Centre, Storcksdieck genannt Bonsmann, S., Marandola, G., Ciriolo, E. (2020). *Front-of-pack nutrition labelling schemes: a comprehensive review*, cit. p.56

[347] *Ivi*, p. 44

[348] *Ivi*, p. 86

Various studies demonstrate how labels can also impact on the perceived healthfulness of food products for the buyer[349], for example through its framing or through colour.

The frame on labels can either highlight the benefits of consuming the product (so-called "gain frame") or the negative consequences of not doing so ("loss frame"). The exam wanted to show whether information provided in a gain frame, a loss frame, or in a frame combining both, allowed consumers to better distinguish between more and less nutritious choices than when no framing was present. In the end, any frame resulted as better than none, but no particular frame was better than the others were[350].

Significant differences were instead found in the variance of colour: grey and black received the lowest perceived healthfulness average scores, followed by red and violet. Conversely, green obtained the highest perceived healthfulness average score, followed by white, blue, and yellow[351].

Another element, identified directly through legislation, is the use of claims. Foods promoted with claims may be perceived by consumers as having a nutritional, physiological or other health advantage over similar or other products to which such nutrients and other substances are not added. This may encourage consumers to make choices which directly influence their total intake of individual nutrients or other substances in a way which would run counter to scientific advice[352].

Perception is also directly linked to the preconception that consumers have of the product: various studies show, in fact, that they tend to put more effort into checking the nutrition information of healthful foods rather than information on foods that they already consider unhealthful. That is because of the fact that, when buying unhealthful foods, they want to

[349] European Commission, Joint Research Centre, Storcksdieck genannt Bonsmann, S., Marandola, G., Ciriolo, E. (2020). *Front-of-pack nutrition labelling schemes: a comprehensive review*, cit. p. 69-80, Table 20

[350] Lundeberg, P.J., Graham, D.J., & Mohr, G.S. (2018). *Comparison of two front-of package nutrition labelling schemes, and their explanation, on consumers' perception of product healthfulness and food choice*. Appetite, 125, 548-556. https:// doi.org/10.1016/j.appet.2018.02.027 p. 554

[351] Cabrera, M., Machín, L., Arrúa, A., Antúnez, L., Curutchet, M., Giménez, A., & Ares, G. (2017). *Nutrition warnings as front-of-pack labels: Influence of design features on healthfulness perception and attentional capture.* Public Health Nutrition, 20(18), 3360-3371. doi:10.1017/S136898001700249X p. 3362

[352] Regulation 1924/2006 Recital (9)

indulge and avoid any kind of discouraging information[353]. Other studies came to the very same conclusion, as the impact of FOPLs promoting certain health benefits on the front of a package turned out to be biased by the perceived healthfulness of the product category under consideration[354].

Ares et al.[355] concentrated their study on the change of perception that consumers had of a product, concerning its healthfulness or lack thereof, depending on the use of different FOPLs[356]. The results pretty much confirmed the outcomes of the previous studies that were mentioned: when it came to products that were unambiguously labelled as unhealthy or healthful, they had no effect.

The real variation in perception and the consequent identification of the product as unhealthful instead of healthful *because* of the presence of the FOPL was found in the mid-range products, the ones of which the consumers did not have a clear perception of healthfulness of. Mainly, the most common response when it came to products with intermediate perceived healthiness, interpretive FOP nutrition labelling schemes tended to alter consumer perception.

3.3.2. Purchase power and FOPL product

The fact that the FOPLs can grab the consumer's attention does not always imply that such attention will be followed by the action of purchasing the product upon which the label is positioned. Apart from the mentioned research, studies have also concentrated on understanding if and how FOPLs can influence the average consumer to purchase the *healthier* product.

Understandably, the purchase intention does not only depend on the presence of a label that clarifies which is the healthier product. Exactly the same way it happens for the *attention* of consumers, the purchasing power is also affected by other external factors

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[353] Talati, Z., Pettigrew, S., Kelly, B., Ball, K., Dixon, H., & Shilton, T. (2016). *Consumers' responses to front-of-pack labels that vary by interpretive content*. Appetite, 101, 205-213. https://doi.org/10.1016/j.appet.2016.03.009 p. 209

[354] Bialkova, S., Sasse, L., & Fenko, A. (2016). *The role of nutrition labels and advertising claims in altering consumers' evaluation and choice*. Appetite, 96, 38–46. https://doi.org/10.1016/j.appet.2015.08.030

[355] Ares, G., Varela, F., Machín, L., Antúnez, L., Giménez, A., Curutchet, M.R., & Aschemann-Witzel, J. (2018). *Comparative performance of three interpretative front-of-pack nutrition labelling schemes: Insights for policy making.* Food Quality and Preference, 68, 215-225. https://doi.org/10.1016/j.foodqual.2018.03.007

[356] Specifically, the study considered the use of Nutri-Score, the Health Star rating and the Warning signs.

such as: taste, habits, price, etc. At the same time, some of the FOPLs can, apparently, act on the consumers' intention more than others.

It is not easy to draw a clear line, as all of the studies and research bring to slightly different results.

According to some of the studies, the effectiveness of the FOPL depends on the level of consciousness that the consumer has of the label, how to read it, and is strictly related to the education of the person on understanding the information on the new label[357]. For example, according to Sonnenberg[358], labels have a higher percentage of being taken into consideration by whoever is more concerned and sensitive to health issues (such as hospital personnel in hospital environments). Even so, it is still possible that consumers who try to eat healthy foods have a wrong perception of what is actually healthier, therefore, they could be helped by a more direct label[359].

The study, in fact, reported how the perceived healthfulness was, as a matter of fact, increased in presence of traffic light FOPL compared to situations in which the product only had the "classic" BOPL. It overall indicates that the proportion of respondents who identified health/nutrition as an important factor in their purchase increased after the traffic light labels were implemented, and respondents who identified health/nutrition as important tended to make healthier choices when the traffic light labels were available.

According to these results, a FOPL (in this case, a traffic light label) system might encourage people to think about their health when making purchases, which would enhance the possibility that they would choose a healthier option. FOPL has both the "attention-grabbing" element and enhances the purchasing power of healthier products. The reason why this happens is because simplified labelling has the potential to convey more complex nutrition information in a quicker, more comprehensible way.

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[357] Graham, D.J., Lucas-Thompson, R.G., Mueller, M.P., Jaeb, M., & Harnack, L. (2017). *Impact of explained v. unexplained front-of-package nutrition labels on parent and child food choices: a randomized trial*. Public Health Nutrition, 20(5), 774-785. https://doi.org/10.1017/s1368980016002676 p. 783

[358] Sonnenberg, L., Gelsomin, E., Levy, D.E., Riis, J., Barraclough, S., & Thorndike, A.N. (2013). *A traffic light food labelling intervention increases consumer awareness of health and healthy choices at the point-of-purchase.* Preventive Medicine, 57(4), 253-257. https://doi.org/10.1016/j.ypmed.2013.07.001

[359] Sonnenberg's study demonstrate how it is possible that more health-conscious consumers believed they were purchasing healthier items but were actually purchasing less healthy options due to an underestimation of the calorie or fat content of items or due to deficits in nutrition knowledge.

Table 1
Factors influencing cafeteria purchase before and during the labeling intervention.

Survey item	Baseline period (N = 166)	Labeling intervention (N = 223)	P value
Most important factors in making food choice today (choice of 2)			
Health/nutrition	46%	61	0.004
Taste	48%	59	0.04
Price	11%	19	0.02
Convenience	37%	28	0.06
Other	15%	4%	<0.001
"Always" chooses a food that is healthy	10%	10%	0.94
Looks at nutrition information on cafeteria menu or food label before making a purchase			
All respondents	15%	33%	<0.001
Men	11%	29%	0.005
Women	18%	36%	0.003
White	17%	36%	0.001
Black	5%	16%	0.23
Hispanic	18%	43%	0.19
Asian	8%	18%	0.44

This study was conducted at Massachusetts General Hospital in Boston, Massachusetts (2010).

[360]

Subsequent research by Ares et al.[361] also took into consideration the element of price sensitivity in low- or medium-income households, assessing the importance of the price of foodstuffs. The outcome showed how the nutrition information reported on the FOPL became less important for people with lower incomes when deciding for the healthier or less healthy option, as their choices were primarily driven by economic factors (price of the food and available money at the moment of purchase).

A combination of the two mentioned studies can then be found in another later research, Elshiewy et al.[362], which took into account both the element of choosing the healthier option and the price sensitivity of the consumers. The study showed not only that FOPL helped consumers recognize the nutrition information and make healthier decisions, lowering the number of calories amounts in the choice of food products, but also the fact that their price sensitivity decreased after the introduction of FOPLs. Specifically, whenever a new information is introduced when purchasing goods, it creates new "stimuli" that can draw the consumers' attention, increasing the cognitive effort involved

[360] Table 1 Factors influencing cafeteria purchase before and during labelling intervention at Sonnenberg, L., Gelsomin, E., Levy, D.E., Riis, J., Barraclough, S., & Thorndike, A.N. (2013). *A traffic light food labelling intervention increases consumer awareness of health and healthy choices at the point-of-purchase.* Cit. p. 255

[361] Ares, G., Machín, L., Girona, A., Curutchet, M. R., & Giménez, A. (2017). *Comparison of motives underlying food choice and barriers to healthy eating among low medium income consumers in Uruguay*. Cadernos de saude publica, 33(4), e00213315. https://doi.org/10.1590/0102-311X00213315

[362] Elshiewy, O., & Boztug˘, Y. (2018). *When Back of Pack Meets Front of Pack: How Salient and Simplified Nutrition Labels Affect Food Sales in Supermarkets*. Journal of Public Policy & Marketing, 37(1), 55-67. https://doi.org/10.1509/jppm.16.100

in comparing the purchase alternatives and (considering the limited amount of time dedicated to shopping for groceries) "*divert cognitive resources from the price attribute and thus reduce consumers' sensitivity to price*"[363].

Some other studies achieve the same ending results without actually analysing the same variables. In some cases, consumers did not respond to the addition of FOPL with *increasing* the level of purchase of healthier food (which stayed the same), but just by *decreasing* the acquisition of less nutritious ones. This suggests that, on net, the healthiness of the products purchased at this supermarket chain improved after the introduction of the nutrition information programme.

The conclusions are therefore similar to the previous studies: a well-designed rating system can help the increase of selling of healthier products. However, it also means that lawmakers should not just focus on the sales of nutritious foods to get to their purpose of advertising healthier diets, as they also should consider the changes in sales of non or less nutritious foods[364].

One of the studies about the change of perception of healthfulness of the products which was mentioned in the previous paragraph also concentrated on how such perception would modify the consequent purchase intention. Namely, some FOPL schemes altered the consumers' intention more than others. The ability of FOP labels to modify consumers' purchase decisions and encourage more healthful choices is the key determinant of their effectiveness[365].

[363] Nikolova, Hristina D., and J. Jeffrey Inman (2015), *Healthy Choice: The Effect of Simplified POS Nutritional Information on Consumer Food Choice Behaviour,* Journal of Marketing Research, 52 (6), 817–35.

[364] Cawley, J., Sweeney, M., Sobal, J., Just, D., Kaiser, H., Schulze, W., Wansink, B. (2015). *The impact of a supermarket nutrition rating system on purchases of nutritious and less nutritious foods*. Public Health Nutrition, 18(1), 8-14. doi:10.1017/S1368980014001529 pp. 11-13

[365] Ares, G., Varela, F., Machín, L., Antúnez, L., Giménez, A., Curutchet, M.R., & Aschemann-Witzel, J. (2018). *Comparative performance of three interpretative front-of-pack nutrition labelling schemes: Insights for policy making*. cit.

Table 7
Average purchase intention[#] scores for product packages in different experimental conditions: control (no nutritional information), Nutri-score, health-star rating and warning system.

Product	Control (n = 236)	Nutri-score (n = 229)	Health-star rating (n = 211)	Warning system (n = 216)
Lentils	7.5 [a]	7.2[a]	7.1[a]	7.1[a]
Canned green beans	6.4[a]	6.7[a]	6.8[a]	6.4[a]
Breakfast cereals*	5.5[a]	4.7[b]	4.9[a,b]	4.4[b]
Yogurt*	4.7[a]	4.5[a,b]	4.7[a]	4.1[b]
Orange juice	5.5[a]	5.1[a]	5.1[a]	4.9[a]
Bread*	4.7[a]	4.3[a,b]	4.2[a,b]	3.8[b]
Mayonnaise*	4.4[a]	3.8[b]	4.0[a,b]	3.7[b]
Potato chips	3.6[a]	3.3[a]	3.5[a]	3.4[a]

[#] Purchase intention was evaluated using a 10-point scale (1 = 'I would definitely not purchase it', 10 = 'I would definitely purchase it').

* Indicates products for which significant differences among the experimental conditions were established ($p < 0.05$). Average scores within a row with different superscript letters are significantly different according to Tukey's test ($p < 0.05$). 366

366 Table 7, *Ivi* p. 222. Nutri-score and the Warning signs system altered the perception of consumers, decreasing their intent on purchase of unhealthful products way more than the Health Star rating system did. Between the two, the one with the most impact was the Warning sign system, as impacted on the understanding of consumers due to its focus on individual nutrients.

