

# Regulatory aspects of deploying food packaging elements as nudges

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*How can food packaging elements be deployed as nudges to promote healthy eating behaviour under the current legal framework?*



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**MSc Thesis Food Safety Law**

**Title:** Regulatory aspects of deploying food packaging elements as nudges. How can food packaging elements be deployed as nudges to promote healthy eating behaviour under the current legal framework?

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*When a child learns to walk  
and falls down 50 times,  
he never thinks to himself:  
“maybe this isn’t for me?”*

*- Anonymous*

## Abstract

**Aim:** The aim of this study is to find how food packaging elements can be deployed as nudges to promote healthy eating behaviour under the current legal framework.

**Method:** Information from legal texts and scientific literature has been used to achieve this aim.

**Result:** This study provides a description of possibilities for, and legal aspects relevant to, deploying food packaging elements as nudges to promote healthy eating behaviour in the European Union.

**Conclusion:** To deploy food packaging elements as nudges to promote healthy eating behaviour in the European Union, the requirements from European food law should be met. This encompasses, among others, the following:

- A product should not be presented as something it is not, as the consumer should not be misled.
- If a nutrition or health claim would be voluntarily deployed as nudge, this would need to be an authorised claim.
- Competence to regulate is required to make nudging mandatory. If the set requirement to make nudging mandatory would pose a barrier to trade, this barrier would need to be justified and proportional.

The current regulatory framework does not seem to distinguish between (voluntary) actions that do or do not intend to benefit the consumer. Whether the misleading that is inherent to nudging would be accepted, whether nudging would limit or would be supported by the European Convention on Human Rights, and whether a barrier to trade formed by mandatory nudging would be justified and proportional, would depend on the view of the consumer. Does he need protection against nudging or does he need protection in the form of nudging?

**Keywords:** nudging, food law, misleading, non-beneficial nudging, claims, competence, barrier to trade, consumer protection, legal

## List of abbreviations

CJEU	Court of Justice of the European Union
en%	Energy percent(-age)
EU	European Union
FIR (/FIC) <sup>1</sup>	Food Information to Consumers
FOP	Front-of-pack
GFL	General Food Law ( <i>Regulation (EC) No 178/2002</i> )
NVWA	Nederlandse Voedsel- en Warenautoriteit (Dutch for: Dutch Food Safety Authority)
RGV	Richtlijnen goede voeding (Dutch for: Guidelines good nutrition)
TBT Agreement	Agreement on Technical Barriers to Trade
TEU	Treaty on the European Union
TFEU	Treaty on the Functioning of the European Union
UCP	Unfair Commercial Practices (Directive) ( <i>Directive 2005/29</i> )
WHO	World Health Organisation
WTO	World Trade Organisation

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<sup>1</sup> In literature both FIR and FIC are used to refer to 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. In this thesis “FIR” is used as abbreviation.

## List of definitions

<b>Beneficial nudging</b>	Beneficial nudging aims to encourage consumption of a product
<b>Child</b>	A human person aged under 18 years. Within the definition of children there is a subdivision to “infant” (a child under the age of 12 months) and “young child” (a child aged between one and three years)
<b>Food information</b>	Information concerning a food and made available to the final consumer by means of a label, other accompanying material, or any other means including modern technology tools or verbal communication (Article 2(2) (a) of Regulation (EU) No 1169/2011)
<b>Food packaging elements</b>	The visual, textual and physical elements of the packaging of a food product.
<b>Framing</b>	The way in which problems are stated and choices are presented (Kahneman and Tversky, 1979)
<b>Healthy eating behaviour</b>	Eating behaviour, resulting in the situation where one’s energy is in energy balance, whilst products are chosen resulting in a good dietary composition
<b>Internal market</b>	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 (TFEU Article 26(2))
<b>Labelling</b>	Any words, particulars, trademarks, brand name, pictorial matter or symbol relating to a food and placed on any packaging, document, notice, label, ring or collar accompanying or referring to such food (Article 2(2)(j) of Regulation (EU) No 1169/2011)
<b>Libertarian Paternalism</b>	An approach that preserves freedom of choice but that authorizes both private and public institutions to steer people in directions that will promote their welfare (Thaler and Sunstein, 2003)
<b>(Using) Negative nudging</b>	In this thesis using “negative nudges” means: using nudges that make use of the loss averseness of people to influence behaviour. Such a nudge needs to refer to the loss of utility.
<b>Nudging</b>	<i>“A nudge is a function of (I) any attempt at influencing people’s judgment, choice or behaviour in a predictable way, that is (1) made possible because of cognitive boundaries, biases, routines, and habits in individual and social decision-making posing barriers for people to perform rationally in their own self-declared interests, and which (2) works by making use of those boundaries, biases, routines, and habits as integral parts of such attempts. Thus a nudge amongst other things works independently of: (i) forbidding or adding any rationally relevant choice options, (ii) changing incentives, whether regarded in terms of time, trouble, social sanctions, economic and so forth, or (iii) the provision of factual information and rational argumentation” (Hansen, 2016, p. 20)</i>

<b>Non-beneficial nudging</b>	Nudging aiming to discourage the consumption of a product
<b>Overweight</b>	Overweight, is together with obesity, defined as abnormal or excessive fat accumulation that may impair health. Body mass index (BMI) is an index of weight-for-height that is commonly used to classify overweight and obesity in adults. It is defined as a person's weight in kilograms divided by the square of his height in meters (kg/m <sup>2</sup> ). For adults, overweight is defined as a BMI greater or equal to 25. For children under 5 years of age overweight is defined as a weight-for-height greater than 2 standard deviations above WHO Child Growth Standards median. For children in the age category of 5-19 years overweight is defined as a BMI-for-age greater than 1 standard deviation above the WHO Growth Reference median
<b>Obesity</b>	Obesity is, together with overweight, defined as abnormal or excessive fat accumulation that may impair health. Body mass index (BMI) is an index of weight-for-height that is commonly used to classify overweight and obesity in adults. It is defined as a person's weight in kilograms divided by the square of his height in meters (kg/m <sup>2</sup> ). For adults, obesity is defined as a BMI greater or equal to 30. For children under 5 years of age obesity weight-for-height greater than 3 standard deviations above the WHO Child Growth Standards median. For children in the age category of 5-19 years obesity is defined as a BMI-for-age greater than 2 standard deviations above the WHO Growth Reference median
<b>Paternalism</b>	Interference with the liberty or autonomy of another person, against their will or consent, and is defended or motivated by a claim that it will benefit the interest, values or good of the person interfered with (Dworkin 2010).
<b>Paternalistic intervention</b>	An intervention that is selected with the goal of influencing the choices of affected parties in a way that will make those parties better off (Thaler and Sunstein, 2003, p. 175)
<b>Producer</b>	In this thesis, the term “producer” is used to indicate the food business operators or other parties involved with the labelling and/or selling of products.



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# 1. Introduction

## 1.1 Problem statement

### The problem with diet and health

Where previously people had to focus on making sure to have enough food to stay alive, present day, the balance seems to tip away from welfare, being well-fed and healthy, to being not healthy. Eurostat data indicates that in 2014 in the European Union (abbreviated by: EU) of the people aged 18 years or over, 51,6% was overweight, which percentage constituted of 35,7% that was pre-obese and 15,9% that was obese<sup>2</sup> (Eurostat, 2014). The World Health Organisation (abbreviated by: WHO) has indicated that in the EU of the people aged 25 years or over, approximately 10,3% of men and 9,6% of women have diabetes (World Health Organization (WHO), 2017). It is expected that the number of people with Type 2 Diabetes Mellitus will only increase in the future (Baan et al., 2009). In particular, it is worrisome that before only adults were diagnosed with Type 2 Diabetes Mellitus, but Type 2 Diabetes Mellitus has been diagnosed also in children since the 21<sup>st</sup> century (Blokstra and Baan, 2008). The increase in prevalence of diabetes is said by the WHO to be *“mostly due to increases in overweight and obesity, unhealthy diet and physical inactivity”* (World Health Organization (WHO), 2017). Already in 2003, the European Commission wrote that certain pathologies are probably related to dietary risk factors (European Commission, 2003). Furthermore, it has been found that dietary risk factors contribute to the worldwide burden of disease to a large extent (Lim et al., 2012). Those links between nutrition and disease are also the reason why action as for example the “European Food and Nutrition Action Plan 2015–2020” by the WHO is taken (World Health Organization (WHO), 2015).

In general, there are three explanations how diet can cause health problems. The first explanation is that too much calories are consumed over a certain period compared to the amount of calories used<sup>3</sup>. This can result in a positive energy balance. When maintained over a longer period the body will store the surplus of energy as glycogen and fat in the liver, muscles and fat cells, resulting in weight gain (Hill, 2006). Vice versa, one will lose weight when he is in a negative energy balance. The second explanation of how diet can cause health problems is because people have a suboptimal dietary composition. In that situation the “wrong” products are consumed, but this does not

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<sup>2</sup> The definitions of overweight, pre-obese and obese are calculated are related to the BMI (body mass index). BMI is calculated as the weight of a person (in kilograms) divided by the square of his height (in metres). BMI = weight (kg) / height (m<sup>2</sup>). The WHO uses the classifications for BMI: < 18.50: underweight; 18.50 – < 25.00: normal range; >=25.00: overweight; >= 30.00: obese. Eurostat uses the term “pre-obese” to indicate a person with a BMI greater or equal to 25 and less than 30.

<sup>3</sup> Calorie is a unit of energy. Commonly used synonyms of “using calories” are “burning calories” or “energy expenditure”.

necessarily lead to a positive or a negative energy balance. For example in the Netherlands, a food consumption study over the period 2007 to 2010 shows that in the Netherlands the consumption of fruit, vegetables, fish and fibre is inadequate and that the diet contains a high percentage saturated fatty acids (National Institute for Public Health and the Environment, 2011). Furthermore, more than 85% of the Dutch population consumes more salt than the recommended maximum intake (Rijksinstituut voor Volksgezondheid en Milieu (RIVM), 2012). The third explanation how diet can cause health problems is because of the metabolism. Metabolism is influenced by, inter alia, body composition, age, physical conditions as Type I Diabetes, food allergies<sup>4</sup> and intolerances<sup>5</sup>, genetics, medication among others glucocorticoids<sup>6</sup>. Note that many of the factors that can influence metabolism can also interact with energy intake and energy expenditure and could result in effects on health. Compared to the first and second explanation, man has less influence on this third explanation. The ability of a person to have influence on the metabolism is probably less compared to the ability to influence the amount or the kind of products that one consumes.

Theoretically, a human being is able to make food choices that would result in a good individual energy balance and a good composition of the diet and thereby he might be able to prevent food-related health problems. This could then be called “healthy eating behaviour”. It could be desired to get people to make better choices in order to promote their health.