CHAPTER IV

NUTRI-SCORE FOPL AND THE FUTURE OF LABELS

Preliminary remarks

As explained in the third chapter, the implementation of Regulation 1169/2011 caused important changes in the perception that the MS had of the type and amount of information which had to be granted to consumers at the moment of purchase, since it put their awareness and need for more understandable information about food at the centre of attention.

The FIC Regulation granted the implementation of FOPLs on the EU internal market. Not only, as it also foresaw the creation of a harmonized FOPL to be put on the EU territory during the next years. As explained in the last chapter, Nutri-Score has been one of the main interpretative FOPL schemes for nutritional rating that were implemented in EU during the last two decades.

Particularly, this chapter will dive into its creation, and evolution, investigating the various studies that found its strengths and weaknesses, causing changes from its original version of implementation in 2017 to its current algorithm, while also analysing the persisting problems.

The last part of the chapter concentrates particularly on the way that its use has developed into something new: the "Nutri-Score method" has been the point of departure for the creation of new mobile applications and websites that aim at giving a score and creating a "ranking" of healthy foods, with the aim of making labels more easily available and understandable for the average consumer. In particular, the study will concentrate on a specific application that has been at the centre of attention both for its vast popularity among consumers – with more than 45 million users[367] – and among researchers, scholars and representative bodies for the sectors of food and cosmetics, to give their opinions or criticisms on the matter.

[367] This information was taken from the Similarweb.com website at https://www.similarweb.com/it/app/google-play/io.*Yuka*.android/statistics/#ranking This site keeps track of downloads and use of apps from the Android Play Store.

Those doubts and opinions represented the start of a report to the Italian Antitrust that consequently began an investigation against *Yuka*. The last paragraph of this chapter discusses the reasons and outcomes.

4.1 Nutri-score Front-of-Package Label

The Nutri-Score scheme was originally selected by the French government in 2017, following the same purposes imposed by the EU institutions through the FIC Regulation.

The creation of such scheme, its invention and following development, is the result of the work of Serge Hercberg[368] in collaboration with *Santé Publique France*[369]. Since 2001, France has set a public health nutrition policy, the *Programme National Nutrition Santé* (PNNS, French Nutrition and Health Program) which combines laws, regulations and incentives in the field of nutrition (diet and physical activity) to improve the population's health status[370].

The intention of intervention on the information given to consumers for France had already been expressed since 2013, after the implementation of the EU Regulation 1169/2011, which expressed the necessity for the single MS to implement systems that could effectively simplify the comprehension of labels, therefore granting healthier choices for consumers. The 2013 Report presented by Hercberg to the French *Ministère de la Santé Publique*[371]*,* in fact, already proposed the construction of a "*nutritional information system in the shape of a synthetic tool to simplify the rapid estimation of the nutritional quality of alimentary products at the moment of purchase, for the consumer, that could contribute to their purchasing decisions (in combination with the other detailed information)*"[372], with a first draft of Nutri-Score. The intention was creating a "*nutritional score*" based on quality, which granted the possibility to compare both

[368] Hercberg developed the study in quality of president of the French *Programme national nutrition santé (PNNS)*, and director of the Research Unit on nutritional epidemiology.
[369] Santé Publique France is the French National Agency for national health, created in 2016 and under control of the French Ministry of Health. See the official website at https://www.santepubliquefrance.fr/
[370] Julia C, Hercberg S (2017) *Nutri-Score: evidence of the effectiveness of the French front-of-pack nutrition label.* Ernahrungs Umschau 64(12): 181–187 DOI: 10.4455/eu.2017.048
[371] Hercberg, S. (2013) Rapport, *Propositions pour un nouvel élan de la politique nutritionnelle française de santé publique dans le cadre de la Stratégie Nationale de Santé,* https://sante.gouv.fr/IMG/pdf/rapport_Hercberg_15_11_2013.pdf
[372] *Ivi*, p. 48.

different food products (as part of the same "family" [373]), and the same type of product proposed by different brands[374].

The official implementation of the method on the French market happened only in 2017 through L. 3232-8[375], based on the same studies. It does not impose the mandatory application of such scheme; however, it specifies the guidelines and margins that the manufacturers and food distributors must conform to in order to use the new tool to establish the "colour ranking" of products, based on the result of specific calculations[376].

Although some experts warned that the Nutri-Score might constitute an obstacle to EU trade, the measure appeared justified on public health grounds. The adoption of the Nutri-Score label was made after a lengthy 4-year process, during which intense lobbying by agro-industry opposed scientific evidence to furtherly develop the scheme, to the point that the French system of FOPL through Nutri-Score is currently a compelling model in the EU region[377].

Studies of the nutrient profiling system underlying the Nutri-Score, and comparative studies of the perception, understanding, and use of various strategies of front-of-pack labelling, done between 2014 and 2017 concluded that the Nutri-Score was superior to other formats[378].

To set out a clear definition of the scheme, Nutri-Score is a FOPL which converts the nutritional value of food and beverages into a simple overall score with the aim of providing information on the nutritional quality of products in simplified form that complements the mandatory nutritional declaration. Such score is calculated according to

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[373] It is important to notice since now that the scheme wants to compare foodstuffs that are part of the same category, and not food products overall. The report explicitly creates examples of comparisons: "in the family of cereals: cereals for breakfast, muesli, chocolate etc..". *Ivi*, p. 49

[374] "*For example, compare chocolate cereals of one brand to its «equivalent» of another brand*", *ibidem*.

[375] Legifrance, (2017) Arrêté du 31 octobre 2017 fixant la forme de présentation complémentaire à la déclaration nutritionnelle recommandée par l'Etat en application des articles L. 3232-8 et R. 3232-7 du code de la santé publique https://www.legifrance.gouv.fr/eli/arrete/2017/10/31/SSAP1730474A/jo/texte

[376] Borghi, P. (2017) *Rosso, giallo o verde? L'ennesima etichetta alimentare "a semaforo", l'ennesimo segno di disgregazione*, Rivista di diritto alimentare, Anno XI, n.2, Aprile-Giugno 2017 http://www.rivistadirittoalimentare.it/rivista/2017-02/BORGHI.pdf p. 79

[377] Julia C, Hercberg S (2017) *Nutri-Score: evidence of the effectiveness of the French front-of-pack nutrition label.* cit.

[378] Julia C, Hercberg S. (2017) *Development of a new front-of-pack nutrition label in France: the five-colour Nutri-Score*. Public Health Panorama; 3: 712–25

specific rules which depend on the food product category and its production. The score is then translated into a logo that shows a scale of 5 colours and letters.

A is green to represent the best nutritional quality while E is dark orange to show it is the lowest.

The nutritional score is distinct from the Nutri-Score:

- The *nutritional score* uses the nutrients and ingredients within the product that have a significant impact on health to derive an estimate of the nutritional value of the product ranging from higher nutritional value for the lowest scores to lower nutritional value for the highest scores. It is the overall score that is calculated according to the mechanism that is analysed in the next paragraph.
- The Nutri-Score is a graphic scale that divides the nutritional score into 5 classes (expressed by a colour and a letter), the purpose being to help the consumer better see, interpret and understand the nutritional value. The objective is not to separate "good" foods from "bad" foods, but rather to use the 5 classes to distinguish foods that are healthier from those that are less healthy from a nutritional point of view. This also helps food producers to decide how to reformulate their products so they can move to a higher score[379].

The whole Nutri-Score system did not stay the same as originally formulated, as it was updated in 2023 to ensure the incorporation of the latest studies, scientific evidence and literature and to be more in line with the main food-based dietary guidelines of the countries across the EU.

After the adoption of the Nutri-Score by different European countries (France, Belgium, Spain, Germany, the Netherlands, Luxembourg and Switzerland), EU governance was set up in February 2021 to create a specific Scientific Committee that would oversee the Nutri-Score application and study the possible improvements to put into action in order to better suit the market and the dietary needs of EU consumers. The Steering Committee,

[379] Santé Publique France, (2023) *Nutri-Score Questions & Answers* https://www.santepubliquefrance.fr/media/files/02-determinants-de-sante/nutrition-et-activite-physique/nutri-score/q-a-en p. 5

which include the authorities from the 7 countries having adopted Nutri-Score mandated the Scientific Committee, composed of independent scientists from the countries, to update the algorithm, with a number of constraints: cross-sectional calculation method, calculation of the score per 100 g or 100 mL of food, conservation of the current main components of the algorithm already validated, etc. In 2021, the Scientific Committee identified and prioritized areas of evolution of the algorithm in order to develop changes based on solid scientific evidence[380].

The countries involved in the Nutri-Score have started their national procedure to formally adopt the Updated algorithm. In order to ensure consistency between the different territories, the countries have agreed on a coordinated implementation of the Updated algorithm once the regulatory procedures have been finalized in the countries by December 31st, 2023. The Nutri-Score of products placed on the market after December 31st, 2023, must in principle be based on the Updated Algorithm[381].

4.1.1. Nutri-Score algorithm: then and now

It is necessary to consider both the original 2017 algorithm and the one that is currently in use and has been object of the alterations[382] and result of the studies of the 6 years since the implementation of the Nutri-Score as a FOPL in France and then in various other countries of EU. That is, because of the fact that some of the criticisms opposed to the original method have been at the root of the following imposed changes.

Firstly, the original algorithm only considered the division between the general foods (together with cheeses and general fats) and beverages. In 2023, this division has been modified to include red meat in the first category, beverages with milks and plant-based drinks in the second, and created a third category with fats, nuts and seeds.

In the 2017 system, the nutritional score was calculated the same way for all food products, except for cheeses, vegetable and animal fats, and beverages. These categories of food products are mentioned as "*specific cases*", with their specific algorithm of evaluation.

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[380] Scientific Committee of the Nutri-Score, Ministère de la Santé et de la Prévéntion (2021) *Update of the Nutri-Score algorithm* https://sante.gouv.fr/IMG/pdf/annual_report_2021.pdf

[381] *Ivi,* p. 6

[382] Santé Publique France, (2023) *Nutri-Score Questions & Answers* cit.

The nutritional score for food products in 2017 relied on the calculation of a single, overall score which takes into account, for every food product:

- a "negative" component *N*;
- a "positive" component *P*;

The N component of the score takes into account nutritional elements which consumption should be limited: energy, saturated fatty acids, sugars, and sodium[383]. For each of these elements, points from 0 to 10 are awarded based on the content for 100g of food product. The negative N component corresponds to the sum of these points and thus can range from 0 to 40.

Points	Energy (KJ/100g)	Saturated fatty acids (g/100g)	Sugars (g/100g)	Sodium* (mg/100g)
0	≤ 335	≤ 1	≤ 4.5	≤ 90
1	> 335	> 1	> 4.5	> 90
2	> 670	> 2	> 9	> 180
3	> 1005	> 3	> 13.5	> 270
4	> 1340	> 4	> 18	> 360
5	> 1675	> 5	> 22.5	> 450
6	> 2010	> 6	> 27	> 540
7	> 2345	> 7	> 31	> 630
8	> 2680	> 8	> 36	> 720
9	> 3015	> 9	> 40	> 810
10	> 3350	> 10	> 45	> 900

[384]

The P component is calculated based on the amount of fibres, proteins, and fruits, vegetables, legumes, nuts as well as rapeseed, walnut and olive oils in the food product. For each of these elements, points from 0 to 5 are awarded based on the content for 100g of food product. The positive P component corresponds to the sum of these points and thus can range from 0 to 15.

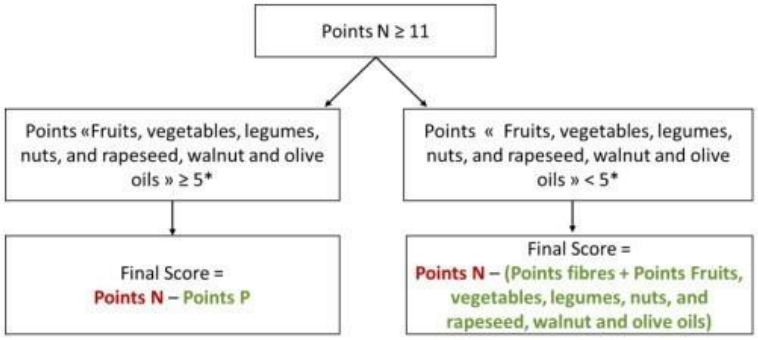
[383] The sodium content corresponds to the salt content mentioned in the mandatory nutritional statement divided by 2.5.

[384] Table 1 Points attributed to each of the elements of the negative N component. Santé Publique France, (2023) *Nutri-Score Questions & Answers*, cit. p. 19

Points	Proteins (g/100g)	Fibres (g/100g)	Fruits, vegetables, legumes, nuts and rapeseed, walnut and olive oils[1] (%)
0	≤ 1.6	≤ 0.9	≤ 40
1	> 1.6	> 0.9	> 40
2	> 3.2	> 1.9	> 60
3	> 4.8	> 2.8	-
4	> 6.4	> 3.7	-
5	> 8.0	> 4.7	> 80

[385]

The *general* rule is summarized as follows:



[386]

A point has to be made concerning the algorithm for cheeses. Namely, it does not have its own special rules for N and P components, however, it does have them for its general calculus. It is stated that "*if the total of component N is below 11 points or if the product is cheese, then the nutritional score is equal to the total N component points from which is subtracted the total for the P component*"[387].

As for the *special* rules, some differences are foreseen:

- for animal and vegetable fats, the points table for saturated fatty acids is replaced by a table on the *ratio* saturated fatty acid/lipids. Other columns (energy, sugars, sodium, fruits, vegetables, legumes, nuts and rapeseed, walnut and olive oils, fibres and proteins) are the same and should be taken into account.

[385] Table 2 Points attributed to each of the elements of the positive P component. *Ivi*, p. 20.
[386] *Ivi*, p. 21
[387] *Ivi,* p. 25

Points	Ratio saturated fatty acids/lipids
0	<10
1	<16
2	<22
3	<28
4	<34
5	<40
6	<46
7	<52
8	<58
9	<64
10	≥64

[388]

- scores for beverages are calculated using specific points table for energy, sugars and fruits, vegetables, legumes, nuts and rapeseed, walnut and olive oils. Other columns (saturated fatty acids, sodium, fibres and proteins) are the same and should be taken into account[389].

Points	Energy (kJ/100g or 100mL)	Sugars (g/100g or 100mL)	Fruits, vegetables, legumes, nuts and rapeseed, walnut and olive oils (%)
0	≤ 0	≤ 0	≤ 40
1	≤ 30	≤ 1.5	
2	≤ 60	≤ 3	> 40
3	≤ 90	≤ 4.5	
4	≤ 120	≤ 6	> 60
5	≤ 150	≤ 7.5	
6	≤ 180	≤ 9	
7	≤ 210	≤ 10.5	
8	≤ 240	≤ 12	
9	≤ 270	≤ 13.5	
10	> 270	> 13.5	> 80

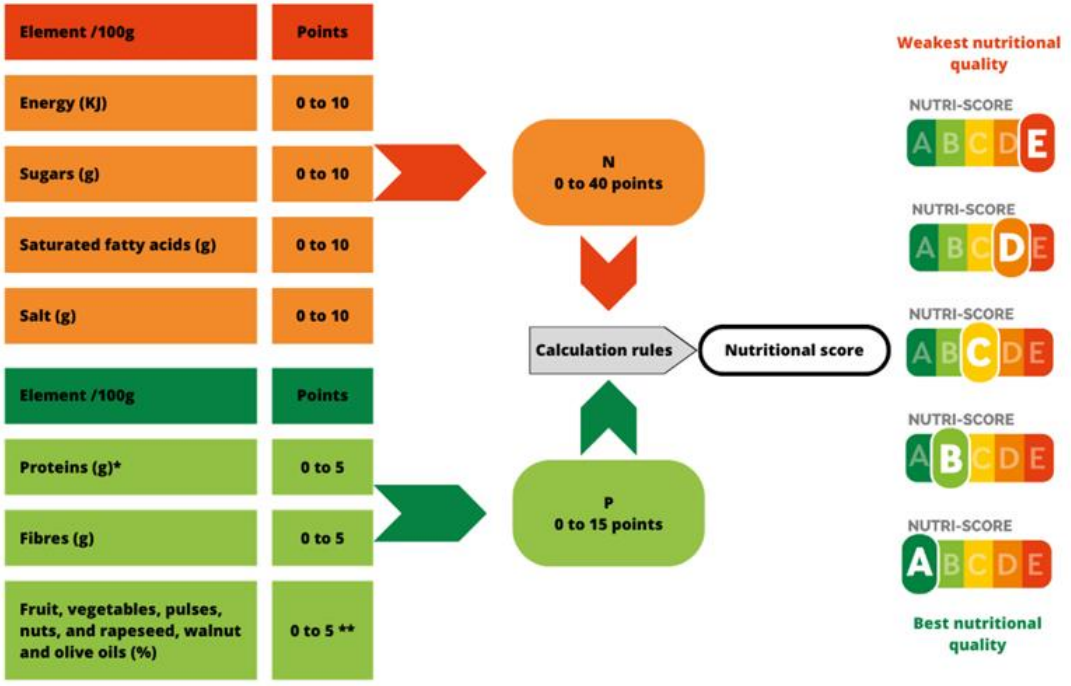
[390]

[388] Table 3 Table for attributing points for the ratio saturated fatty acids/lipids components in the specific case of animal and vegetable fats, *ivi*, p. 21

[389] *Ivi*, pp. 21-22

[390] Table 4 Table for attributing points to beverages, *ivi*, p. 21

The figure below summarizes the process to attribute the Nutri-Score. Namely, how to connect the number of points to the symbol made of letter and colour:



[391]

The current algorithm (since 2023) is slightly different. The procedure stays the same (division in *positive* and *negative* components, calculation of points based on their value and consequent paring of the result to the Nutri-Score logo), together with the presence of different calculations based on the kind of food product under exam.

The categories of components considered in the algorithm in the general food category, their points threshold, the calculations and thresholds for special foods and consequent ratings of the various products has been object of several modifications.

The first adjustments are about the nutritional elements both for negative and positive components for the *general food* category, mainly considering the point evaluation system.

As far as the negative components *N* go, they currently take into account nutritional elements which consumption should be limited: energy, saturated fatty acids, sugars, and

[391] *Ivi* p. 23

salt[392]. For each of these elements, points from 0 to 20[393] are awarded based on the content for 100g of food product. The negative *N* component corresponds to the sum of these points, and thus can range from 0 to 55[394].

Points	Energy (KJ/100g)	Saturated fatty acids (g/100g)	Sugars (g/100g)	Salt (g/100g)
0	≤ 335	≤ 1	≤ 3.4	≤ 0.2
1	> 335	> 1	> 3.4	> 0.2
2	> 670	> 2	> 6.8	> 0.4
3	> 1005	> 3	> 10	> 0.6
4	> 1340	> 4	> 14	> 0.8
5	> 1675	> 5	> 17	> 1
6	> 2010	> 6	> 20	> 1.2
7	> 2345	> 7	> 24	> 1.4
8	> 2680	> 8	> 27	> 1.6
9	> 3015	> 9	> 31	> 1.8
10	> 3350	> 10	> 34	> 2
11			> 37	> 2.2
12			> 41	> 2.4
13			> 44	> 2.6
14			> 48	> 2.8
15			> 51	> 3
16				> 3.2
17				> 3.4
18				> 3.6
19				> 3.8
20				> 4

[395]

The *P* component is still calculated based on the amount of fibres, proteins, and fruits, vegetables, and legumes in the food product. For each of these elements, points from *0 to 7*[396] are awarded based on the content for 100g of food product. The positive *P* component corresponds to the sum of these points and thus can range from 0 to 17.

For red meat and products thereof, the number of points for proteins is limited to 2. The positive *P* component can therefore vary from 0 to 12 points[397].

[392] The previous version considered "sodium" instead.

[393] In the previous version, from 0 to 10.

[394] As inferred from the following Table, it is clear that some of the negative elements are not likely to reach the maximum points of 20, currently provided by the algorithm.

[395] Table 5 Points attributed to each of the elements of the negative N component, Santé Publique France, (2023) *Nutri-Score Questions & Answers*, cit., pp. 24-25.

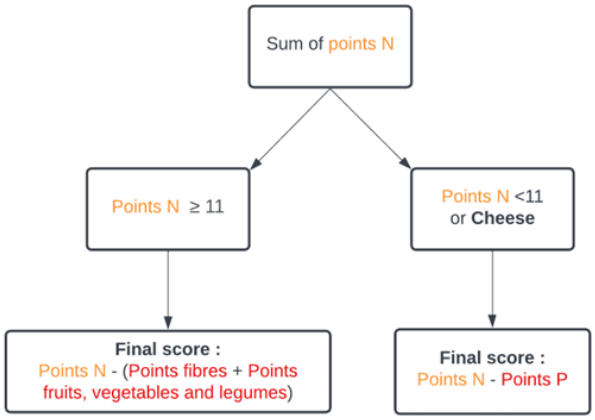
[396] In the previous version, from 0 to 5.

[397] The specifications about red meat were added with the alterations of 2023. See Santé Publique France, (2023) *Nutri-Score Questions & Answers*, cit.

Points	Proteins* (g/100g)	Fibres (g/100g)	Fruits, vegetables, legumes (%)**
0	≤ 2.4	≤ 3.0	≤ 40
1	> 2.4	> 3.0	> 40
2	> 4.8	> 4.1	> 60
3	> 7.2	> 5.2	-
4	> 9.6	> 6.3	-
5	> 12	> 7.4	> 80
6	> 14		
7	> 17		

[398]

The current *general* rule can be summarized as follows:



As shown, rules stated in 2017 for cheeses were not altered by the subsequent update of 2023. As for *special cases*,

- animal and vegetable fats, nuts and seeds do not only vary (from the general rule) for one negative component *N*. The ratio of saturates/liquids instead of saturated fatty acids stays the same. However, the other components (energy, sugars and salt) are given their own parameters for 100g of product.

[398] Table 6 Points attributed to each of the elements of the positive P component, Santé Publique France, (2023) *Nutri-Score Questions & Answers*, cit. p. 25.

Points	Energy from saturates (kJ/100g)*	Sugars (g/100g)	Saturates/Lipids (g/100g)	Salt (g/100g)
0	≤ 120	≤ 3.4	< 10	≤ 0.2
1	> 120	> 3.4	< 16	> 0.2
2	> 240	> 6.8	< 22	> 0.4
3	> 360	> 10	< 28	> 0.6
4	> 480	> 14	< 34	> 0.8
5	> 600	> 17	< 40	> 1
6	> 720	> 20	< 46	> 1.2
7	> 840	> 24	< 52	> 1.4
8	> 960	> 27	< 58	> 1.6
9	> 1080	> 31	< 64	> 1.8
10	> 1200	> 34	≥ 64	> 2
11		> 37		> 2.2
12		> 41		> 2.4
13		> 44		> 2.6
14		> 48		> 2.8
15		> 51		> 3
16				> 3.2
17				> 3.4
18				> 3.6
19				> 3.8
20				> 4

[399]

As for positive components *P*, they were also provided with the 2023 update, whereas animal and vegetable fats did not have their own *P* table in the years 2017-2022.

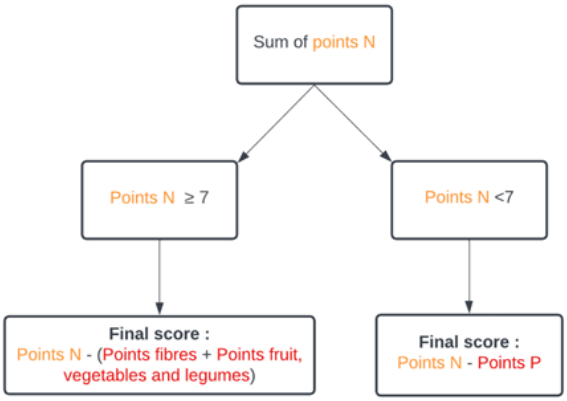
Points	Proteins (g/100g)	Fibres (g/100g)	Fruits, vegetables and legumes (%)*
0	≤ 2.4	≤ 3.0	≤ 40
1	> 2.4	> 3.0	> 40
2	> 4.8	> 4.1	> 60
3	> 7.2	> 5.2	-
4	> 9.6	> 6.3	-
5	> 12	> 7.4	> 80
6	> 14		
7	> 17		

[400]

[399] Table 7 Points attributed to each of the elements of the negative N component in the specific case of animal and vegetable fats, nuts and seeds pp. 26-27. Energy from saturates is retrieved from the mandatory back-of-pack nutritional declaration as: $Energy\ from\ saturates = Saturates\ (g/100g) \times 37$. See Santé Publique France, (2023) *Nutri-Score Questions & Answers*, cit.

[400] Table 8 Points attributed to each of the elements of the positive P component in the specific case of animal and vegetable fats, nuts and seeds p. 27. In the "animal and vegetable fats" category specifically, oils derived from ingredients included in the list of "Fruits, vegetables and legumes", in the general case, qualify to be counted in the "Fruits, vegetables, and legumes" component (e.g. olive and avocado oils can be counted in the "Fruits, vegetables and legumes" component). See Santé Publique France, (2023) *Nutri-Score Questions & Answers*, cit.

Therefore, the calculation for animal and vegetable fats can be summarized in the following diagram:



[401]

- The components for beverages were also object of modifications, as, apart from the amount of points (also brought from 0 to 10 to 0 to 20), their reference table saw the addition of a new component: presence of non-nutritive sweeteners[402].

Points	Energy (kJ/100 mL)	Sugars (g/100 mL)	Saturated fatty acids (g/100 mL)	Salt (g/100 mL)	Non-nutritive sweeteners (presence/absence)*
0	≤30	≤0.5	≤1	≤0.2	
1	≤90	≤2	>1	>0.2	
2	≤150	≤3.5	>2	>0.4	
3	≤210	≤5	>3	>0.6	
4	≤240	≤6	>4	>0.8	Presence
5	≤270	≤7	>5	>1	
6	≤300	≤8	>6	>1.2	
7	≤330	≤9	>7	>1.4	
8	≤360	≤10	>8	>1.6	
9	≤390	≤11	>9	>1.8	
10	>390	>11	>10	>2	
11				>2.2	
12				>2.4	
13				>2.6	
14				>2.8	
15				>3	
16				>3.2	
17				>3.4	
18				>3.6	
19				>3.8	
20				>4	

[403]

[401] Santé Publique France, (2023) *Nutri-Score Questions & Answers*, cit. p. 28

[402] The list of non-nutritive sweeteners included in this component is detailed in the section Appendix 3 of the document. Santé Publique France, (2023) *Nutri-Score Questions & Answers*, cit.