### How to promote healthy eating behaviour

Healthy eating behaviour could be promoted by providing the consumer with information and to teach him what is a good choice. The underlying assumption of this approach is that eating unhealthy could be caused by lack of knowledge. Providing the consumer with information and knowledge should enable him to make healthy choices. This is also what traditional internal market law relies on (Franck and Purnhagen, 2014; Howells, 2005; Kai P Purnhagen, 2014). In addition, eating behaviour is attempted to be influenced by for example content regulation, product bans<sup>7</sup> and taxes<sup>8</sup>.

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<sup>4</sup> Food allergies are a response to the body to proteins from food (i.e. gluten, peanuts) that are seen as allergen: a defence reaction by the immune system takes place which can have severe consequences.

<sup>5</sup> Food intolerances, for instance, to lactose or histamine, is when the body is unable to metabolise certain compounds. Contrary to a food allergy, in food intolerance the immune system is not involved.

<sup>6</sup> See for instance Fujioka et al. (1987), Davidson (1979), Farooqi and O’Rahilly (2007), Tempel and Leibowitz (1994).

<sup>7</sup> For example the trans-fat ban, for more information see Resnik (2010), who suggests that *“to protect human freedom and other values, policies that significantly restrict food choices, such as bans on types of food, should be adopted only when they are supported by substantial scientific evidence, and when policies that impose fewer restrictions on freedom, such as educational campaigns and product labeling, are likely to be ineffective”*.

<sup>8</sup> Taxes often disproportionately affect people in low socio-economic classes. For more information on food taxes see for example Caraher and Cowburn (2005). For a study on socio-economic characteristics and the effect of taxation as a health policy instrument, see Smed et al. (2007).

However, this information approach does not seem to result in optimal eating behaviour, as people are still struggling with diet-related health problems (Guthrie et al., 2015). Why it is not as effective as we would like it to be, could be explained by the construal level theory. This theory describes that psychologically proximate goals are regarded to be more relevant than psychologically distant goals (Trope and Liberman, 2010). This might be an explanation why people who do know they should eat healthy end up not doing it: they are focused on the short term goal of satisfaction of for example the taste and they pay too few attention to the weight they will gain or the health problems they might experience on the long term. Also, people are subject to bounded rationality, bounded willpower and bounded self-interest (Jolls et al., 1998)<sup>9</sup>. People use System 1-thinking, which is intuitive and automatic, in many of their decisions instead of System 2-thinking, which is reflective and rational (Kahneman, 2003, 2011). Furthermore, when people make judgements under uncertainty, people are influenced by “routines”, being representativeness, availability and adjustment from an anchor (A Tversky and Kahneman, 1974, p. 1131)<sup>10</sup>. As Alemanno wrote, *“choices are not only made on the basis of the expected outcome”*(Alemanno, 2012b), and as Guthrie et al. wrote: *“even when consumers understand nutrition information, competing preferences for tastier, less expensive, or more convenient foods may lead them to make other choices”* (Guthrie et al., 2015, p. 501)<sup>11</sup>.

### Nudging?

Instead of providing the consumer with information or by teaching the consumer what is a good choice, healthy eating behaviour might be better promoted by using nudging. Nudging has been first defined by Thaler and Sunstein as:

*“Any aspect of the choice architecture that alters people’s behavior in a predictable way without forbidding any options or significantly changing their economic incentives. To count as a mere nudge, the intervention must be easy, and cheap to avoid. Nudges are not mandates. Putting the fruit at eye level counts as a nudge. Banning junk food does not”*

*- (Thaler and Sunstein, 2008, p. 6)*

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<sup>9</sup> This has been well-explained in *“A behavioural approach to law and economics”* by Jolls et al. (1998).

<sup>10</sup> Thaler and Sunstein elaborated on those routines in their book *“Nudge - Improving Decisions about Health, Wealth, and Happiness”* (2008).

<sup>11</sup> For a clear analysis on *rational choice*, see Tversky and Kahneman (1986).

A more delineated, clearer and therefore more useful definition of “nudge” has been provided by Hansen, which reads:

*“A nudge is a function of (I) any attempt at influencing people’s judgment, choice or behaviour in a predictable way, that is (1) made possible because of cognitive boundaries, biases, routines, and habits in individual and social decision-making posing barriers for people to perform rationally in their own self-declared interests, and which (2) works by making use of those boundaries, biases, routines, and habits as integral parts of such attempts. Thus a nudge amongst other things works independently of: (i) forbidding or adding any rationally relevant choice options, (ii) changing incentives, whether regarded in terms of time, trouble, social sanctions, economic and so forth, or (iii) the provision of factual information and rational argumentation”*

*- (Hansen 2016, p. 20)*

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Nudging could be effective in promoting healthy eating behaviour since it is not dependent on people making rational choices. Instead, people are nudged towards making better choices by themselves, in a predictable way. It has been suggested more often that behavioural insights should be taken into account in policymaking (Van Bavel et al., 2013). Important is that when using nudging, options are not taken away from people against their will. If options would be taken away, this could be regarded paternalistic. Something is paternalistic when it interferes with the liberty or autonomy of another person, against their will or consent, and is defended or motivated by a claim that it will benefit the interest, values or good of the person interfered with (Dworkin, 2010). A “paternalistic intervention” is defined by Thaler and Sunstein as an intervention selected *“with the goal of influencing the choices of affected parties in a way that will make those parties better off”* (Thaler and Sunstein, 2003, p. 175).

However, libertarian paternalism is, as described by Thaler and Sunstein, *“an approach that preserves freedom of choice but that authorizes both private and public institutions to steer people in directions that will promote their welfare”* (Thaler and Sunstein, 2003, p. 175). Nudging enables creation of public policies that steer citizens towards making positive decisions as individuals and for society while preserving individual choice (Alemanno, 2012a). Sunstein and Thaler write that *“nudging should be acceptable even to those who most embrace freedom of choice”*, since nudging does not take away any choice options (Thaler and Sunstein, 2008, p. 11). Therefore, nudging is in line with libertarian paternalism.

Three examples of ways how nudging could be used to promote healthy eating behaviour are (1) by deploying the buying environment, (2) by deploying the eating environment and (3) by deploying food packaging elements. Changing the order of presenting foods or changing the location or

proximity of foods can seduce, so nudge, towards healthy food choices (Bucher et al., 2016). An example of deploying the location of food items as a nudge is by placing carrots at eye-level (Thaler and Sunstein, 2008). The eating environment could be used for nudging for example by using smaller plates, smaller spoons, automatic tracking of calories, having smaller holes in the saltshaker and by presenting cookies in non-transparent jars (Wansink, 2004, 2010). Food packaging elements, the third example, are the visual, textual and physical elements of the packaging of a food product. For example, textual food packaging elements as nudges could be claims and visual food packaging elements as nudges could be logos and colours. The advantage of nudging by deploying food packaging elements is that it enables to influence behaviour both at moment of purchase and at moment of consumption. However, it is not clear yet how food packaging elements can be deployed as nudges to promote healthy eating behaviour under the current legal framework.

## 1.2 Research design

Therefore, the objective of this thesis is to find **how food packaging elements can be deployed as nudges to promote healthy eating behaviour under the current legal framework.**

In order to achieve this objective, the following research questions will be answered:

1. What are **possibilities** for deploying food packaging elements as nudges to promote healthy eating behaviour?
2. What are the **legal aspects** relevant to deploying food packaging elements as nudges to promote healthy eating behaviour?

Information from legal texts and scientific literature has been used to answer the research questions. This research will be a qualitative and explorative research. Due to the multidisciplinary scope of the topic as well as to the background of the researcher, this research will approach the issue using a combination of legal research, social sciences and natural sciences. The law and case law that will be used will be selected based on their relevance to the topic of this thesis. For reasons of feasibility, the scope of this research will be limited to European Food law.

The findings of this study could contribute to the development of the knowledge on how we can get people to make better food choices.

## 1.3 Outline

Chapter 2 will provide an answer to the first research question. In order to determine possibilities for deploying food packaging elements as nudges to promote healthy eating behaviour, in this chapter first will be explained what exactly is healthy eating behaviour and how a nudge could work towards this aim (Section 2.1). In addition, the criteria the nudge should meet are explained, as after all the

nudge should be meeting the criteria from the definition of nudging by Hansen (2016) (Section 2.2). Examples will be presented to illustrate possibilities for deploying food packaging elements as nudges to promote healthy eating behaviour (Section 2.3). Subsequently, possibilities for implementation of the nudges will be provided (Section 2.4).

Chapter 3 will provide an answer to the second research question. In this chapter, legal aspects relevant to deploying food packaging elements as nudges to promote healthy eating behaviour will be discussed (Section 3.1-3.5).

In Chapter 4, the information with regard to possibilities from Chapter 2 will be combined with the information regarding the legal aspects from Chapter 3 to provide an answer to the question how food packaging elements can be deployed as nudges to promote healthy eating behaviour under the current legal framework (Section 4.1). In addition, this chapter will discuss the strengths and limitations of this study (Section 4.2-4.3) and will provide recommendations for further research (Section 4.4).



## **2. Examples of possibilities for deploying food packaging elements as nudges**

The introduction of this thesis has described that nudging could be used to promote healthy eating behaviour. This chapter will demonstrate some examples of possibilities for deploying food packaging elements as nudges to promote healthy eating behaviour.

In order to provide relevant examples, first, in Chapter 2.1 the aim of the nudge, being promoting healthy eating behaviour, will be discussed. Subsequently, in Chapter 2.2 the criteria the nudge should meet by definition will be discussed. Chapter 2.3 will provide some examples of possibilities for deploying food packaging elements as nudges to promote healthy eating behaviour. Chapter 2.4 will discuss on implementation of the examples. This chapter will conclude with a summary on the information provided.

### **2.1 The aim: promoting healthy eating behaviour**

#### **2.1.1 What is healthy eating behaviour**

As indicated previously, healthy eating behaviour would result in the situation where one is in energy balance, whilst products are chosen resulting in a good dietary composition. In general, a good dietary composition is one that is not too high in salt, sugar and saturated fat compared to what is beneficial for health (Gezondheidsraad, 2015). Furthermore, it is important that your diet provides you with an adequate intake of nutrients.

In the Netherlands, guidelines of a healthy diet are provided by the Gezondheidsraad in the “Richtlijnen Goede Voeding” 2015 (Dutch for: Guidelines good nutrition 2015, abbreviated by: RGV). The Gezondheidsraad is the Health Council of the Netherlands. The RGV intends to prevent chronic diseases for the general adult population in the Netherlands (Gezondheidsraad, 2015). The Voedingscentrum (Dutch for: Netherlands Nutrition Centre) has translated the RGV for people in the Netherlands into the “Schijf van Vijf”, which is similar to a food pyramid or MyPlate (“Choose MyPlate,” n.d.). The Schijf van Vijf is a dietary advice which helps consumers in making healthy, safe and more sustainable food choices. The Schijf van Vijf provides specific nutritional advices which provide enough energy (expressed in the unit “calories”) and nutrients. It is advised to eat products that are in the “Schijf van Vijf” mainly and to limit consumption of products that do not belong to the “Schijf van Vijf”.