[403] Table 9 Points attributed to each of the elements of the negative N component in the specific case of beverages, *ivi*, p. 28

Table for positive components *P*, absent in the previous version of the algorithm:

Points	Proteins (g/100 mL)	Fibres (g/100 mL)	Fruit, vegetables and legumes (%)*
0	≤1.2	≤3	≤40
1	>1.2	>3	-
2	>1.5	>4.1	>40
3	>1.8	>5.2	-
4	>2.1	>6.3	>60
5	>2.4	>7.4	-
6	>2.7		>80
7	>3.0		

[404]

The final calculation of the nutritional score for beverages is reached by subtracting the positive *P* component from the negative *N* component: Nutritional score = total N points - total P points.

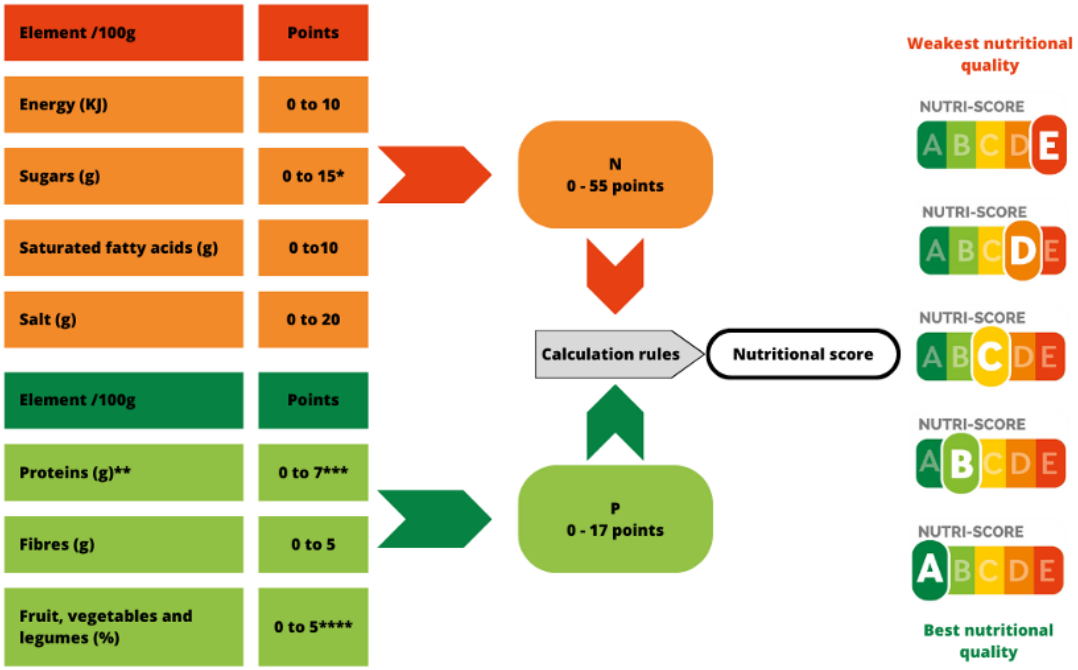
The update aimed at achieving many objectives[405], such as an improvement of the classification of fatty fish, better differentiation between high-fibre whole-grain bread and white bread[406], vegetable oils, products based on their sugar content (especially those with high sugar content), products based on their salt content, red meat compared to poultry, beverages with respect to their sugar content, consideration of the use of sweeteners in beverages to align the classification so as not to promote their consumption by the Nutri-Score, etc…

[404] Table 10 Points attributed to each of the elements of the positive P component in the specific case of beverages, *ivi*, p. 29

[405] Conrad, S. (2023) *Nutri-Score 2023: update to come at the end of the year*, Eurofins https://www.eurofins.de/food-analysis/food-news/food-testing-news/nutri-score-update/

[406] Studies demonstrated how the inclusion of whole-grain in the Nutri-score ranking system with the adequate score would improve the alignment with dietary guidelines, while better reflecting whole grain as a contributor to better quality of diet. See Kissock, K. R., et al. (2022). *Aligning nutrient profiling with dietary guidelines: modifying the Nutri-Score algorithm to include whole grains.* European journal of nutrition, 61(1), 541–553. https://doi.org/10.1007/s00394-021-02718-6 based on Scientific Committee of the Nutri-Score, Ministère de la Santé et de la Prévéntion (2021) *Update of the Nutri-Score algorithm* https://sante.gouv.fr/IMG/pdf/annual_report_2021.pdf

Below, the current scheme to apply the Nutri-Score logo after the 2023 updates.



[407]

4.1.2. Pros of the Nutri-Score

It is clear that the use Nutri-Score can reach its ultimate goal of leading customers to healthier choices is highly dependent on the fact that such category *actually* decides to rely upon the nutritional score that appears on the package when making a purchase. In the previous chapter, various studies on the impact of FOPLs on the purchase-power of products were analysed. The ultimate result showed how, considering the main FOPLs which are currently present on the market, the "coloured" systems (including Nutri-Score) made the most impact on the consumer.

During the years since its implementation, many studies have concentrated solely on the use and consequent impact of the Nutri-Score scheme on the buyer's attention and purchase. The results of some of them are actually supporting the ultimate goal of the Nutri-Score and seeing its benefits. Another part of studies, however, do not agree with the Nutri-Score algorithm and criticize it.

Some of the studies found that the Nutri-Score did have an impact, as consumers were generally favourable for Nutri-Score B and C products and unfavourable for Nutri-Score

[407] Santé Publique France, (2023) *Nutri-Score Questions & Answers*, cit. p. 30

D products[408]. It overall appears to decrease purchases in processed products resulting in higher proportions of unprocessed and unpacked foods, in line with public health recommendations[409].

The scientific evidence is pretty diverse in terms of experts that support or do not agree with the Nutri-Score method. For example, some research[410] showed that the Nutri-Score was acknowledged as the best nutrition label to help consumers correctly rank products according to their nutritional quality. It was also found to have a positive impact on populations with lower knowledge about food quality and healthy diet[411]. In fact, Talati et al.[412] conducted an experimental study across 12 countries on consumers' perceptions of five FOPLs, including the Nutri-Score, and found that it scored best on enhancing the understanding of product healthiness.

Studies that compared Nutri-Score with other forms of FOPLs stated that they all significantly improved the ability of individuals to rank products according to their nutritional quality, but with notable differences across the analysed types. Compared to the Reference Intakes, which emerged as the least effective FOPL, the Nutri-Score produced the highest improvement in ranking ability, followed by the Multiple Traffic Lights, Health Star Rating, and Warning symbol. Indeed, among the tested labels, Nutri-Score emerged as the most efficient in conveying information on the nutritional quality of foods and thus helping consumers to discriminate between products. Moreover, it appeared to be clearly understood in diverse sociocultural contexts and even outweighed potential familiarity of consumers with other labels[413].

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[408] Vandevijvere, S.; Berger, N. (2021) *The impact of shelf tags with Nutri-Score on consumer purchases: A difference-in-difference analysis of a natural experiment in supermarkets of a major retailer in Belgium*. Int. J. Behav. Nutr. Phys. Act. 18, 150. p. 11

[409] Egnell, M.; Galan, P.; Fialon, M.; Touvier, M.; Peneau, S.; Kesse-Guyot, E.; Hercberg, S.; Julia, C. (2021) *The impact of the NutriScore front-of-pack nutrition label on purchasing intentions of unprocessed and processed foods: Post-hoc analyses from three randomized controlled trials.* Int. J. Behav. Nutr. Phys. Act. 2021, 18, 38. p. 4

[410] Egnell M, Talati Z, Hercberg S, Pettigrew S, Julia C. (2018) *Objective Understanding of Front-of-Package Nutrition Labels: An International Comparative Experimental Study across 12 Countries.* Nutrients. 10(10):1542. https://doi.org/10.3390/nu10101542

[411] Julia C, Hercberg S. (2017) *Development of a new front-of-pack nutrition label in France: the five-colour Nutri-Score*. Public Health Panorama; 3: 712–25 cit.

[412] Talati Z, Egnell M, Hercberg S, Julia C, Pettigrew S. (2019) *Consumers' Perceptions of Five Front-of-Package Nutrition Labels: An Experimental Study Across 12 Countries*. Nutrients.; 11(8):1934. https://doi.org/10.3390/nu11081934

[413] Egnell, M., et al. (2018). *Objective Understanding of Front-of-Package Nutrition Labels: An International Comparative Experimental Study across 12 Countries.* cit. p. 12

So, the Nutri-Score appears to provide supplementary information to guide consumers toward foods with a better nutritional composition (with less unfavourable or more favourable elements). This FOPL is notably strongly supported by EU consumer associations who launched a petition "*pro-Nutri-Score*" [414] in order to encourage the EU Commission to change the regulation and make the label mandatory. Such advantages were also highly recognized by the public, which decided to intervene to support said petition[415].

The Nutri-Score scheme also shows high consistency with nutritional recommendations and allows consumers to understand the diversity in nutritional quality of food products to the point where it "*could help [German] consumers to discriminate nutritional quality of foods at various levels of details in foods marketed [in Germany], whilst avoiding a dichotomous thinking of foods in "healthier" and "less healthy" categories promoting the contention that foods are either "all good" or "all bad"* "[416].

High consistency with national recommendations does not imply, anyway, that the algorithm 100% complies with the national guidelines. It was shown through the analysis of the compliance of Nutri-Score and the Norwegian's Food-Based Dietary Guidelines (hereinafter, FBDGs)[417]. It is important to highlight that Nutri-Score is a tool to aid consumers in choosing single foods and the FBDGs are guidelines toward healthier diets. When applied in a Norwegian context, the updated Nutri-Score of 2022 had an overall acceptable discriminatory ability of the nutritional quality of foods within food categories. Overall, the authors assessed that the updated Nutri-Score had the ability to classify foods in accordance with the Norwegian FBDGs in most cases, since:

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[414] See BEUC – European Bureau of Consumer Association, (2019) *Factsheet on Nutri-Score* https://www.beuc.eu/sites/default/files/publications/beuc-x-2019-051_nutri-score_factsheet.pdf

[415] Dréano-Trécant L, et al. (2020) *Performance of the Front-of-Pack Nutrition Label Nutri-Score to Discriminate the Nutritional Quality of Foods Products: A Comparative Study across 8 European Countries.* Nutrients; 12(5):1303. https://doi.org/10.3390/nu12051303 p. 10

[416] Szabo de Edelenyi, F., Egnell, M., Galan, P. et al. (2019) *Ability of the Nutri-Score front-of-pack nutrition label to discriminate the nutritional quality of foods in the German food market and consistency with nutritional recommendations*. Arch Public Health 77, 28. https://doi.org/10.1186/s13690-019-0357-x

[417] Øvrebø, B et al. (2023) *How does the updated Nutri-Score discriminate and classify the nutritional quality of foods in a Norwegian setting?,* International Journal of Behavioural Nutrition and Physical Activity, 20:122 https://doi.org/10.1186/s12966-023-01525-y

- foods the Norwegian FBDGs recommend consuming more of (i.e. fruit, berries, vegetables, whole grain products and fish), were in general classified with Nutri-Score A or B;
- the updated algorithms included nutrients or components that the FBDGs directly or indirectly specify to increase or limit the intake of (such as fruit and vegetables, sugar, salt, and indirectly saturated fat through dairy products and red meat); and
- foods the Norwegian FBDGs recommend decreasing or limit intake of were mainly classified with Nutri-Score D or E (such as processed meat, red meat with a higher saturated fat and/ or salt content, crisps, chocolate/candy, and sugar-sweetened beverages)[418].

4.1.3. Criticisms

The system was also majorly criticized concerning different elements analysed in the present paragraph. The main factors of dispute are: the *interpretative* nature of the Nutri-Score symbol and the use of 100g portions, the classifications of both cheeses and olive oil according to the previous and current algorithms.

The already mentioned study about Norwegian FBDGs shows some of the discrepancies of the Nutri-Score system, which need to be observed. Examples are Nutri-Scores' inability to differentiate between *full-fat cheeses* and *cremes* and between *whole grain* and *refined pasta/rice*:

- while Nutri-Score aligns well with the Norwegian FBDGs for breads, it does not consistently differentiate between refined and whole grain pasta and rice, as well as flours, as all were classified with Nutri-Score A. Discriminating between whole and refined grain products other than bread is also important as the FBDGs expressly specify to choose whole grain over refined grain products;
- for fish, which is recommended in the Norwegian FBDGs, it was found that some fish products received Nutri-Score D or E due to their relatively high salt and energy content, (particularly fatty fish). Other studies[419] reported that 12% of the fish products with Nutri-Score C, D, or E were eligible for the Keyhole label[420];

[418] *Ivi*, p. 8

[419] Pitt S, Julin B, Øvrebø B, Wolk A. *Front-of-pack nutrition labels: comparing the Nordic Keyhole and Nutri-Score in a Swedish context*. Nutrients. 2023;15(4):873.