However, you cannot judge a diet by one product. A good dietary composition can also be achieved by a balance of “good products” and “bad products”. Similar, a diet composed of “good” products only could still result in a positive or negative energy balance. It is the total diet over a longer period that counts. In addition, physical activity also plays a role in a healthy lifestyle.

### 2.1.2 Where to nudge towards

However, individual products are still the “building blocks” of the diet. Therefore, in general, we would want people to decrease the consumption of “bad” products and to increase the consumption of “good” products.

Simply put, nutritional criteria could be used to classify a product as one of which consumption should be encouraged (i.e. “healthy product”) or as one of which consumption should be discouraged (i.e. “unhealthy product”) by the nudge. This is illustrated in Figure 1. If the food product does meet the nutritional criteria for healthy eating behaviour, the consumption of the product should be encouraged. If the product does not meet the nutritional criteria for healthy eating behaviour, the consumption of the product should be discouraged. If the product meets the nutritional criteria for un-healthy eating behaviour, the consumption of the product should be discouraged. If the product does not meet the nutritional criteria for un-healthy eating behaviour, the consumption of the product should be encouraged. This is all to promote healthy eating behaviour.

Appropriate nutritional criteria should be defined. The criteria could for example focus on the level of salt, sugar and saturated fat in the product<sup>12</sup>. This way, healthy eating behaviour could be promoted.

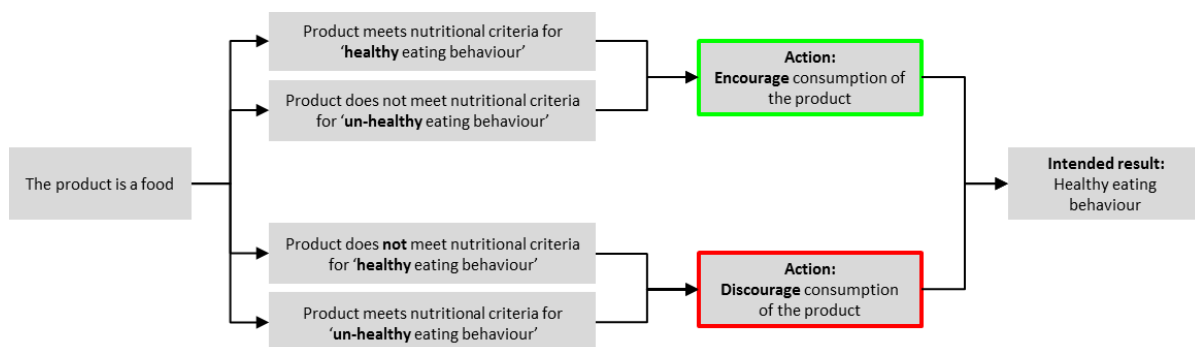


Figure 1 Schematic presentation of the categorisation of products in order to promote healthy eating behaviour.

It is important to realise that people underestimate the caloric content of products viewed as “healthy” and vice versa, they overestimate the caloric content of products viewed as “unhealthy” (Carels et al., 2006; Carels et al., 2007). It has been found that people eat more when a snack is regarded as healthy compared to when it is seen as unhealthy (Provencher et al., 2009). Therefore, it might be necessary to simultaneously discourage consumption of “bad” products and encourage consumption of “good” products. This “dual system” could help prevent that one ends up in a positive energy balance when consumption is encouraged only or vice versa, that one ends up in a negative energy balance when consumption is discouraged only.

<sup>12</sup> Defining these criteria is outside the scope of this thesis for reasons of feasibility.

## 2.2 Explanation of the criteria the nudge should meet

When providing examples of possibilities for deploying food packaging elements as nudges to promote healthy eating behaviour, it is important that those examples fall within the definition of nudging. The definition of nudging as defined by Hansen (2016) has been introduced previously.

To determine whether something is a nudge within this set definition, all six elements of the definition, being (I), (1), (2), (i), (ii), and (iii), should be fulfilled. The numbering of these elements corresponds to the numbering used in the definition of nudging by Hansen (Hansen, 2016). Figure 2 presents a decision tree that can be used to easily determine whether all elements of the definition are fulfilled.

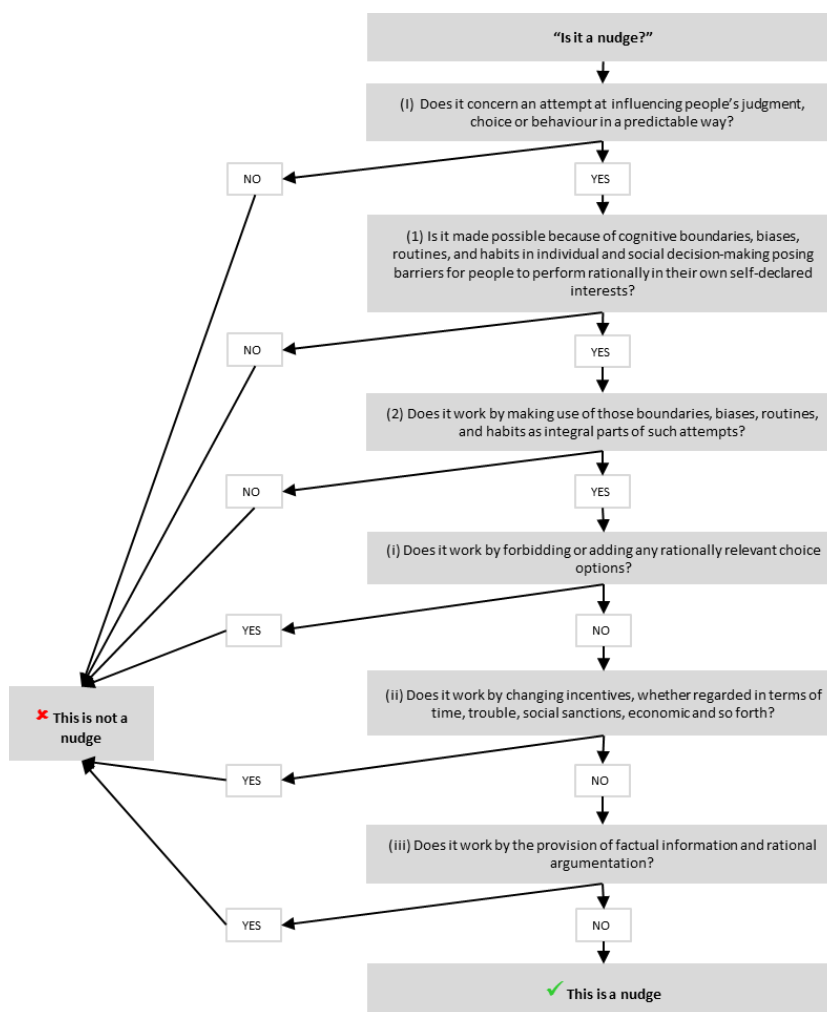


Figure 2 Decision tree illustrating the criteria of a nudge as defined by Hansen (2016). The decision tree is original work.

To use the decision tree, one starts with for example an intervention about which is the question whether it is a nudge. The first element (I) requires this intervention to *"concern an attempt at influencing people's judgment, choice or behaviour in a predicable way"*. If this is not the case, following the arrow, it does not concern a nudge. If yes, following the other arrow, subsequently

should be determined whether element (1) is fulfilled. Element (1) requires the intervention *“to be made possible because of cognitive boundaries, biases, routines, and habits in individual and social decision-making posing barriers for people to perform rationally in their own self-declared interests”*. If this is not the case, following the arrow, it does not concern a nudge. If it is the case, following the other arrow, subsequently should be determined whether element (2) is fulfilled.

Element (2) requires the intervention *“to work by making use of those boundaries, biases, routines, and habits as integral parts of such attempts”*. Similar as before, if this is not the case, following the arrow, it does not concern a nudge. If yes, following the other arrow, subsequently should be continued with element (i).

For element (i), (ii) and (iii) however the contrary holds: if the element is fulfilled, it does not concern a nudge. Only when all three questions can be answered with “no”, only then it concerns a nudge. If one of the three questions is answered with “yes”, it does not concern a nudge. Element (i) questions whether it *“does (...) work by forbidding or adding any rationally relevant choice options”*. If this question is answered positively, it does *not* concern a nudge. Important to note is that this criteria contains three elements. See Figure 3 for a graphical illustration of these criteria. The three circles illustrate the three elements of this criterion, being “forbidding or adding”, “rationally relevant” and “choice options”. If something is both “forbidding or adding”, and “rationally relevant”, and a “choice option”, it cannot be a nudge. This is illustrated by the red part of the overlapping circles.

The first is element of criterion (i) is element (i)-1, about “forbidding or adding”. A nudge does not forbid or add any rationally choice options. For example, it would not be a nudge when another type of product is added to the market. Also a product ban would not be a nudge, as that would forbid a choice option. The second is element (i)-2, about being “rationally relevant”. When a choice option is forbidden or added, however this choice option was not rationally relevant, this could still be a nudge. For example, a discount is not a nudge as rationally could be decided that it would be a better choice. The third is element (i)-3 about “choice options”.

A nudge could forbid or add something that is rationally relevant, but only when this is *not* a choice option. When one never had any choice option, adding or forbidding this rationally relevant non-choice option would still fit within the criterion set in (i) and therefore this would be a nudge. If the question *“does it forbid or add any rationally relevant choice options”* could be answered with “yes”, following the arrow, it does not concern a nudge. If this is not the case, following the other arrow, subsequently should be determined whether element (ii) is fulfilled.

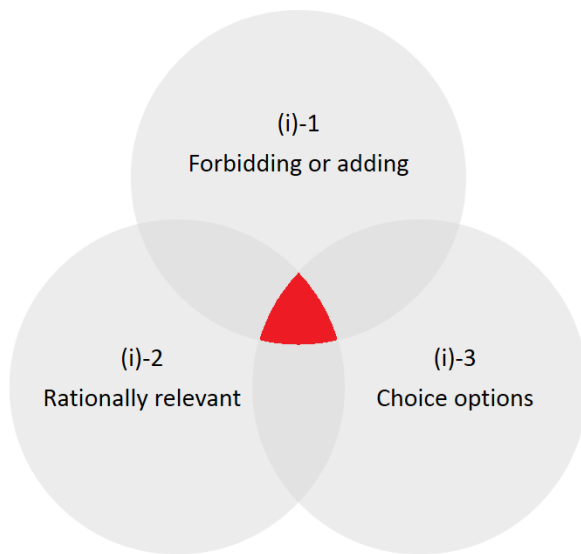


Figure 3 Graphical presentation of criterion (i) by Hansen (2016). The figure is original work.

Element (ii) questions whether it *“does (...) work by changing incentives, whether regarded in terms of time, trouble, social sanctions, economic and so forth”*. Incentives can change for example when there is a discount or tax fee on a product, when the product is less available or better accessible or when you need to increase effort to acquire the product. If this is the case, following the arrow, it does not concern a nudge. To be a nudge, no social sanctions or sanctions of other nature should be implemented since they could be changing incentives. In particular related to food packaging elements, the product should, for instance, be equally convenient to be opened in both situations with and without the nudge in place. For example, “un-openable bags” of crisps intended to demotivate consumption would not count as a nudge. Also the storage conditions and shelf-life should not differ. Since economic incentives should not be changed, it is important that the value for money of the product remains the same in the situation with and without the nudge. If this is however not the case, following the other arrow, subsequently should be determined whether element (iii) is fulfilled.

Element (iii) questions whether it *“does it work by providing factual information and rational argumentation”*. If this is the case, following the arrow, it does not concern a nudge. For example when the aim is to provide information and aim for the rational processing capacity of the consumer. If this is however not the case, following the other arrow, the final conclusion is that the final answer is that it is a nudge.

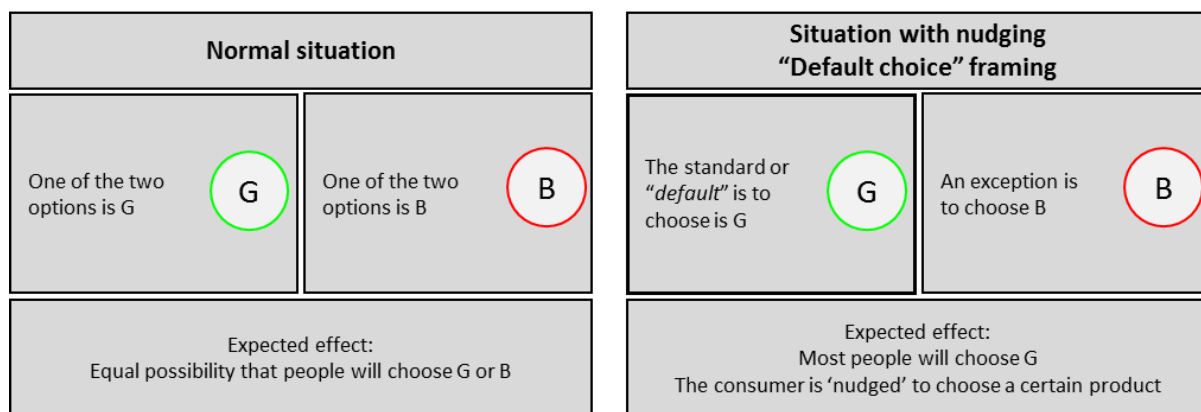
### 2.3 Examples of nudges to promote healthy eating behaviour

Below, examples of nudges will be presented, including an explanation why they do count as a nudge. The examples will be presented to illustrate possibilities for deploying food packaging elements as nudges to promote healthy eating behaviour.

All examples aim to promote healthy eating behaviour. Therefore, criterion (I) is fulfilled by definition. However, for each nudge in particular will be discussed what boundaries, biases, routines, and habits are used in order to influencing people's judgment, choice or behaviour in a predictable way, as this is required to meet the definition of nudging. The examples are original work, although the ideas are based on theories from literature.

#### Example 1: Default choice framing

A first example of a possibility to deploy food packaging elements as a nudge is by using the "default effect" or the "status quo bias", which describes that people tend to stick to the default choice that is presented or to stick to their current situations (Huh et al. 2014; Kahneman, 2003; Thaler and Sunstein, 2008). A well-known example comes from the registration system for organ donation, where switching from opt-in to an opt-out system results in higher rates of apparent agreement with donation (Johnson and Goldstein, 2004). When this would be used for nudging, this could be called "default choice framing". "Framing" is the way in which problems are stated and choices are presented (Kahneman and Tversky, 1979). By framing the healthy choice as the default choice, you could nudge people towards healthy eating behaviour. The healthy choice would then be the product meeting the nutritional criteria for healthy eating behaviour or not meeting the nutritional criteria for un-healthy eating behaviour, which would be presented as default choice. This first example is illustrated in Figure 4. Left in the figure, the normal situation illustrated. On the right side of the figure, the situation with nudging illustrated. This example could enable to nudge the consumer from products not meeting the nutritional criteria for healthy eating behaviour or meeting the nutritional criteria for un-healthy eating behaviour (B), to products meeting the nutritional criteria for healthy eating behaviour or not meeting the nutritional criteria for un-healthy eating behaviour (G).



**Figure 4** Illustration of default choice framing as example of a possibility to deploy food packaging elements as nudges to promote healthy eating behaviour.

### Example 2: Product size framing

Using the same “default effect”, also product size framing could be used to nudge towards healthy eating behaviour. If you frame a small size product as a *normal* size product, it is expected that the amount of food that is consumed can be influenced (Just and Wansink, 2014). For a product that does not meet the nutritional criteria for healthy eating behaviour or meeting the nutritional criteria for un-healthy eating behaviour, a small product size will be presented as default, so, as the “normal” option. This way, consumption of those products could be discouraged. This is illustrated in Figure 5. Left in the figure, the normal situation illustrated. Right in the figure, the situation with nudging illustrated. This example could enable to “nudge” the consumer towards *smaller sizes* of products not meeting the nutritional criteria for healthy eating behaviour or meeting the nutritional criteria for un-healthy eating behaviour (b and B).

Vice versa, consumption of healthy products could be encouraged by framing a bigger product size as “normal”. An example of this is illustrated in Figure 6. Left in the figure, the normal situation illustrated. Right in the figure, the situation with nudging illustrated. This example could enable to “nudge” the consumer towards bigger sizes of products meeting the nutritional criteria for healthy eating behaviour or not meeting the nutritional criteria for un-healthy eating behaviour (g and G).

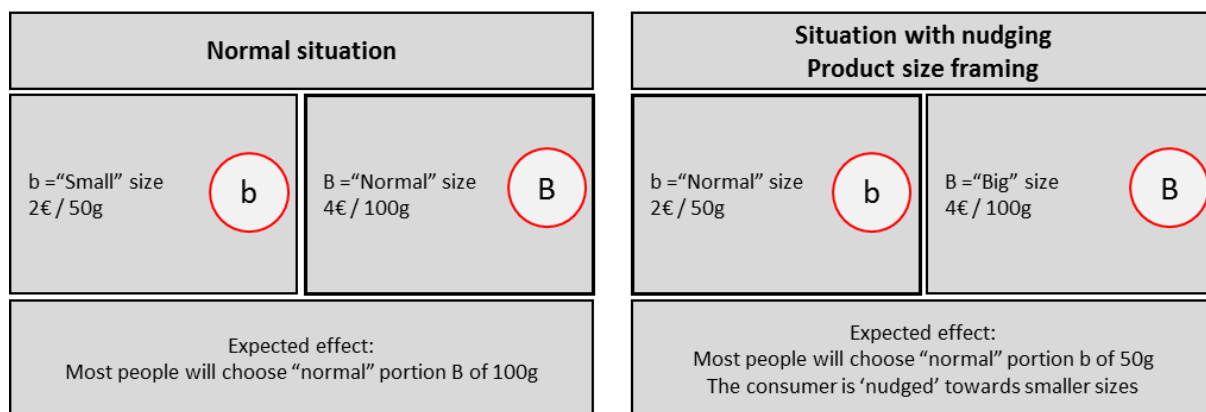


Figure 5 Illustration of product size framing as example of a possibility to deploy food packaging elements as nudges to promote healthy eating behaviour.

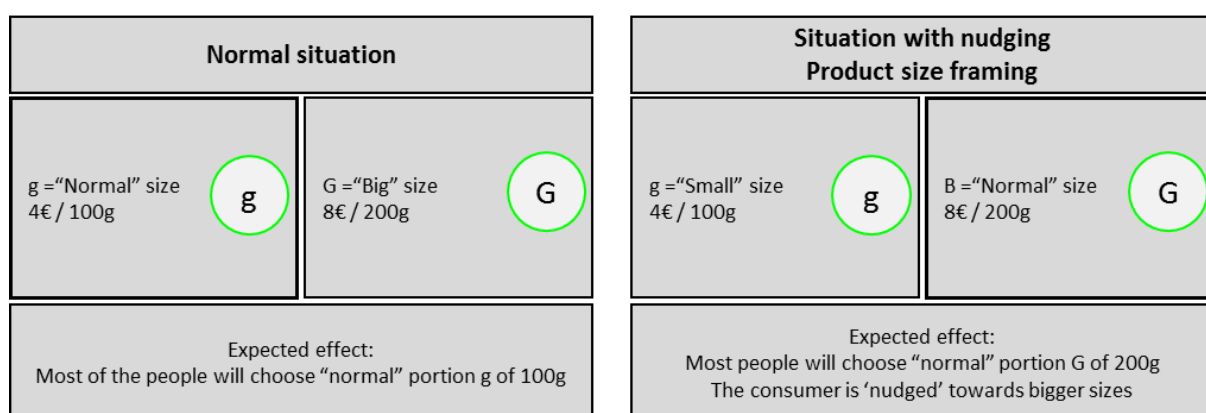


Figure 6 Illustration of product size framing as example of a possibility to deploy food packaging elements as nudges to promote healthy eating behaviour.

By using product size framing and default choice framing, no rational relevant choice option is added (criteria element (i)-2), as only the names or titles of the products are changing, so the way they are presented and therefore no choice option is added or removed. Furthermore, it is important that the value for money of the product with changed product size framing remains the same in order to count as a nudge (criterion (ii)). Also criterion (iii) is met, since the aim of presenting a product in this way, does not aim for example to inform on what product size it really concerns but instead the aim of the information provision is to nudge.

### Example 3: Addition dominated alternative

Addition of a "dominated alternative" in product size to the market is the third example of deploying food packaging elements as a nudge, and works without forbidding or adding any rationally relevant choice options (criterion (i)). This would make use of the "decoy effect" or the "asymmetric dominance effect"<sup>13</sup> to nudge the consumer towards making a healthier choice. By adding a dominated alternative to the market, it is possible to increase the chance that a certain product is

<sup>13</sup> The example of the asymmetric dominance effect is clearly illustrated in the Article by Hansen (2016).



chosen by the customer. As illustrated in Figure 7, in the normal situation, illustrated in the left side of the figure, it could be assumed that there is a 50% chance that people will choose the product meeting the nutritional criteria for healthy eating behaviour or not meeting the nutritional criteria for un-healthy eating behaviour. When the dominated alternative is added to the market, illustrated in the right side of the figure, theoretically, the chance of choosing the product is 33%, for each type of product. However, if the alternative that has been added to the market is dominated by the choice of the healthy product, for example, when it is exactly the same size of exactly the same product, only the dominated alternative has a higher price, the 33% chance to choose the dominated alternative “shifts” to the product it is dominated by. Consequently, there is a 66% chance that the consumer will choose the healthy product and only 33% chance that the product not meeting the nutritional criteria for healthy eating behaviour or meeting the nutritional criteria for un-healthy eating behaviour will be chosen. So, this example could enable to “nudge” the consumer from products not meeting the nutritional criteria for healthy eating behaviour or meeting the nutritional criteria for un-healthy eating behaviour (B), to products meeting the nutritional criteria for healthy eating behaviour or not meeting the nutritional criteria for un-healthy eating behaviour (G).