[420] The recommendation from the Norwegian Directorate of Health to choose Keyhole products, suggest that, for fish, the focus should be on consuming fish itself rather than solely considering the content of other unfavourable components like salt.

- the algorithm of fat for cheese, which does not differentiate between low-fat and full-fat content, considering cheeses are included under the definition of dairy products, which should be consumed several times a day. The guidelines encourage consumers to take note of the amount of fat (to be avoided) and calcium (to be encouraged)[421]. What is criticized is that both low-fat (16% fat) and full-fat (26% fat) versions of commonly consumed semi-hard cheeses received the identical Nutri-Score class D. This example illustrates the complexity of setting thresholds across food categories, as category-specific thresholds would likely better discriminate nutritional quality[422].

Other examples of inconsistencies with national dietary guidelines were noticed in Spain and in the Netherlands, especially with regard to specific food groups (cheese, beverages, ready meals, sauces, soups and seasonings). Therefore, these countries asked to adjust the scoring system. This underlines the need for considering the role and nutritional impact of the different food categories in each country, due to local eating habits and traditions[423].

Gabor, Stojnić and Ostić[424] showed in an eye-tracking experiment that participants exposed to the Nutri-Score required least visual attention to process them and subsequently gave significantly higher estimates of nutritional quality compared to experts' ones. Because the Nutri-Score demanded less visual attention than comparable FOPLs, it led to an inflated estimation of the nutrition quality of the less healthy products.

Several studies on the effect of food labels clearly show how the consumer associates the green light to the meaning of "healthy", "natural", "light", thanks to the positive vibe linked to the green colour and how this association can influence opinions on health, regardless of the nutritional information indicated on the label. Nonetheless, it must be reminded that this behaviour is not necessarily positive for the consumers and could theoretically expose them paradoxically to a higher risk. For example, research has also demonstrated that when the packaging for the same product is experimentally prepared

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[421] Grivier, M, Soustre, Y., Euromilk (2021) *Questions sur produits-laitiers & Nutri-Score and cheeses,* http://www.euromilk.org/fileadmin/user_upload/Public_Documents/EDA_Position_papers_-_Fact_Sheets/Other_Fact_Sheets/2021_02_22_CNIEL_QS71_Nutriscore__Cheeses.pdf p. 3

[422] Øvrebø, B et al. (2023) *How does the updated Nutri-Score discriminate and classify the nutritional quality of foods in a Norwegian setting?,* cit. 12

[423] Muzzioli, L.; Penzavecchia, C.; Donini, L.M.; Pinto, A. (2022) *Are Front-of-Pack Labels a Health Policy Tool?* cit. p 7

[424] Gabor, A. M., Stojnić, B., & Ostić, D. B. (2020). *Effects of different nutrition labels on visual attention and accuracy of nutritional quality perception–Results of an experimental eye-tracking study.* Food Quality and Preference, 84, Article 103948. https://doi.org/10.1016/j.foodqual.2020.103948 p. 7

with two different labels, one green and one red, consumers choose the product labelled in green and does not read the information featured on the nutritional label[425].

This behaviour has already been described for other food products, such as the so-called "light foods", whose association with alleged healthier qualities could contribute to developing obesity rather than prevent it[426].

These results suggest that consumers could benefit from education on the credibility of highly interpretive FOPLs such as the Nutri-Score to foster trust in the system, motivate consumers to make use of it and bring perceptions in line with performance. Overall, the results suggest that interpretive aids such as colour are viewed favourably by consumers but oversimplified FOPL formats risk excluding information that is desired by consumers and as a consequence being less trusted[427].

Two of the main problems of the Nutri-Score, especially criticized by the Italian government (which, in fact, decided to intervene with their own version of FOPL, the NutrInform Battery[428]) are, as discussed, the interpretative character of the scheme and its calculation based on the standardized 100g portions.

As for the first element, the reason for recent criticisms was born following the latest research in the food sector: according to some recent studies, it is anachronistic to not consider dietary needs as something else rather than *personalized*[429]. Therefore, it is necessary for every person to have knowledge of their own metabolism in order to identify food products that better fit their weight and health condition[430]. Thus, the

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[425] Schuldt JP (2013) *Does green mean healthy? Nutrition label colour affects perceptions of healthfulness.* Health Communication 28:814–821. https://doi.org/10.1080/10410236.2012.725270

[426] Carruba, M.O., Caretto, A., De Lorenzo, A. et al. (2022) *Front-of-pack (FOP) labelling systems to improve the quality of nutrition information to prevent obesity: NutrInform Battery vs Nutri-Score*. Eat Weight Disord 27, 1575–1584 (2022). https://doi.org/10.1007/s40519-021-01316-z p. 1560

[427] Talati, Z., et al. (2019). *Consumers' Perceptions of Five Front-of-Package Nutrition Labels: An Experimental Study Across 12 Countries,* cit. p. 12

[428] The image of the NutrInform battery is shown in the previous chapter, specifically with reference to the EU FOPLs and their categorization.

[429] However, it is also important to specify that interpretative FOPLs are recommended by the WHO, which states that they *"appear to be a more effective way to support consumers to choose nutritionally favourable products – it may also highlight better-for-you choices, thus providing both positive and negative evaluative judgements*". See World Health Organization, Regional Office for Europe. Kelly B. Jewell Jo (2018) Health evidence network synthesis Report 61, *What is the evidence on the policy specifications, development processes and effectiveness of existing front-of-pack food labelling policies in the WHO European Region?,* cit. p. 44

[430] Carruba M., Nisoli E. (2021) *Sistemi di Etichettatura Fronte pacco (FOP) utili per migliorare la qualità dell'informazione nutrizionale al pubblico, in un'ottica di prevenzione dell'eccesso ponderale. Nutri-Score*

interpretative nature of the Nutri-Score system does not appear to grant such possibility to each individual. Apparently, the mere interpretation and the lack of education or other information does not give the consumer the opportunity to grow nutritional knowledge or competencies, as they tend to accept the score, with an unquestioning behaviour[431].

The direct consequence of the lack of information – apart from the score – on the front of the package is that there is no further explanation of the motivation for which the negative evaluation was assigned: the purchaser will not be able to understand which *N* component was primarily responsible for the overall negative result of – for example – a D or E Nutri-Score, without having to further investigate the BOPL. This process appears to be detrimental to the whole FOPL ultimate purpose of simplification at the point of purchase[432]. Also, comparing all foods on a unique scale may be confusing and alter individual dietary patterns at the moment of acquisition of the good, in an unknown and not always healthy direction, especially if the FOPL does not give any information about portion and frequency of consumption[433].

Some of the studies directly compare Nutri-Score with its Italian substitute – NutrInform Battery –, recognizing the latter's ability to instead give consumers the possibility, once they bought their groceries, to be able to combine products according to what they have in their pantry and what they have already eaten during the day, where conversely, directive FOPLs do not give consumers this opportunity[434]. Being informational and non-directive, NutrInform clearly displays, through five pictograms with the shape of a battery, the ingredients which are contained in a standard portion of the considered food both in form of absolute amount and in percentage considering the total daily intake for an average adult person without specific dietary needs[435].

O Nutrinform Battery?, Università degli studi di Milano, Centro di ricerca e studio sull'obesità https://www.salute.gov.it/imgs/C_17_pagineAree_5509_1_file.pdf p. 5.

[431] *Ibidem*.

[432] Not only, as it also creates complications for a whole group of consumers with specific needs for "tailored diets": the person with diabetes will not be able to directly be aware of the high quantities of sugars from the front package, just like the overweight person of the amount of calories.

[433] Muzzioli, L. Penzavecchia, C.; Donini, L.M.; Pinto, A. (2022) *Are Front-of-Pack Labels a Health Policy Tool?* cit. p. 10

[434] *Ibidem*.

[435] Carruba, M.O., Caretto, A., De Lorenzo, A. et al. (2022) *Front-of-pack (FOP) labelling systems to improve the quality of nutrition information to prevent obesity: NutrInform Battery vs Nutri-Score*. cit. p. 1579

The FOPL in question aims at granting the consumer the possibility to immediately see the exact percentage of the nutrient they are taking in with the portion of food consumed compared to the maximum recommended amount by simply looking at each battery. Also, the absence of interpretation (A – good, E – bad for health, for the Nutri-Score system) focuses the consumer's attention on the nutrient content of the serving of eaten food, without prohibiting or promoting any of them in particular, but providing information on how and to what extent that food serving will affect their daily food intake, also improving their dietary knowledge[436].

Some possible limitations of the NutrInform may also be suggested and are to mention. As a matter of fact, visually, the graphics of the NutrInform Battery system could be challenging to read due to the numerous numerical references present. Additionally, it may request basic nutritional knowledge. Furthermore, such a labelling system evaluates the single portion (the weight of which can sometimes vary from one manufacturer to another), thus it would only allow a correct comparison between categories of similar products in identical quantities[437]. The Nutri-Score team also adds that the battery system is "*counter-intuitive*", due to the fact that it goes in the opposite direction compared to electrical appliances, so the healthier is the food, the less the battery is filled[438].

As for the second assessment concerning portions, Nutri-Score considers consumption for 100g for all kinds of products. Many of the criticisms concerning the scheme come from the fact that such amount does not, often, correspond to the *usual average consumption* for the good it is reported on, which could appear to be very different in quantities from the one used as basis for calculation.

In this scenario, FOPLs that show serving size and portions and/or relative nutrient amounts in relation to Dietary Reference Values (DRVs), such as Multiple Traffic Lights and the NutrInform Battery, can give the consumers an instrument to include all foods in a healthy dietary pattern. These FOPLs allow people not only to make an informed choice at the time of purchase, but also at the time of consumption at home, depending on what they have already consumed during the day or what they expect to consume; it helps them

[436] *Ibidem*.
[437] *Ivi,* p. 1580
[438] Hercberg S., Babio N., Galán P., Salas-Salvadó J., (2021) *Information on the Italian Counter Proposal to Nutri-Score: The Nutrinform Battery System*. https: //nutriscore.blog/2021/03/25/information-on-the-italian-counter-proposal-to-nutri-score-the-nutrinform-battery-system

to choose and consume foods considering their overall diet, and to develop a daily diet by "balancing" the food products of their choice. Otherwise, when at point of purchase, the risk could be that consumers could completely avoid buying some foods or some categories, reducing their food variability, or conversely, when they decide to consume a less healthy product with a hedonistic motivation, this could lead to intake ad libitum due to the lack of an indicated portion size[439].

The creators of the Nutri-Score system also designed their very own blog to explain Nutri-Score and answer the questions posed by parties of the industrial and agricultural sectors. There, it is specified that the choice to evaluate all of the food products considering the same 100g portion, independently on the quantity of average consumption, is based on the requirements imposed by the EU Regulation 1169/2011, which also comprises the elements of the nutrition declaration[440], that outlines the mandatory requirements for the BOPL (that analyses, in fact, in 100g portions for every food product). So, "*Nutri-Score doesn't invent anything, but only takes into consideration the elements of composition contained in the nutrition declaration that are relevant from a public health point of view*"[441].

At the same time, and according to the Nutri-Score team, showing the "serving size" instead of the standardized 100g size could be confusing for consumers as it could be object of various interpretations: "*the amount of food to be consumed or usually consumed by an individual on a single occasion*", or "*the quantity recommended for consumption on a single occasion as part of a qualitatively and quantitatively balanced diet*". Besides, portions could be difficult to define since they tend to vary widely according to the individual energy requirements, which depend on the person that consumes the product[442].

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[439] Carruba, M.O., Caretto, A., De Lorenzo, A. et al. (2022) *Front-of-pack (FOP) labelling systems to improve the quality of nutrition information to prevent obesity: NutrInform Battery vs Nutri-Score*. cit.

[440] The analysis of the regulation can be found in Chapter 3 of this study.

[441] Hercberg, S., Galan, P., Kesse-Guyot, E., Touvier, M., Julia, C., (2021) *Why Nutri-Score is computed on the basis of 100g of food and not per serving (as requested by manufacturers)?,* Nutri-Score Blog, https://nutriscore.blog/2021/12/02/why-nutri-score-is-computed-on-the-basis-of-100g-of-food-and-not-per-serving-as-requesteded-by-manufacturers/

[442] To be relevant, they should be therefore defined specifically for men, women, adolescents, young children, active or sedentary subjects. Therefore, it makes it difficult to calculate a universal FOP nutrition label based on the different portion sizes and displayed on the packaging.

Even so, the criticism on such matter has been frequent, especially for certain categories of products. The main one was represented by cheese. However, it was not the only concern regarding such set of products. One other product which has particularly been at the centre of attention, especially for Mediterranean countries, has been olive oil.

The problem of portions was particularly blatant for cheeses, even more than for other products, because of the fact that its average size for single consumption is less than half of 100g (usually, 30g per person). The classification of cheeses with Nutri-Score surprises the consumer by its severity, particularly when compared with other categories that they consider to be without any real nutritional value and yet better classified (crisps, peanuts or ice cream for example).

The criticism for cheeses reached a point for which, in November 2021, France's Minister of Agriculture and Food called for a review of Nutri-Score, paradoxically a system created in France, after complaints from French dairy producers who saw their products, such as Brie, Camembert and Roquefort, labelled as unhealthy. Speaking to Le Figaro, Denormandie said the system is "*not necessarily in accordance with dietary habits*", also adding it is "*absurd*"[443].