Normal situation		Situation with nudging Addition dominated alternative		
One of the two options is G G = 4€ / 100g	<b>G</b>	One of the three options is G G = 4€ / 100g	<b>G</b>	One of the three options is B B = 4€ / 100g
			<b>B</b>	One of the three options is <u>G</u> <u>G</u> = 5€ / 100g <u>G</u> is exactly the same as G, only the price differs
Expected effect: Equal possibility that people will choose G or B		Expected effect: Most people will choose G The consumer is ‘nudged’ to choose a certain product		

**Figure 7 Illustration of addition of a dominated alternative to the market, as example of a possibility to deploy food packaging elements as nudges to promote healthy eating behaviour.**

This would count as a nudge as it does not add a rationally relevant choice option, since it would not be rationally logic to choose the dominated alternative over the option that it is dominated by. Note that for example adding a smaller product size to the market at a proportionally reduced price would not be a nudge according criterion (i) of the definition of Hansen (2016), as in that case any effect would be due to rational capacities of the consumer, following from criterion element (i)-2. In addition this might change incentives as the option then would cost less. Also criterion (iii) is met since addition of a dominated alternative to the market does not provide factual information or rational argumentation.

#### Example 4 & 5: Textual elements & Visual elements

Textual and visual<sup>14</sup> elements of the food packaging could also be considered a nudge. Textual elements are for example textual claims presented on food packaging. Visual elements of the food packaging are for example logos and colours. The most important thing in this respect is that instead of aiming to provide factual information and rational argumentation, the routine “representativeness” should be used to nudge the consumer in the direction of healthy eating behaviour. Representativeness is usually employed when people are asked to judge the probability that an object or event A belongs to class or process B. In this judgement, people use their ideas, assumptions and stereotypes of B to determine whether A is similar to B (Thaler and Sunstein, 2008, p. 28; A Tversky and Kahneman, 1974, p. 1131). The probability that people classify product A to category B could be increased by increasing the similarity of A and B. If we use textual or visual elements on the food packaging of product A, those should then refer to the category B that the product belongs to. Such a category could be “healthy” or “unhealthy”. Using visual or textual elements on the packaging to point out that the product belongs to the category of healthy or “good” products could encourage the consumption of this product assuming people want to eat healthy products. Vice versa, using visual or textual element on the packaging to point out that the product does belong to the category of unhealthy products, could discourage the consumption of this product as people do not want to eat un healthy products. Figure 8 and Figure 9 display examples of these possibilities. In both figures, on the left side of the figure, the normal situation illustrated. On the right side of each figure, the situation with nudging illustrated. Both examples could enable to “nudge” the consumer from products not meeting the nutritional criteria for healthy eating behaviour or meeting the nutritional criteria for un-healthy eating behaviour (B), to products meeting the nutritional criteria for healthy eating behaviour or not meeting the nutritional criteria for un-healthy eating behaviour (G).

Because the aim is not to provide information but to steer behaviour, criterion (iii) is met. The visual or textual element should be presented on the packaging in addition to the nutritional information; it should not replace any mandatory information. Criterion (i) and (ii) are met as using visual or textual food packaging elements do not forbid or add any choice option and it is not expected that any incentives will change. Textual and visual food packaging elements form respectively the fourth and the fifth example of deploying food packaging elements as a nudge.

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<sup>14</sup> Research has shown that visual elements are remembered longer than textual elements, which is called the “picture superiority” effect, as for example studied by Hockley (2008). This could mean that visual elements as nudges are more effective than textual elements.

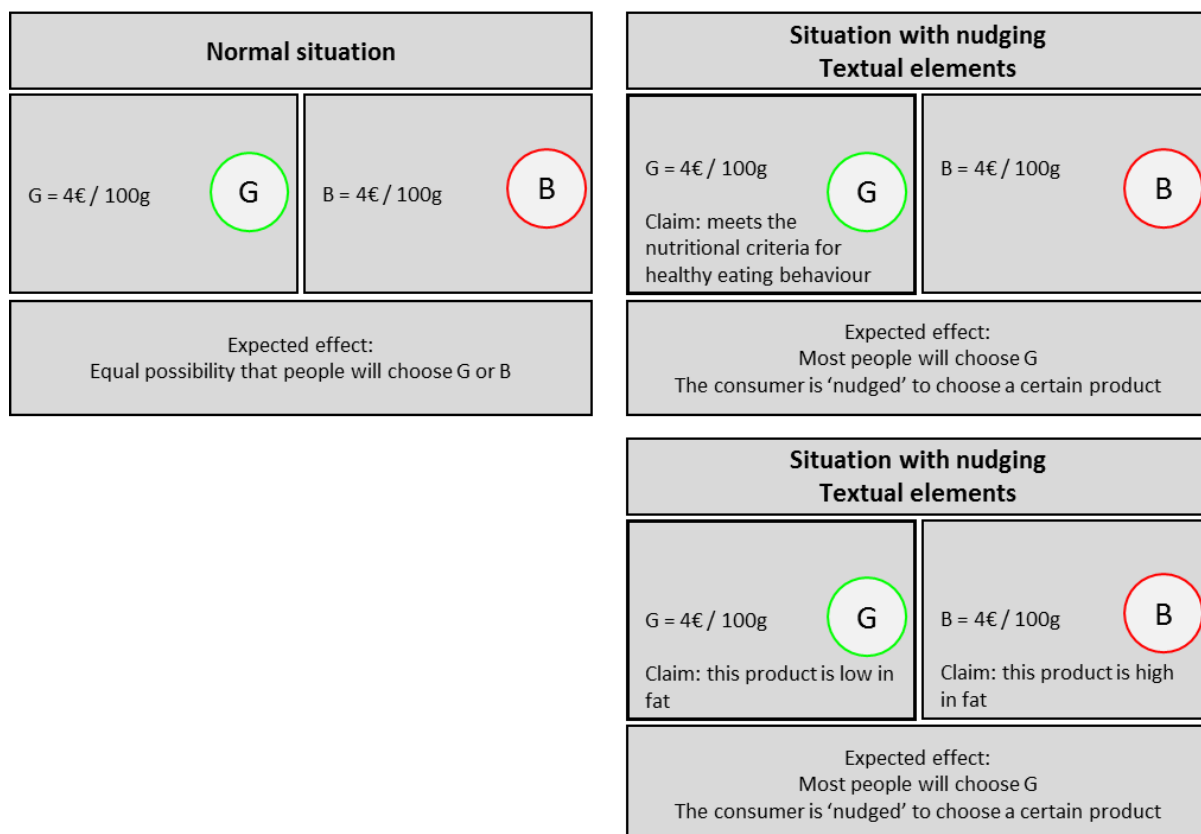


Figure 8 Illustration of using textual food packaging elements as example of a possibility to deploy food packaging elements as nudges to promote healthy eating behaviour.

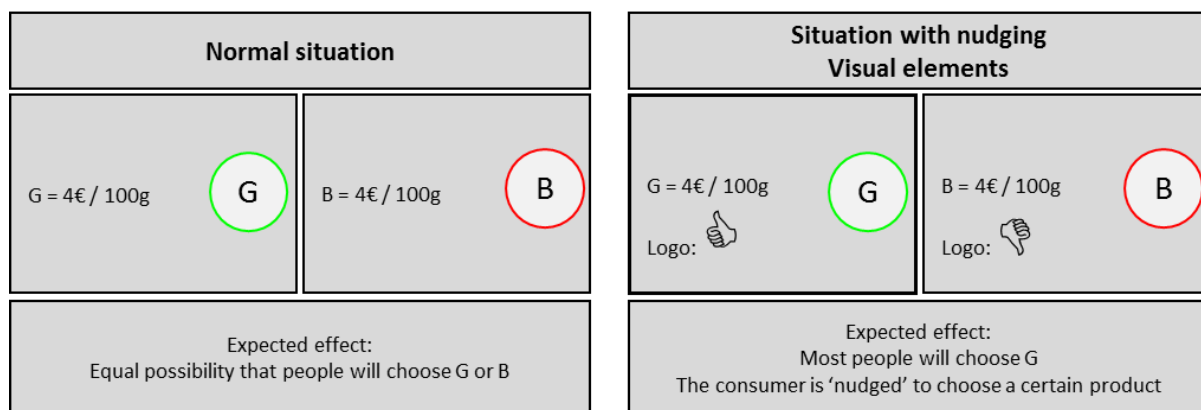


Figure 9 Illustration of using visual food packaging elements as example of a possibility to deploy food packaging elements as nudges to promote healthy eating behaviour.

### Negative nudging

Van Dam and De Jonge (2015) found that negative labelling has more effect on attitude and preference than positive labelling. By negative labelling, negative aspects of a product can be communicated. The research in which this was found was focussed on the effect of ethical quality labelling of products. To study this, the same products were used, except for the ethical labelling. This could imply that instead of promoting healthy behaviour, it is more efficient to discourage the unhealthy eating behaviour.

As previously explained, discouragement of the consumption of products can be done by for example textual and visual food packaging elements. When using textual or visual food packaging elements, it might also be effective to use “negative nudging”. The prospect theory by Kahneman and Tversky describes that people are “loss averse”. This means that people prefer to avoid losses over having gains and that low probabilities might be outweighed (Kahneman and Tversky, 1979). This is also known as the “endowment effect” which hypothesises that people value things more when they own them, resulting in feeling the loss of utility more intensely than the gain of utility. Important for “negative nudging”, is that the packaging element makes use of the loss aversion of people, meaning that it should refer to loss, since people will try to avoid this.

An example could be the following. In “normal nudging”, a logo would be placed on a product meeting the nutritional criteria for healthy eating behaviour or not meeting the nutritional criteria for un-healthy eating behaviour. This way, the logo would indicate that the product would be a good choice and would encourage consumption of the product. In “negative nudging”, the same logo would be placed on a product, but with a red cross put over it indicating that the product would not be a good choice. This logo could be placed on a product not meeting the nutritional criteria for healthy eating behaviour or meeting the nutritional criteria for un-healthy eating behaviour. The logo would link the product to for example the loss of health. In this example, the routine representativeness and the loss aversion of people are used to steer behaviour.