The calculated portion, however, was not the only motive of criticisms concerning cheeses as it was at the centre of discussion for the applied algorithm also. In order to analyse the negative remarks on the ranking of cheese, it is necessary to consider the previous version of the algorithm of calculation for *P* components. Namely, in the 2017 version, the maximum content of proteins that would award points to the product would be 8g per 100g of product (in this specific case, cheese). As a result, the protein and calcium amount are not actually well represented to the point that cheese is deprived of necessary *P* components that would vastly increase its ultimate score. The consequence is that, with 80% of cheeses classified as D, the Nutri-Score would not allow the consumer to make an appropriate choice in the cheese section.

According to States and producers of cheese, this evaluation did not grant the necessary amount of positive points to cheeses. That is because, on average, the amount of proteins (which also represent calcium) present in 100g of cheese is the 20%, well above the 8%

[443] Bottinelli, S. (2022) *Italian Antitrust launches investigation into Nutri-Score food labelling system,* Food Matters live https://foodmatterslive.com/article/italian-antitrust-launches-investigation-into-nutri-score-food-labelling-system/

considered according to such computation (which is accurate for about 10% of cheeses on the market). Hence, cheese producers and nutrition experts report that, as a matter of fact, the calculation of *P* components for cheese would request a wider range of proteins to be conferred in order to be a correct representation of the product, once the *P* components would be subtracted from the *Ns*[444]. The industry is therefore calling for a reassessment of the calculation of the Nutri-Score for cheeses in order to improve the projected usefulness of the logo and enable consumers to make a more informed choice.

Now, considering the current 2023 version, it must be observed that the algorithm for *P* components has been object of modifications. Specifically, as mentioned in the previous paragraph, the amount of proteins that is currently considered for 100g reaches an amount of 17%. It is clearly still below the mentioned average threshold for cheese, but it should still alter the ranking with a benefit.

Another key concern relates to the nutritional balance between foods and the overall organoleptic characteristics of the hard PDO (Protected Designation of Origin) cheeses themselves. Cheeses, according to the consortia, are penalised for their fat content. However, Nutri-Score neglects the fact that cheese provide many important nutrients, including calcium, functional fatty acids, fat soluble vitamins, and essential amino acids[445]. One of the components that was mostly found to provide unfavourable points was, nonetheless, salt[446].

Another product other than cheese that, as mentioned, was object of criticisms, especially in Mediterranean areas, for its Nutri-Score evaluation was olive oil. Products high in fat, sugar and salt, are grouped together as unhealthy, although some may have good nutritional value whilst others may have none (just as shown for cheese). Olive oil, for instance, would be labelled fairly unhealthy, and given a C score, as it is a vegetable fat,

[444] Grivier, M, Soustre, Y., Euromilk (2021) *Questions sur produits-laitiers & Nutri-Score and cheeses,* cit. p. 4, Appendix A and B

[445] Southey, F. (2021) *Parmigiano Reggiano and Grana Padano refuse traffic light labelling: "Nutri-Score undermines PDOs"*, Food Navigator EU https://www.foodnavigator.com/Article/2021/08/23/Parmigiano-Reggiano-and-Grana-Padano-refuse-traffic-light-labelling-Nutri-Score-undermines-PDOs?utm_source=copyright&utm_medium=OnSite&utm_campaign=copyright

[446] Øvrebø, B et al. (2023) *How does the updated Nutri-Score discriminate and classify the nutritional quality of foods in a Norwegian setting?, cit.* p. 10

but the scoring system would not take into accounts its health benefits, such as the proven relation with olive oil consume and the prevention of cardiovascular diseases[447].

Italy (of which position against Nutri-Score was already mentioned) claims that 85% of its traditional national produce, such as cured meats like Parma ham, cheeses like parmesan and gorgonzola, and the aforementioned olive oil, would score badly under the system, although the produce is natural and not unhealthy just because of its HFSS (High in Fat, Salt or Sugar foods) content. The Italian body Coldiretti (Confederation of Small Farmers) points out that the Mediterranean diet, seen as one of the healthiest food regimes, includes olive oil and cheese, foods that under the Nutri-Score system are deemed of low nutritional value[448].

Even though Italy criticised the model, studies still confirm that the overall result that was shown for different populations also applied to Italians: Nutri-Score also helped Italian consumers make better overall food choices among other FOPLs[449].

Spain also criticized the ranking for olive oil, together with other traditional agricultural products such as ham and cheese, even though the Spanish Government decided to implement the Nutri-Score system since 2021. Anyway, studies, according to data published by a Spanish retailer that adopted Nutri-Score and analysed the sales evolution during this period, show that with the arrival of Nutri-Score consumers have not stopped choosing olive oil as a usual product in their shopping basket and market shares for olive oils have not been negatively affected[450].

Finally, studies suggest that displaying Nutri-Score on olive oil is well accepted and understood by a large majority of participants who seemed to understand that the letter C was the best rank an added fat could get. An adapted communication highlighting the health benefits of olive oil consumption, especially the virgin olive oil varieties, may be

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[447] Fialon, M., Salas-Salvadó, J., Babio, N., Touvier, M., Hercberg, S., & Galan, P. (2021). *Is FOP Nutrition Label Nutri-Score Well Understood by Consumers When Comparing the Nutritional Quality of Added Fats, and Does It Negatively Impact the Image of Olive Oil?*. Foods (Basel, Switzerland), 10(9), 2209. https://doi.org/10.3390/foods10092209

[448] Bottinelli, S. (2022) *Italian Antitrust launches investigation into Nutri-Score food labelling system,* cit.

[449] Fialon, M.; Egnell, M.; Talati, Z.; Galan, P.; Dréano-Trécant, L.; Touvier, M.; Pettigrew, S.; Hercberg, S.; Julia, C. (2020) *Effectiveness of Different Front-of-Pack Nutrition Labels among Italian Consumers: Results from an Online Randomized Controlled Trial*. Nutrients 2020, 12, 2307. https://doi.org/10.3390/nu12082307 p. 10

[450] Eroski, (2021) *Consumer Datos: Este ha Sido el Efecto de Nutri-Score en las Ventas* https://www.consumer.es/ alimentacion/datos-nutri-score-efecto-ventas.html

necessary to reinforce this information and avoid misunderstanding among the small percentage of consumers who could have some difficulties in understanding how to use Nutri-Score[451].

4.1.4. The Antitrust cases against Nutri-Score

Apart from the criticisms, The Italian Antitrust Authority – Autorità Garante della Concorrenza e del Mercato, AGCM[452] – started investigations against various professionals operating on the Italian territory in order to ascertain that the use of Nutri-Score labels would not lead consumers into errors regarding the nature and functioning of said FOPL parameters and the advantages that the consumption of products with that label might bring. The main concern arose from the fact that consumers might misinterpret the label because of its syntheticism in terms of front-of-pack information, and additional lack of explanation of the scheme and method[453].

The Antitrust started a procedure of investigation against *Carrefour*[454], *Dukan*[455], *Pescanova*[456], *Vivil*[457], *and Weetabix and Alpen*[458]. An analysis of the first two shows the two different outcomes that were consequences of such investigations.

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[451] Fialon, M., Salas-Salvadó, J., Babio, N., Touvier, M., Hercberg, S., & Galan, P. (2021). *Is FOP Nutrition Label Nutri-Score Well Understood by Consumers When Comparing the Nutritional Quality of Added Fats, and Does It Negatively Impact the Image of Olive Oil?*. Foods (Basel, Switzerland), 10(9), 2209. https://doi.org/10.3390/foods10092209

[452] Hereinafter, "AGCM" or "Antitrust". At the time of this study, no other National Antitrust Authority of other MS have started any investigation against Nutri-Score. Also, there are no pending cases concerning the method at the ECJ.

[453] Such concerns, in fact, also find scientific validation in the studies that are analysed in the previous paragraph.

[454] Autorità Garante della Concorrenza e del Mercato, Provvedimento Nutri-Score/Carrefour n. 30240, PS12131 https://www.agcm.it/dettaglio?db=C12560D000291394&uid=21B9112520DB1F90C12588910043AA50&view=&title=-NUTRISCORE-CARREFOUR&fs=

[455] Autorità Garante della Concorrenza e del Mercato, Provvedimento Nutri-Score/Dukan, n. 30242, PS12185 https://www.agcm.it/dettaglio?db=C12560D000291394&uid=C4BCB7C264CD175AC12588BB00377E4E&view=&title=-NUTRISCORE-DUKAN&fs=

[456] Autorità Garante della Concorrenza e del Mercato, Provvedimento Nutri-Score/Pescanova, n. 30241, PS12183 https://www.agcm.it/dettaglio?db=C12560D000291394&uid=6A637F6B23D80AB7C12588910043AA53&view=&title=-NUTRISCORE-PESCANOVA&fs=

[457] Autorità Garante della Concorrenza e del Mercato, Provvedimento Nutri-Score/Vivil, n. 30317, PS12187 https://www.agcm.it/dettaglio?db=C12560D000291394&uid=DA53CD09CBCD38AAC1258948003DEE23&view=&title=PS12187-NUTRISCORE-VIVIL&fs=Pratiche%20scorrette

[458] Autorità Garante della Concorrenza e del Mercato, Provvedimento Nutri-Score/Weetabix e Alpen, n. 30243, PS12186

All of the procedures were started from the warning of ConfAgricoltura, which is the main Italian confederation for the representation of agricultural enterprises on the Italian territory[459].

In the first case, ConfAgricoltura asked the AGCM to proceed with an investigation against *Carrefour*, since they argued that the use Nutri-Score is not justified by the application of Article 35 of the FIC Regulation[460], as it does not give any additional information then the BOPL, so it is not to be considered as "supplementary" information.

Another argument is that its application could be misleading to consumers according to Article 34 TFEU[461]: specifically, studies have shown Nutri-Score's ability to lead consumers to buy more products that enter the range of "the green light"/ "A grade". This kind of rank does stand, in Nutri-Score's system and according to the creators' opinions, for the overall healthiness of the product. However – and that is the point considered misleading – it does not imply that such products will have a direct correlation with a possible lowered impact of cardio-vascular diseases or tumours.

Such belief may, however, lead the consumer to buy those products more than others, creating a discrimination, therefore requiring the need for application of Article 34 that, as previously explained in the first chapter of this study, prevents quantitative restrictions and all MEEQRs of the market to happen.

The AGCM found itself having to decide whether there were both a breach of the EU law of the TFEU – a discrimination in the marketing of products – and internal law[462].

According to ConfAgricoltura, consumers could be led to believe that, independently from their dietary necessities, the "A" or "green" product will be preferrable compared to others of the same category, therefore encouraging its consumption with no limits, since

https://www.agcm.it/dettaglio?db=C12560D000291394&uid=E4FEC12B9897DC89C12588910043AA55&view=&title=-NUTRISCORE-WEETABIX%20E%20ALPEN&fs=

[459] It acts for the development of the primary sector, and it does a capillary work all over the country with Federations and offices. See more on www.confagricoltura.it

[460] See note 278.

[461] See note 65.

[462] In this case, the application regards the Italian "Codice del Consumo" (Consumer Code). This Act is the Legislative Decree n. 206, dated 6 September 2005 which came into force on 23 October 2005. https://www.codicedelconsumo.it/ The case refers to the application of Articles 20, 21 (b) and 22 of the mentioned code.

"*green products*" do not hurt their well-being. ConfAgricoltura's allegations were also supported by the Italian Ministry for the Economic Development[463].

Carrefour answered by taking up a series of commitments in order to meet the Antitrust's necessities. For example:

- not applying the FOPL on certain kinds of products, such as PDOs or PGIs (Protected Geographical Indication), local specialities, traditional products independently from their place of production;
- create better information on the Nutri-Score for consumers, in order to explain why it is present in certain products and how it works[464];

Such commitments were considered valid by the Agency in order to prevent the possible misleading of consumers. The same outcome was also granted in the *Pescanova* and *Weetabix* cases.

An investigation which did not have the same outcome, even though it was started with the same premises, was the *Dukan* case. This case was also presented to the AGCM by ConfAgricoltura which offered analogue motivations to the ones of the previously described *Carrefour* investigation.

Dukan, just like the other enterprises, was given the possibility to answer and, hypothetically, also take on commitments that would convince the Antitrust to not impose a fine. Nonetheless, the only declaration was a memo which declared their compliance with the French Decrees and the FIC Regulation on the matter[465].

The absence of further explanations that would give consumers the possibility to prevent misunderstandings the Nutri-Score FOPL on the *Dukan* products led the AGCM to impose a fine. The same happened with the *Vivil* investigation[466].

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[463] Autorità Garante della Concorrenza e del Mercato (2022), *Bollettino settimanale n. 29/2022*, https://www.agcm.it/dotcmsdoc/bollettini/2022/29-22.pdf p. 18

[464] Autorità Garante della Concorrenza e del Mercato, Allegato al provvedimento n. 30240 Nutri-Score/Carrefour PS12131 https://www.agcm.it/dotcmsCustom/tc/2027/7/getDominoAttach?urlStr=192.168.14.10:8080/C12560D000291394/0/21B9112520DB1F90C12588910043AA50/$File/p30240_all.pdf

[465] Autorità Garante della Concorrenza e del Mercato, Provvedimento Nutri-Score/Dukan, n. 30242, PS12185, cit. para 22

[466] In terms of investigation, the *Vivil* one followed the same rules of any other one. In the same way as the *Dukan,* though, *Vivil* decided to stand by their course of action and declare that they would continue

These two end results were distinguished only by some expressed commitments to *not* use the Nutri-Score FOPL on the Italian territory. The element of separation between the two cases being the enterprise's will to change their products on the market.