### *Negative nudging vs. non-beneficial nudging*

Important is to realise the difference between “negative nudging” and “non-beneficial nudging”. As illustrated in Figure 10, non-beneficial nudging aims to discourage the consumption of a product. Beneficial nudging aims to encourage consumption of a product. However, non-beneficial nudging can be done by “normal nudging”, as well as by “negative nudging”. In “normal nudging”, consumption of products can be discouraged also, for example by stating “this product is high in fat” or as displayed in Figure 10, a logo indicating that the product is “bad”. As previously explained, negative nudging makes, among others, use of the loss aversion of people. For example, you would say “this product is not low in fat” or as displayed in Figure 10, a logo indicating that the product is “not-good”, in order to refer to the loss averseness (assuming that people want low fat products), of people.

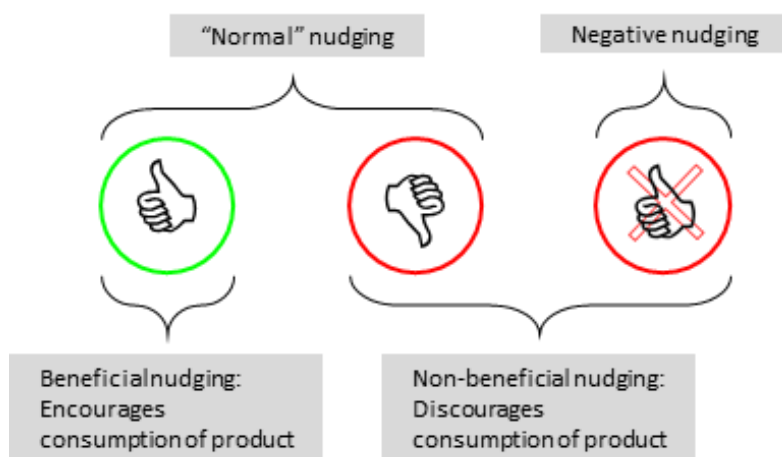


Figure 10 Illustration of categorisation of the difference between "normal" nudging, negative nudging, beneficial nudging and non-beneficial nudging, using the example of visual food packaging elements. "Normal" nudging as well as negative nudging can be used to discourage consumption of product (the so-called non-beneficial nudging). This illustration is original work

Figure 11 and Figure 12 respectively illustrate the example of using textual and visual food packaging elements as negative nudges. On the left side of each figure, the normal situation illustrated. On the right side of each figure, the situation with nudging illustrated. Those examples could enable to "nudge" the consumer from products not meeting the nutritional criteria for healthy eating behaviour or meeting the nutritional criteria for un-healthy eating behaviour (B), to products meeting the nutritional criteria for healthy eating behaviour or not meeting the nutritional criteria for un-healthy eating behaviour (G). In Figure 11, the optional claim displayed for product G is an example of "normal" and "beneficial" nudging. In Figure 12, the optional logo displayed for product G is an example of "normal" and "beneficial" nudging. In those examples it is presented as an additional option to use "normal nudging" to encourage consumption of healthy products, because "normal nudging" and "negative nudging" could be used simultaneously. As explained previously, it might be necessary to discourage consumption of "products not meeting the nutritional criteria for healthy eating behaviour" or "meeting the nutritional criteria for un-healthy eating behaviour" and simultaneously "encourage the consumption of products meeting the nutritional criteria for healthy eating behaviour" or "not meeting the nutritional criteria for un-healthy eating behaviour". This to prevent people from ending up in a positive or negative energy balance.

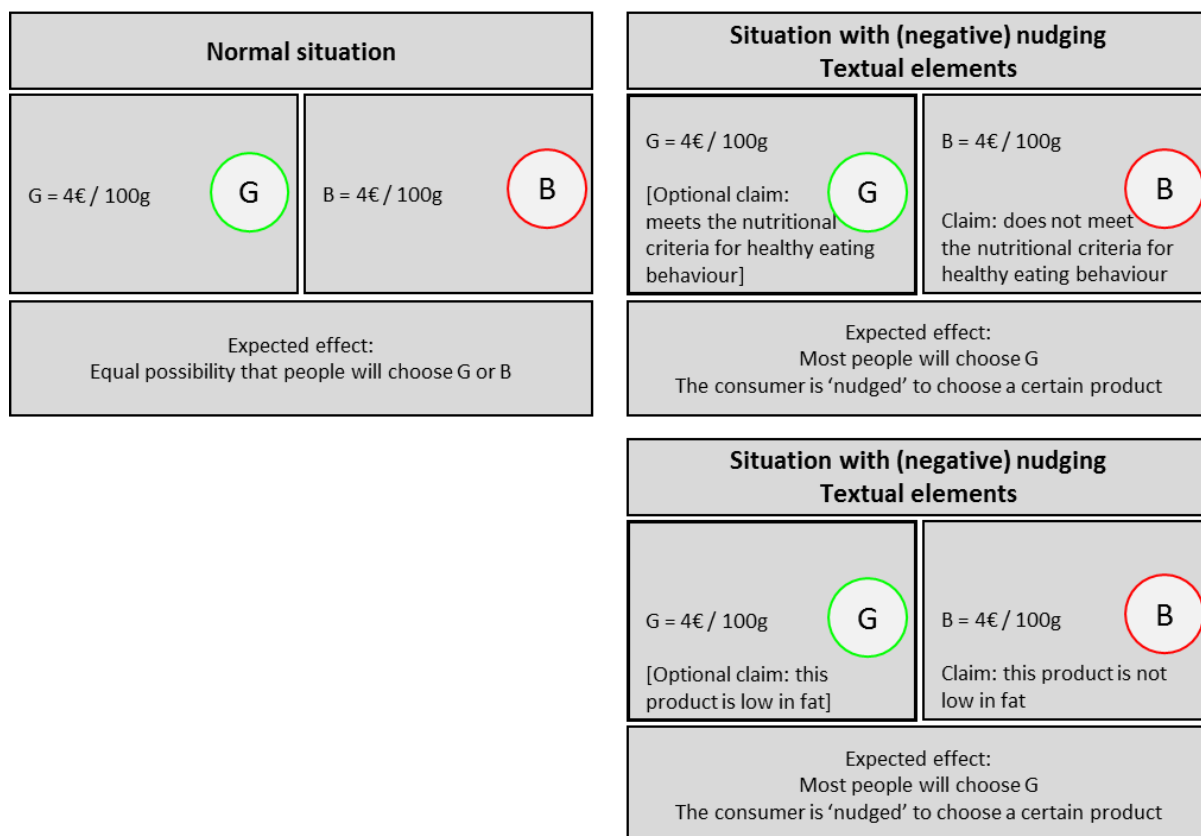


Figure 11 Illustration of using textual food packaging elements as example of a possibility to deploy food packaging elements as nudges to promote healthy eating behaviour. This example illustrates the use of negative nudging.

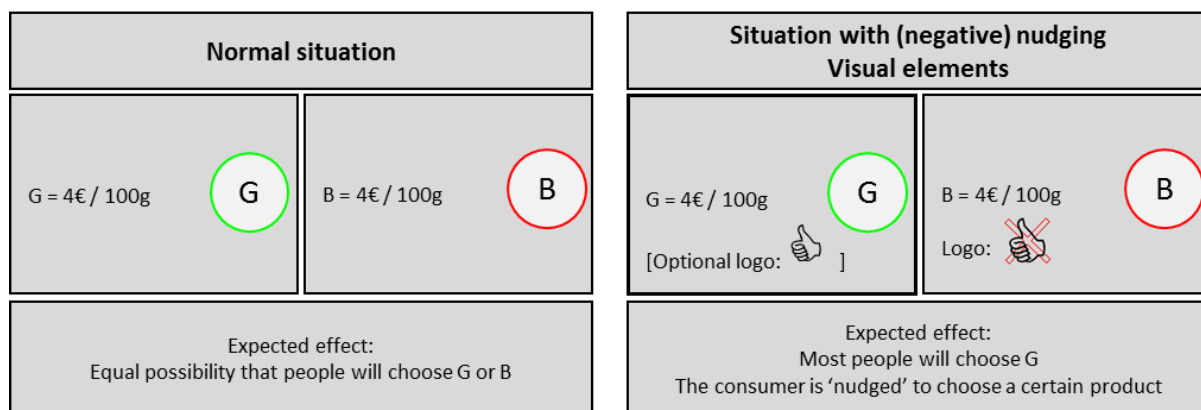


Figure 12 Illustration of using visual food packaging elements as example of a possibility to deploy food packaging elements as nudges to promote healthy eating behaviour. This example illustrates the use of negative nudging.

### Example 6: Physical design

The sixth and final example is to use the physical design as nudges to promote healthy eating behaviour. Similar like textual and visual food packaging elements, the routine representativeness is used to nudge the consumer in the direction of healthy eating behaviour. An example could be to pack ready-to-eat baby carrots for snacking in an hourglass-shaped bag. The bag would have a “waist” referring to a healthy weight. By using the hourglass-shaped bag as visual nudge, the similarity between the healthy product and being slim will be increased and if we assume that people

would like to be slim this could encourage the consumption of the product. Another example is to use a coffin-shaped pack for unhealthy food, by which the similarity between the unhealthy food and dying, although obviously this is quite an extreme example, will be increased and as we could assume that people do not want to die, this could effectively discourage consumption of the product.

Also here, similar as using textual or visual food packaging elements, the nudge works independently of forbidding or adding rationally relevant choice options, change of incentives or provision of factual information, so criteria (i), (ii) and (iii) are fulfilled. This sixth example is illustrated in Figure 13. On the left side of the figure, the normal situation illustrated. On the right side of the figure, the situation with nudging illustrated. This example could enable to “nudge” the consumer from products not meeting the nutritional criteria for healthy eating behaviour or meeting the nutritional criteria for un-healthy eating behaviour (B), to products meeting the nutritional criteria for healthy eating behaviour or not meeting the nutritional criteria for un-healthy eating behaviour (G).