4.2. The future of labelling and beyond

Independently of the highlighted negative aspects, an interesting angle to analyse after having discussed the Nutri-Score system is the way such scheme has been transformed during the years to make it even more *ready-for-use* in the everyday life of consumers. This trend stands at the exact crossroad between the necessities that were mentioned in the previous chapters of this research: making consumers more informed about their health and products they consume, therefore preventing obesity and NCDs and the growing concern of lawmakers for public health[467].

Examples of the transformation of the use of labels are mobile applications and websites that exploit the FOPLs system to make them more easily available for consumers by simply scanning the products' barcodes. A particular app that was downloaded by millions of users, which was also at the centre of attention for food and cosmetic experts and object of analysis by the Antitrust, was the *Yuka*[468] app, which will be furtherly discussed in the next paragraphs.

However, the *Yuka* app was not the only one to use the Nutri-Score method in order to create a *ready-for-use*, easily accessible label, as analogue mobile applications, and websites were also created accordingly. Some examples are:

- *Open Food Facts*[469]: which uses the Nutri-Score (along with other FOPL interpretative schemes) to communicate the level of healthiness of food products on the market. Its peculiarity is that anyone can volunteer to participate in the update of its database of products (so-called "*crowdsourcing*");
- *Fooducate*[470]: that, along with the nutrition information about food products, also gives the possibility to add meals and keep track of what to eat;

following the German law on the matter. See Autorità Garante della Concorrenza e del Mercato, Provvedimento Nutri-Score/Vivil, n. 30317, PS12187 cit. para 23

[467] Both these trends were analysed, one important event that is symptomatic of such trends is, for example, the analysed implementation of the FIC Regulation in EU.

[468] *Yuka*, official website at https://*Yuka*.io/

[469] Open Food Facts, official website at https://world.openfoodfacts.org/

[470] Fooducate, official website at https://www.fooducate.com/

- *Food check: product scanner*[471] who works in a similar way to the *Yuka* app.

The development of such applications and websites during the last decade can show how the world of labels has been changing to become more personalized, available, and clear to the average consumer at the moment of choosing which product to buy. Also, they are the direct consequence of a trend of digitalization of consumption with the development of e-commerce, mobile shopping devices and practices, and in-store digital shopping devices[472].

The advantages to the use of an application at the moment of purchase are multiple. One of them coincides to the same purpose of FOPLs: the use of an application that reads the nutrition information for the consumer and *translates* it in order to make it comprehensible is indisputable to make such information understandable for the average consumer. Another advantage can be found in the "*ready-for-use*" element, meaning that apps and websites are available for anyone, at any moment of the day, in order to clear doubts about one product or the other, which really makes them the "labels of the future".

The use of said tools also has some limitations: firstly, databases do not (yet, and they might never do) contain the information about *every* product available on the market, or even in the specific supermarket the consumer is at the moment of purchase. This implies that the information they hold is just partial, and certainly not without limits. This hinders their ability to recommend an alternative list of better products which is consistent with the assortment in the store where the consumer shops[473].

Also, it is possible that some of the information are not correct or just partial. If that happens, apps do not have the ability to calculate a complete score that really represents the product at hand, with the consequence that, if the calculation happens, it might be inaccurate[474].

Besides, databases cannot always ensure the changes to the composition of products made by manufacturers to be reported in real time. Currently, the rules defined by the GS1

[471] Food check does not have an official website to refer to.
[472] Soutjis B. (2019) *The new digital face of the consumerist mediator: the case of the 'Yuka' mobile app*, Journal of Cultural Economy, doi:10.1080/17530350.2019.1603116 p. 2
[473] *Ivi,* p. 13
[474] *Ivi,* p. 14

standardization body[475] allow manufacturers to change the recipes of their products to a certain extent without necessarily having to create a new barcode. Indeed, according to these rules, a manufacturer must only create a new barcode if the modification of the recipe leads to the creation of new packaging[476], the labelling of a new claim on it[477] or if allergens have been added or deleted from the composition of the product[478]. Therefore, a barcode could correspond to obsolete product data and thus to an obsolete score on the app. This point is all the more problematic since one of the goals of the app is to induce manufacturers to create healthier recipes[479].

A way to solve this problem would be for the databases of the apps to be directly updated by manufacturers. However, this is not likely to happen since, as stated by *Yuka*'s co-founders, a brand's propensity to transmit its data depends on the performance of its products with regard to the qualification performed by the app[480]. The use of ranking systems that rate foods as "good" or "bad", following the Nutri-Score scheme, could be seen as detrimental to the brand image, or to some of its products.

4.2.1. The *Yuka* app

Yuka is a mobile application, created in 2017, that gives the possibility to scan the barcode of food and cosmetic products, analyses their ingredients and consequently presents a score and an evaluation based on the information that the producer states on the label.

Apart from the score with numbers and colours, it also gives advice on how to substitute the products with lower scores. Particularly, considering the subject matter of this study, the research on the app will only concentrate on the food products, which partially answer to the same criteria of the Nutri-Score.

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[475] GS1 is a not-for-profit, international organization developing and maintaining its own standards for barcodes and the corresponding issue company prefixes. The organization is in charge of product coding at international level https://www.gs1.org/

[476] GS1, *New product or product change?* page on the GS1 website at https://www.gs1.org/1/gtinrules/en/decision-support/decision/1

[477] GS1. *GTIN management. 2. Declared formulation or functionality* page on the GS1 website at www.gs1.org/1/gtinrules/en/rule/263/declared-formulation-or-functionality

[478] GS1 France. Règlement UE n° 1169/2011 INCO – Questions réponses. September 2014. https://www.gs1.fr/publication/reglement-ue-ndeg11692011-questions-reponses

[479] Soutjis B. (2019) *The new digital face of the consumerist mediator: the case of the 'Yuka' mobile app*, cit. p. 14

[480] *Ibidem.*

The mission of the creators is "*improving consumer health by helping them make sense of product labels and make better choices for their health. […] through informed purchasing, consumers will be able to leverage their buying power to drive the agro-food and cosmetics industries towards improving their product's composition.*"[481].

The evaluation of food products considers three main elements:

- 60% represents the nutritional value calculated through Nutri-Score method[482]
- 30% the presence of additives[483], and
- 10% stands for the "organic dimension"[484].

The final rating is presented in a score from 1 to 100, with a colour that goes from green to red, depending on the overall evaluation.

Results show every one of the Nutri-Score "components" (both negative and positive), explaining their content and the "risk" that derives from it[485], and then calculates the overall score.

The final evaluation can either be, depending on the total:

- *Excellent* (deep green): between 100 and 75;
- *Good* (light green): between 74 and 50;
- *Poor* (orange): between 49 and 25;
- *Bad* (red): under 25[486].

Whenever a certain product is classified in one of the last two tiers, the app also gives recommendations for comparable products that are part of the first two tiers. This

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[481] *Yuka* website and app, on *What's our mission?* page at https://help.*Yuka*.io/l/en/article/k6rd7orj4t-*Yuka*-mission

[482] Considering the Nutri-Score calculates a numerical evaluation and then assigns a letter among A-E, *Yuka* has developed a Table to convert the five-letter system into a score of 100. It can be found here https://help.*Yuka*.io/l/en/article/owuc9rbhqs

[483] Benchmarks are based on the latest scientific research. We take into account the recommendations of the EFSA, and the IARC (International Agency for Research on Cancer), in addition to numerous independent studies. Every additive is assigned a risk level based on various existing studies: risk-free (green dot), limited risk (yellow dot), moderate risk (orange dot), hazardous (red dot). See https://help.*Yuka*.io/l/en/article/ijzgfvi1jq-how-are-food-products-scored

[484] This is a bonus granted to products considered organic, i.e. those with an official national or international organic label. They avoid chemical pesticides which can pose a health risk. See more on https://help.*Yuka*.io/l/en/article/whdil9afoj

[485] For example, a generic product such as mayonnaise shows negative results – such as – "too caloric" or "a bit too much sodium/fat".

[486] This information is directly found in the mobile app *Yuka*.

highlights how the policy of the app does not impose abstaining from the consumption of certain categories of foodstuffs, but rather choosing a better alternative within that same group. This also acts positively for one of the previously analysed criticisms that were opposed to the use of the Nutri-Score system, according to which the absolute use of a certain grade to represent a category of products could "demean" such category, therefore bringing the consumer to eliminate it from their diets[487]

However, the previously mentioned problems about the use of apps and websites also apply to the use of *Yuka*. For example, considering the database dimension[488], *Yuka*'s co-founders claim a scan recognition rate (i.e. scan rate allowing users to obtain a score) of 98% in *conventional* stores[489] (i.e. major retail chains), which does not comprehend *local*, smaller stores. At the same time, considering the app is now available worldwide[490], and considering *conventional* stores are not the same all over the world, it is not clear or specified in which stores it can actually be useful.

4.2.2. The Antitrust case against *Yuka*

Not unlike the whole Nutri-Score scheme, *Yuka* was also object of criticisms for its use of the mentioned FOPL and not only. The Italian Antitrust also started an investigation on the use of the *Yuka* app, in order to verify that its use would not act as deterrent for consumers to buy certain food products, based on their judgements of said items.

The case about *Yuka*[491] was presented in order to investigate whether the use of the application could breach the Italian *Codice del Consumo*[492]. Specifically, the AGCM

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[487] This point makes reference to the "criticisms" of the Nutri-Score in paragraph 4.1.3.

[488] Until 2018, in the beginning of the *Yuka* project, the app relied on the Open Food Facts database. After that, they began their own independent database. See *How was the database created?* on the *Yuka* website at https://help.*Yuka*.io/l/en/article/5a4z64amnk-how-was-the-database-created

[489] Soutjis B. (2019) *The new digital face of the consumerist mediator: the case of the 'Yuka' mobile app*, cit. p. 13

[490] *Yuka* is currently available on the App Store and Play Store in the Unites States, United Kingdom, Canada, Australia, Ireland, France, Germany, Belgium, Switzerland, Luxembourg, Spain and Italy. See *In which countries is Yuka available?* page on the *Yuka* website at https://help.*Yuka*.io/l/en/article/v7vndx8ivc-availability-countries#:~:text=*Yuka*%20is%20currently%20available%20on,%2C%20Luxembourg%2C%20Spain%20and%20Italy.

[491] Autorità Garante della Concorrenza e del Mercato, Provvedimento *Yuka* n. 30237, PS12184 https://www.agcm.it/dettaglio?db=C12560D000291394&uid=447A81A8E8F84E6EC125888A00539365&view=&title=PS12184-*YUKA*&fs=Pratiche%20scorrette At the time of this study, no other National Antitrust Authority of other MS have started any investigation against *Yuka*. Also, there are no pending cases concerning the application at the ECJ.

[492] See note 462.

wanted to make sure that the nutrition information and health claims of the app would not be misleading to the average consumer, making them believe that the alternatives proposed by the app would give more benefits in terms of healthiness of the food products. The direct consequence of such behaviour would be the alteration of the consumer's awareness of the product and their ability to choose.

The Antitrust's case did not end with a fine, as *Yuka* decided to take some commitments to answer to the Authority's observations. The observations are:

1) the fact that, even though a clear specification that the judgements do not directly concern the product, but constitute "*Yuka's opinion"* is indeed present on the app, such evaluations might change the consumer's perception of the product, suggesting a relation between the food product and health;
2) that such information could be misleading, in the sense that it could suggest consumers that product with worse judgements have fewer nutritional qualities than others;
3) the app does not give enough information on how the evaluations are made, and especially how they are converted from the Nutri-Score;
4) when talking about the "*suggested alternatives*", the criterium according to which they are shown is not clear. The risk is that the consumer will be more tempted to choose the first one which is shown on the list;
5) the app is not clear about the competent court for the matters that concern them[493].

Yuka answered with commitments to implement before the end of 2022 that would meet the necessities highlighted by the AGCM to settle every doubt that the consumers might have at the moment of using the app for their purchases, therefore avoiding every possibility of incomprehension.

Such commitments can be summed up in the overall obligation to put more detailed information on the app, about the *Yuka* method, the studies upon which it is based, and the specific calculations that were carried out concerning a specific product. Also, considering certain biologic products, add the specific that their biologic nature is validated according to the EU *agriculture biologique logo*.

[493] All of the observations were based on the possible breach of Articles from 20 to 23 and 66-bis of the Italian Consumer Code.

One of the main commitments concerns the necessity for the app to specify with more strength that the published results are just a mere opinion of the editor, and cannot be attributed to the product itself, therefore stating it is healthy or unhealthy for consume. At the same time, such declaration also must outline that each person has to interpret the result considering their own lifestyle and necessities.

Considering the last two observations of the Antitrust, *Yuka* suggested to better specify their independency from any brand or advertisement on their app and website, in order to show consumers how the "alternatives" section does not correspond to any favouritism for a product rather than the other, and clearly identified the competent jurisdiction as depending on the place of residence of the consumer who wishes to start a proceeding, also clearing up that such proceedings can only be subsequent to an attempt at mediation[494].