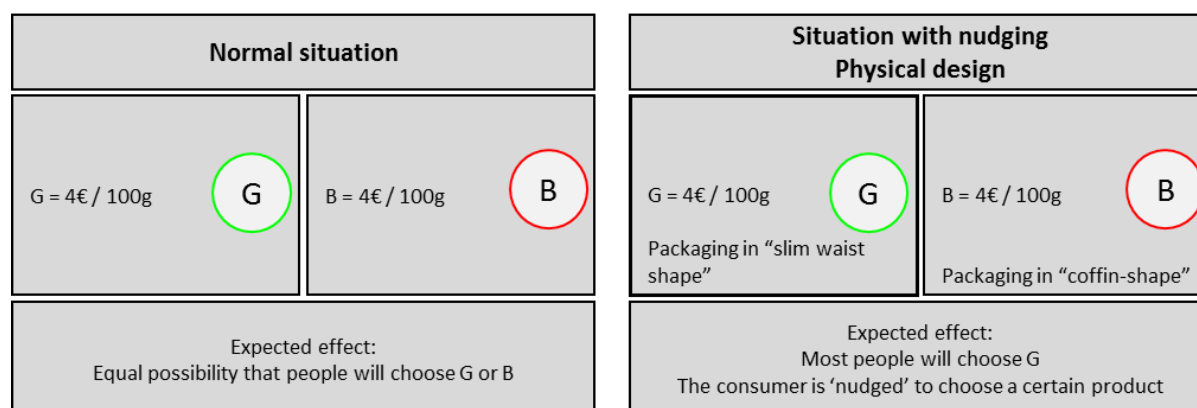


Figure 13 Illustration of using physical design as example of a possibility to deploy food packaging elements as nudges to promote healthy eating behaviour.

### Not an example: Multiple Traffic Light Labelling

An often proposed and discussed option to promote healthy eating behaviour is by the use of so-called “multiple traffic light labelling”. Multiple traffic light labelling uses the three colours of the traffic light to indicate the “healthiness” of the food for certain nutrients. The red colour indicates that there is a high amount of something that you would like to limit consumption of in the food; the amber colour indicates a medium amount; the green colour indicates that the amount is low. This is for example indicated for sugar, fat, saturated fat and salt (NHS, 2015). This way, the consumer can quickly be informed of the level of certain nutrients in a product. The system can use generally accepted criteria to judge what colour should be displayed and it can be displayed for example per 100g, 100ml or per portion (Hoogendoorn and Van den Berg, 2016). The Department of Health of the UK (2013) also poses multiple traffic light labelling as an option to reinforce the meaning of the information indicating “high”, “medium” or “low” levels of nutrients in the product that is provided

in the front-of-pack (abbreviated by: FOP) labelling system. Although this might also be a way to promote healthy eating behaviour, it does not concern a nudge.

When using multiple traffic light labelling and also when using other similar systems based on information provision, you make use of rational capacities of people. The consumer is informed of the level of certain nutrients, instead of being nudged. Although the system is semi-directive as it provides some “judgement” of the product, the consumer needs to use the provided information to decide whether he would like to consume the product or not (Hoogendoorn and Van den Berg, 2016). In fact, it works by the provision of factual information and rational argumentation. Therefore, using a multiple traffic light is not a nudge as it does not meet the criteria by Hansen (2016) and so multiple traffic light labelling is not an example of a possibility of deploying food packaging elements as a nudge. This is in contrast to “single traffic light” labelling, as can be done using visual food packaging elements as nudges where a green dot indicates that the product fits in healthy eating behaviour and the red dot indicating that it fits in unhealthy eating behaviour. As explained previously, by making use of the bias representativeness it could be possible to nudge in a certain direction.

## **2.4 Implementation of the nudges**

Producers could deploy food packaging elements as nudges on a voluntary basis. With “producers”, are meant the food business operators or other parties involved with the labelling and/or selling of products. Producers are probably willing to advertise their “healthy” products in order to increase sales. Producers nudging for benefit of the society is called “benign corporate nudging” (Alemanno, 2016)

However, non-beneficial nudges would aim to discourage consumption of certain products; within the scope of this thesis this would be the products that do not meet the nutritional criteria for healthy eating behaviour or meeting the nutritional criteria for un-healthy eating behaviour. It is expected that using non-beneficial nudges will not benefit sales of the “unhealthy” product or it will even lead to lower sales and related revenues of this product. It is therefore not likely that the manufacturer will voluntarily use non-beneficial nudges since the probable consequences for sales are contrary to corporate interests.

This is also stated to occur in the implementation of a multiple traffic light labelling. Mainly products of which sales would benefit from participating in the system are found to bear the multiple traffic light labelling (Askew, 2017). If products are presented as not-good, producers will probably not be willing to join in such a system (Culliney, 2013).



In order to achieve implementation of the nudges, including using the non-beneficial nudges, making it mandatory to (deploy food packaging elements to) use (also non-beneficial) nudges to promote healthy eating behaviour would be required<sup>15</sup>.

## 2.5 Summary chapter 2

Nutritional criteria should classify products as one of which consumption should be discouraged or as one of which consumption should be encouraged. Deploying food packaging elements as nudges should then aim for encouragement of consumption of products meeting the nutritional criteria for healthy eating behaviour or not meeting the nutritional criteria for un-healthy eating behaviour or for discouragement of consumption of products not meeting the nutritional criteria for healthy eating behaviour or meeting the nutritional criteria for un-healthy eating behaviour.

This chapter has presented six examples of nudges to illustrate possibilities for deploying food packaging elements as nudges to promote healthy eating behaviour. All examples fall within the definition of nudging, as formulated by Hansen (2016), which is explained in this chapter.

The examples presented in this chapter to illustrate possibilities for deploying food packaging elements as nudges to promote healthy eating behaviour are (1) default choice framing; (2) product size framing; (3) the addition dominated alternative to the market; (4) placing textual elements on the food packaging, for example claims; (5) placing visual elements on the food packaging, for example logos and colours; and (6) by using the physical design of the food packaging. With regard to placing textual and visual elements on the food packaging, using “normal”, as well as “negative” nudging are explained. For all examples, beneficial as well as non-beneficial nudging is possible. “Non-beneficial nudging”, that aims to discourage consumption of certain products, could be done by “normal” nudging, but it might be more effective to use “negative nudging” to discourage consumption. Deploying food packaging elements for nudges to promote healthy eating behaviour could be done on a voluntary basis. However, it might be required to make it mandatory as otherwise non-beneficial nudging might not be used as this is contrary to corporate interests.

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<sup>15</sup> Please note that it would be mandatory for the producer (the “nudger”) to use a nudge; the nudge itself requires to maintain the opt-out possibility for the consumer (the one that is nudged).

### 3. Legal aspects of deploying food packaging elements as nudges

The previous chapter has described possibilities for deploying food packaging elements as nudges to promote healthy eating behaviour. The current chapter will elaborate on the legal aspects relevant to deploying food packaging elements as nudges to promote healthy eating behaviour.<sup>16</sup>

In general, the legal requirements are relatively straightforward: food packaging elements and communication of food products should be compliant to the requirements from food law. Among others, those are laid down in Regulation 178/2002<sup>17</sup>, also known as the “General Food Law” (abbreviated by: GFL), Regulation 1169/2011<sup>18</sup>, also called the “Food information Regulation (abbreviated by: FIR), and Regulation 1924/2006<sup>19</sup> on nutrition and health claims made on food. In case of comparative advertising, this needs to be compliant to the requirements from Directive 2006/114 concerning misleading and comparative advertising<sup>20</sup>. Also, the national requirements that apply in a Member State should be taken into account.

However, there are also some more complex regulatory aspects of deploying food packaging elements as nudges to promote healthy eating behaviour. This chapter will elaborate on some of those, being: (3.1) the misleading of the consumer; (3.2) claims, including a discussion on the regulation of non-beneficial claims; (3.3) the competence to make it mandatory; (3.4) barriers to trade; and lastly, (3.5) impeding rights. This chapter will conclude with a summary on the information provided.

In this chapter, some words are bolded. This in order to emphasize certain parts of the text to facilitate interpretation.

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<sup>16</sup> Few literature with regard to the legal aspects relevant to deploying food packaging elements as nudges in the EU, and even less when assessed in relation to promotion of healthy eating behaviour, could be found. For literature more generally related to nudging and its legal aspects, see for example Alemanno and Spina (2014); Alemanno and Sibony (2015); Van Aaken (2015); Mathis and Tor (2016).

<sup>17</sup> Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 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; *OJ L 31, 1.2.2002, p. 1–24*

<sup>18</sup> 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; *OJ L 304, 22.11.2011, p. 18–63*

<sup>19</sup> 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, 30.12.2006, p. 9–25*

<sup>20</sup> Directive (EC) 2006/114 of the European Parliament and of the Council of 12 December 2006 concerning misleading and comparative advertising; *OJ L 376, 27.12.2006, p. 21–27*

### 3.1 Misleading

As explained previously, by nudging choices are steered. The aim of nudging as described in this thesis is to promote healthy eating behaviour. Hopefully, consumers make better food choices with the use of a nudge compared to the situation in which the nudge would not be present. This section is applicable to all provided examples of deploying food packaging elements as nudges to promote healthy eating behaviour.

Important in this respect is that from food law follows that it is prohibited to mislead the consumer. Below, first the relevant provisions from EU law will be provided, after which there will be discussed when and how nudging could mislead the consumer and how this might be avoided.

#### 3.1.1 Misleading: the relevant legal EU provisions

##### *General Food Law*

GFL Article 8 writes that *“Food law shall aim at the protection of the interests of consumers and shall provide a basis for consumers to make **informed choices** in relation to the foods they consume. It shall aim at the prevention of (a) fraudulent or deceptive practices; (...) and (c) any other practices which may mislead the consumer”*. GFL Article 16 writes that *“Without prejudice to more specific provisions of food law, the labelling, advertising and presentation of food or feed, including their shape, appearance or **packaging**, the packaging materials used, the manner in which they are arranged and the setting in which they are displayed, and the information which is made available about them through whatever medium, shall not **mislead** consumers”*. So, according to Article 16 GFL, food packaging elements do fall in the category of things that can mislead the consumer.

##### *Unfair Commercial Practices Directive*

Directive 2005/29<sup>21</sup> Unfair Commercial Practices Directive (abbreviated by: UCP), specifically prohibits unfair commercial practices (Article 5(1) UCP). It defines that misleading is an unfair commercial practice (Article 5(2) UCP).

Article 5 (2) UCP: *“A commercial practice shall be **unfair** if: (...) (b) it materially distorts or is likely to materially distort the economic behaviour with regard to the product of the **average consumer** whom it reaches or to whom it is addressed, or of the average member of the group when a commercial practice is directed to a particular group of consumers.”*

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<sup>21</sup> Directive (EC) 2005/29 of the European Parliament and of the Council of 11 May 2005 concerning unfair business-to-consumer commercial practices in the internal market and amending Council Directive 84/450/EEC, Directives 97/7/EC, 98/27/EC and 2002/65/EC of the European Parliament and of the Council and Regulation (EC) No 2006/2004 of the European Parliament and of the Council (‘Unfair Commercial Practices Directive’); *OJ L 149, 11.6.2005, p. 22–39*

Article 2(e) UCP defines “to materially distort the economic behaviour of consumers” as “using a commercial practice to appreciably impair the consumer’s ability to make an **informed decision**, thereby causing the consumer to take a transactional decision that he would not have taken otherwise”.