Said commitments were, as a matter of fact, implemented before the end of 2022. The improvement of the given information in order to grant the necessary awareness for the consumers led, thus, to avoiding the imposition of a fine by the Antitrust.

[494] Autorità Garante della Concorrenza e del Mercato, Allegato al provvedimento *Yuka* n. 30237, PS12184 https://www.agcm.it/dotcmsCustom/tc/2027/7/getDominoAttach?urlStr=192.168.14.10:8080/C12560D000291394/0/FBA2D95AA0B4325EC125888A00539364/$File/p30237_all.pdf

CONCLUSIONS

The present study has the core purpose to bring up the evolution and still standing critical issues that the EU Food legislation has concerning the use of nutrition labels throughout the territory of the Union and the achievement of a possible harmonisation.

In order to do so and get to the depiction of one of the current most popular versions of label in EU, namely Nutri-Score, analysing the way its use has been transformed to create new kinds of labels with the *Yuka* app, it was necessary to depart from the very beginning of the history of the internal market.

The various research that demonstrated the complicated relationship between consumers and the nutrition information as depicted in the BOPL[495] set the basis for the EU institutions to try and find an easier mechanism for consumers to be able to fully understand the information provided by the labels. Regulation 1169/2011 (FIC Regulation) conceded the possibility to insert simplified information on the front of packages[496] (FOPLs), expanding the application of the nutrition labelling both subjectively and objectively[497].

Even though studies show that the objectives of the FIC Regulation could, in fact, be met since FOPLs – some more than others – do tend to actually influence people's choice when making a purchase, leading them to healthier selections rather than less healthy ones[498], it is also important to recognize that the development of FOPLs in EU has been extremely heterogeneous, which creates doubts as to if harmonisation will be possible in the foreseeable future. For example, even though studies have shown that the most effective schemes for consumers are interpretative ones, some do not prefer them as "*they leave consumers with too little information*"[499].

[495] Chapter III, paragraph 3.1.1., see also COM(2008) 40 final *cit.,* Campos S, et al. (2011) *Nutrition labels on prepackaged foods: a systematic review* cit. p. 1498
[496] See note 236.
[497] Chapter III, paragraph 3.1.2.
[498] Chapter III, paragraph 3.3.2.
[499] See the Antitrust cases against Nutri-Score.

Some of the critical issues found within the analysis of the Nutri-Score scheme also create doubts about the overall system of simplification enacted by the EU institutions. For example, the whole debates about portions[500] generates some considerations.

Specifically, some scholars criticize the use of the 100g portions – which could be misleading, as some products are usually consumed in smaller sizes – while some others criticize the use of "serving sizes", since it can be object of many interpretations, "*the amount of food to be consumed or usually consumed by an individual on a single occasion*", or "*the quantity recommended for consumption on a single occasion as part of a qualitatively and quantitatively balanced diet*"[501].

Namely, according to this last vision, "serving sizes" are *subjective*, and as such, cannot be altogether represented in one single "simplified" symbol, as any consumer could have their very own dietary necessities when purchasing a series of products. This vision implies that any kind of simplification of the label cannot be *universally* correct, which means that some categories of consumers will always be forced to look for more information on the back of the label – the circumstance that wanted to be prevented by the Regulation all along.

Talking about Nutri-Score in particular, what can be confirmed from these findings is the fact that it is, for sure, a controversial theme. One part of the food-experts community liked the concept, to the point of developing it into other kinds of projects[502] while one other part, especially made of food producers, criticized both its algorithm and application[503]. Specifically, the scheme was not unquestioningly welcomed by States with traditional products that were not compatible with the higher ranks according to the previous and current algorithms, mainly States of the Mediterranean area (comprehending both Spain and France, even though they agreed to implement Nutri-Score on their markets[504]).

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[500] Chapter IV, paragraph 4.1.3.

[501] To be relevant, they should be therefore defined specifically for men, women, adolescents, young children, active or sedentary subjects. Therefore, it makes it difficult to calculate a universal FOP nutrition label based on the different portion sizes and displayed on the packaging.

[502] Namely, developing applications and websites which give Nutri-Score inspired feedback on food products.

[503] Chapter IV, paragraph 4.1.3.

[504] *Ibidem.*

Not only, as the use of Nutri-Score in certain MS was also made very difficult by the intervention of the Antitrust. The Italian AGCM, in fact, started five procedures against brands who used Nutri-Score, reported by the Italian Confederation for Agriculture, ConfAgricoltura. They were all started with the same premises, namely, the idea that the Nutri-Score did not give enough information and either explanation on its interpretation to consumers, and therefore could create discrimination among the products, causing an alteration of the market competition according to the Italian Consumer Code. After all, various studies have shown the possibility of the scheme to influence the consumer's opinion and consequent purchase[505].

However, the examination of the cases[506] shows two distinct hypotheses in the outcomes of the investigations, as some ended with a fine whilst some did not, depending on their willingness to give up the application of the Nutri-Score on their products' packages. The Antitrust recognized fines to those enterprises who decided not to eliminate the Nutri-Score. At the same time, fines were not applied to all those other investigated entities who simply proposed not to use the Nutri-Score anymore.

In this specific case, the Antitrust sees the need for simplification – which should be a means to reach awareness of the products for consumers – as the element *contrasting* such awareness. The AGCM specifically stated that the Nutri-Score could be used *if* the investigated took commitments to educate their consumers on it. *De facto*, the consequence was that the majority of the businesses which did not receive a fine, did not use the Nutri-Score anymore[507]. That reasoning seems to underline an idea that the Italian legislation is currently not – and likely will not be, considering the opposing opinions of producers and the ruling class – compatible with such scheme and therefore non-interpretative, non-directive ones should be preferred for the Italian market.

[505] Schuldt JP (2013) *Does green mean healthy? Nutrition label colour affects perceptions of healthfulness.* Health Communication 28:814–821. https://doi.org/10.1080/10410236.2012.725270 See also Chapter III, paragraph 3.3.

[506] Chapter IV, paragraph 4.1.4.

[507] The only investigated enterprise to remove Nutri-Score from *some of the products* and not all (namely the PDOs, PGIs and Italian traditional products…) was *Carrefour*. Both *Pescanova* and *Weetabix* proceeded to either remove the FOPL or stop selling selected products on the Italian Market altogether. See notes 456, 458.

At last, the balance between the need for consumer health protection – *simplification* – and the protection of the market – prevention of misleading information for consumers – saw the preference of the latter over the first.

Those who agreed with the Nutri-Score method also worked to try and develop it into something different, with the intention of making labels interpretation more accessible for consumers. That is how the *Yuka* app has been developed[508]. However, just like the scheme it is partially based on, it was also very divisive for public opinions: while it has almost 50 million downloads, its use was also criticized by some of the food producers and food law experts, to the point that the Italian Antitrust also started an investigation against *Yuka*, which ended, just like the Nutri-Score cases, *without* a fine, as long as the app also took up some commitments[509]. Mainly, the AGCM was uncertain of the use of the app, and primarily its feature that granted the proposition of "alternatives" whenever a certain product was not ranking "green".

It is to consider that, contrary to the Nutri-Score – which is well in sight on the front of the package and therefore could *unintentionally* bring the consumer to one choice and not the other – *Yuka* is something that has to be *directly chosen* by the consumer to find a "greener" alternative. That means that the overall influence is, in comparison, limited, as the consumer is already looking for advice and therefore actively searches for it[510].

Apart from the outcomes of the investigations, another common denominator of the examined Antitrust cases has been the main agent that started them – both against Nutri-Score and *Yuka* –, that is to say, the Italian AGCM. Mainly, what is interesting to analyse is the fact that no other EU Antitrust authority started any analogue analysis of the use of FOPLs on the market, how they could affect the consumers' perception of products, and how they could impact the national consumer codes, other than the *supra-national* internal market principles.

Such reasoning actually requires for the application of both the main principles stated in the *Cassis de Dijon* judgement.

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[508] Chapter IV, paragraph 4.2.1.

[509] Chapter IV, paragraph 4.2.2.

[510] Soutjis B. (2019) The new digital face of the consumerist mediator: the case of the '*Yuka*' mobile app, Journal of Cultural Economy, doi:10.1080/17530350.2019.1603116 pp. 7-8

As explained in this research, the lack of harmonisation on a subject matter in EU leaves the MS with the freedom to apply their own rules, while at the same time limiting their possibility to forbid the sale of goods that are lawfully marketed or produced in other MS, even if answering to different technical rules (*principle of mutual recognition*[511]). The existence of this principle might be the exact reason why a heterogeneous set of FOPLs has been accepted by the majority of the MS.

The reasoning of the Italian AGCM can also be object of considerations as the limitation of Nutri-Score use on the market *could* be considered as a limitation of free movement, however, bearing in mind the *mandatory requirements* principle, such action might be justified by the necessity "*to satisfy mandatory requirements relating in particular to the effectiveness of fiscal supervision, the protection of public health, the fairness of commercial transactions and the defence of the consumer*"[512].

At the same time and to this day, no similar doubts have been presented to the ECJ[513], which has had a major role in interpreting and translating the intentions of the lawmaker for the development of the internal market, stating principles that are now commonly considered as the basis of the free movement (the mentioned *Cassis de Dijon* is the perfect example). That leaves the possibilities of further consolidation of the subject still open, especially taking into account that it has a direct impact on food safety.

However, what calls for the necessity of the EU to impose a harmonised version of the FOPL is not only its impact on food safety, since it would also influence the economic interests of food producers, especially if providing EU-wide shipments, to prevent the hypothesis of having to differentiate labels depending on the State of destination[514]. Therefore, it would meet both economic interests and, at the same time, the lawmaker and population's need for comprehensible labels to provide the clearest information.

Nonetheless, the EU harmonisation power always comes hand-in-hand with the limitation of decision-making power of the MS and, as deciding for one and only FOPL to be

[511] Chapter I, paragraph 1.1.3.

[512] See note 100.

[513] The ECJ was, in fact, presented with questions concerning the interpretation of the FIC Regulation, but mostly concerning the rules for origin labelling.

[514] That is what would currently happen for the enterprises which were at the centre of the mentioned Italian Antitrust cases, if they did not decide to simply discontinue the distribution of some of their products from the Italian market.

implemented on the whole EU market will likely be more appreciated by some States more than others, it is possible that it might create contrasts of opinions among MS.

The examined studies show how the implementation of the Nutri-Score would surely conduct a good percentage of the EU population to make healthier choices at the point of purchase. Results show that, because of its intuitive nature, the use of the Nutri-Score method helps decreasing purchases in processed products (resulting in higher proportions of unprocessed and unpacked foods), enhances the understanding of healthiness of products, all the while being widely consistent with national health recommendations about food consumption[515].

At the same time, they also show how it would create problems for some economies – as the Italian one, mentioned as one of the main detractors – for those who believe that the method highly disadvantages some products over others, and for those who consider that the intuitive element of the FOPL might be misleading to consumers having little or no knowledge of nutrition information[516].

As for the foreseeability of said harmonisation, the discussed discordances from scholars and MS have brought to an unavoidable heterogeneous use of various kinds of FOPLs around the EU territory, in which every MS had a completely different approach to one another. The lack of a middle ground that could put the different members of the market in agreement is indeed an issue for the harmonisation project of the EU.

Considering the Commission's request of a report by 2019 in order to introduce a harmonised FOPL within the end of 2022 and the fact that that did not happen, it is clear that, while so much progress has been made since the first implementation of the FIC Regulation in 2014, the EU's objective for a harmonised FOPL has not yet been put into action. A proposal was also expected in 2023, however, it is uncertain when it will be tabled since it was not mentioned neither in the tentative agenda for forthcoming Commission meetings nor in the Commission work programme for 2024[517].

At the same time, the overall discordance of States, researchers and results of studies and interviews do not give much hope that, if a harmonisation is to come, it will result in the

[515] Chapter IV, paragraph 4.1.2.
[516] Chapter IV, paragraph 4.1.3.
[517] European Parliament, Katsarova I. (2024) *Proposal for a harmonised mandatory front-of-pack nutrition labelling*, Legislative train schedule https://www.europarl.europa.eu/legislative-train/theme-a-european-green-deal/file-mandatory-front-of-pack-nutrition-labelling

Nutri-Score system, independently of the evolution that it has been subject of, both on its own and combined with other systems. In conclusion, MS will have to work in order to create new FOPL simplification tools that can meet everyone's interests, also respecting their national traditional products.

Regardless of harmonisation, simplification of the package information was brought to a new level with the development of apps and websites to make the labels more comprehensible for the average consumer. This process shows how much the attention on such subject has changed and overall developed during the last decade, since the publication EU FIC Regulation.

This development demands for some reflections. Since the implementation of the FIC Regulation, in fact, information has sensibly changed and become more accessible via the internet. The idea that product information could be available for anyone at any time is for sure something that is fit for the current times. However, this study has also shown that digital labels will still have to undergo a lot of evolution to be completely coherent to the EU internal market.

As explained in chapter IV, *Yuka* still has some elements which could use some improvement. Like other online sources, it has limited information, not necessarily updated. Also, it does not consider *all* the products of the market, therefore leaving some consumers with scarce information.

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