According to Article 6(1) UCP: “1. A commercial practice shall be regarded as **misleading** if it contains false information and is therefore **untruthful** or in any way, including overall **presentation**, **deceives** or is likely to deceive the average consumer, even if the information is factually correct, in relation to (...), and in either case causes or is likely to cause him to take a transactional decision that he would not have taken otherwise:” (...) “(b) the main **characteristics** of the product, such as its availability, benefits, risks, execution, composition, accessories, after-sale customer assistance and complaint handling, method and date of manufacture or provision, delivery, fitness for purpose, usage, quantity, specification, geographical or commercial origin or the results to be expected from its use, or the results and material features of tests or checks carried out on the product;(...)”.

Furthermore important is that Article 3(3) UCP indicates that the UCP “is without prejudice to Community or national rules relating to the health and safety aspects of products”.

#### Case law “average consumer”

Fairness and impact of the commercial practice is assessed from the perspective of the **average consumer** who is **reasonably well-informed and reasonably observant and circumspect**, taking into account social, cultural and linguistic factors. This average consumer benchmark has been defined by the Court of Justice of the European Union (abbreviated by: CJEU) in case Gut Springenheide<sup>22</sup>. The CJEU assumes a strong, rational consumer, who is able to protect himself when provided with essentially true information<sup>23</sup>. In recital 18 UCP is written: “The average consumer test is not a statistical test. National courts and authorities will have to exercise their own faculty of judgement, having regard to the case-law of the Court of Justice, to determine the typical reaction of the average consumer in a given case”. Furthermore, from case law follows that a final analysis concerning misleading of the consumer could be done by a consumer survey to determine whether the practice

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<sup>22</sup> Case C-210/96 Gut Springenheide GmbH and Rudolf Tusky v Oberkreisdirektio des Kreises Steinfurt – Amt für Lebensmittelüberwachung (Gut Springenheide) Reference for a preliminary ruling: Bundesverwaltungsgericht - Germany. Marketing standards for eggs - Promotional descriptions or statements liable to mislead the purchaser - Reference consumer [1998] ECR I-04657, paragraph 31

<sup>23</sup> Case C-315/92 - Verband Sozialer Wettbewerb v Clinique Laboratories and Estée Lauder (Clinique) Reference for a preliminary ruling: Landgericht Berlin - Germany. Free movement of goods - Name of a cosmetic product liable to mislead consumers [1994] ECR I-00317

is misleading to the consumer or not<sup>24</sup>. As also described by Schebesta and Purnhagen (2016), in Teekanne<sup>25</sup>, the CJEU uses a more realistic consumer perspective. From Teekanne<sup>26</sup> follows that all packaging elements should be considered in determining whether the consumer is misled or not.

### *Food Information Regulation 1169/2011*

Article 7 of Regulation 1169/2011<sup>27</sup>, also called the “Food information Regulation” (abbreviated by: FIR) lists information on “fair information practices”. It states: *“1. Food information shall not be misleading, particularly: (a) as to the characteristics of the food and, in particular, as to its nature, identity, properties, composition, quantity, durability, country of origin or place of provenance, method of manufacture or production; (b) by attributing to the food effects or properties which it does not possess; (c) by suggesting that the food possesses special characteristics when in fact all similar foods possess such characteristics, in particular by specifically emphasising the presence or absence of certain ingredients and/or nutrients; (d)(...). 2. Food information shall be accurate, clear and easy to understand for the consumer. 3. (...) food information shall not attribute to any food the property of preventing, treating or curing a human disease, nor refer to such properties. 4. Paragraphs 1, 2 and 3 shall also apply to: (a) advertising; (b) the presentation of foods, in particular their shape, appearance or packaging, the packaging materials used, the way in which they are arranged and the setting in which they are displayed”.*

From FIR follows that when food information on the energy value and the amount of nutrients is provided in addition to the mandatory forms, this should be, among others, *“based on sound and scientifically valid consumer research and do not mislead the consumer”* (Article 35(1)(a)).

According to Article 36 FIC, when food information is provided on a voluntary basis *“(a) it shall not **mislead** the consumer; (b) it shall not be ambiguous or **confusing** for the consumer; (c) it shall, where*

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<sup>24</sup> Case C-315/92 - Verband Sozialer Wettbewerb v Clinique Laboratories and Estée Lauder (Clinique) Reference for a preliminary ruling: Landgericht Berlin - Germany. Free movement of goods - Name of a cosmetic product liable to mislead consumers [1994] ECR I-00317

<sup>25</sup> Case C-195/14 - Bundesverband der Verbraucherzentralen und Verbraucherverbände - Verbraucherzentrale Bundesverband e.V. v Teekanne GmbH & Co. KG. Request for a preliminary ruling from the Bundesgerichtshof. Use of the indication ‘raspberry and vanilla adventure’ and of depictions of raspberries and vanilla flowers on the packaging of a fruit tea not containing those ingredients - Teekanne [2015] - ECLI:EU:C:2015:361

<sup>26</sup> Case C-195/14 - Bundesverband der Verbraucherzentralen und Verbraucherverbände - Verbraucherzentrale Bundesverband e.V. v Teekanne GmbH & Co. KG. Request for a preliminary ruling from the Bundesgerichtshof. Use of the indication ‘raspberry and vanilla adventure’ and of depictions of raspberries and vanilla flowers on the packaging of a fruit tea not containing those ingredients - Teekanne [2015] - ECLI:EU:C:2015:361

<sup>27</sup> 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; *OJ L 304*, 22.11.2011, p. 18–63

*appropriate, be based on the relevant scientific data*". Furthermore, Article 37 FIC lists that *"voluntary food information shall not be displayed to the detriment of the space available for mandatory food information"*.

Furthermore important is that Article 1(3) of FIR states that it applies to food business operators at all stages of the food chain.

### 3.1.2 Could nudging be misleading?

Summarized, all requirements from GFL, UCP and FIC with regard to misleading as listed above state a similar requirement: **Be clear and do not confuse. Do not state untruthful information.**

As indicated previously, nudging could be implemented on voluntary or mandatory basis.

Important in this respect is that Article 1(3) of FIR states that FIR applies to food business operators at all stages of the food chain. So, this would imply that the requirements as stated previously are not applicable to government policy, for example when the Dutch government would make it mandatory to use nudging for products placed on the market in the Netherlands. However, deploying food packaging elements as nudges would in the end still need to be implemented by the producer. Therefore, deploying food packaging elements as nudges would be subject to the abovementioned requirements, as it is "performed" by the producers.

Another important aspect is that because of the principle of supremacy of EU law, EU law prevails over national rules. This implies that if a producer brings a product to the market, it should be compliant to EU law, even when there are national rules stating otherwise. However, for example Article 3(3) UCP states that the UCP *"is without prejudice to Community or national rules relating to the health and safety aspects of products"*. From this follows that, in any case with regard to UCP, the supremacy of EU law only applies to rules not relating to health and safety aspects of products. So, for example when the Dutch government would make it mandatory to use nudging for products placed on the market in the Netherlands, and this rule would be regarded to be related to the health and safety aspects of products, this would not be subject to UCP. The principle of supremacy of EU law would not hold.

In the next section will be discussed when and how nudging could or could not mislead the consumer and, if relevant, how this might be avoided. Examples of possibilities for deploying food packaging elements as nudges from Chapter 2 will be used to illustrate the requirements.

### 3.1.2.1 *Untruthful information*

**Misleading: Presenting a products as something it is not**

However, untruthful information can be provided if that information presents a product as something it is not. For example, it would be misleading to present unhealthy products as healthy, healthy products as super-healthy or, less probable to happen: presenting healthy products as unhealthy. This is mainly applicable to using visual, textual or physical food packaging elements as nudges. Below will be explained that this can be caused by wrong nutritional criteria, by non-compliance to the nutritional criteria and by claims overpromising health benefits.

#### *Untruthful when criteria do not reflect true “healthy” and “unhealthy” products*

Of big importance is that misleading by provision of untruthful information could occur when the nutritional criteria are not adequate. The consequence of this would be that unhealthy products could be classified as healthy or that healthy products could be classified as unhealthy. Subsequently, consumption of products that are not healthy is encouraged or that consumption of products that are healthy is discouraged. This would be undesired when aiming for promotion of healthy eating behaviour. This is of main relevance when a set of criteria would be adopted as a “golden standard” of criteria categorize whether a product fits in healthy eating behaviour. However, also when the criteria are set up by the producer itself and stating that they comply with “healthy eating behaviour” but in fact they do not; it is misleading because those criteria are untruthful and consumers would be “nudged” into the wrong “direction”. Therefore, the criteria should be science-based, clear and accurate. In addition, they should be tailored to the target population. This is similar to what is advised in the Netherlands with regard to a food choice logo (Hoogendoorn and Van den Berg 2016)<sup>28</sup>. The requirement for good criteria has a dual function: it avoids misleading, but it might also ensure better functioning of the nudge.

If the criteria are not appropriate, is it impossible to have a non-misleading system of nudging towards healthy eating behaviour.

#### *Untruthful when criteria are not respected*

Furthermore, it would be untruthful when there is non-compliance to the nutritional criteria. This could occur when a product not meeting the nutritional criteria is presented as a product that does meet the nutritional criteria. For example, when a product holds the claim “*meets the nutritional criteria for healthy eating behaviour*”, while in fact the product does not meet those criteria. It would be misleading when a product not meeting the nutritional criteria would hold a “green thumbs-up”-

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<sup>28</sup> With regard to a food choice logo, the RIVM furthermore advises that the organisation and governance of the logo are completely transparent and that any (appearance of) conflicts of interest is avoided. This would need to result in sufficient support and trust from society (Hoogendoorn and Van den Berg, 2016).

logo if it is agreed that this logo is intended to be displayed on products that do meet the nutritional criteria. This could occur because of corporate interests of the producer.

To prevent misuse of criteria set, it would be important to adequately provide information on how to use the criteria to prevent accidental misuse. Compliance checks could also help to prevent misleading by intentional misuse.

#### *Untruthful because overpromising health benefits*

Nudging could be misleading because the used textual or visual packaging element could overpromise health benefits of the product and therefore the nudge could be regarded as untruthful information. This is applicable in particular to visual food packaging elements, as *“visuals may mislead consumers to a larger extent than textual claims in that they overpromise health **benefits** of consuming the product”* (K. P. Purnhagen et al., 2015, p. 197).

From Article 6(1) UCP follows that the commercial practice should represent the true characteristics, inter alia related to the composition and expected results of use of the product. When using physical food packaging elements, this might also be providing untruthful information; if you use slim-waist packaging on healthy products, this could be untruthful because the one product will not make you directly have this slim waist; it could be exaggerating too much.

In addition, it has been suggested that in general the distinction between “good” and “bad” products is misleading, as it is about the total diet that will provide health benefits and not a single product (Amir and Lobel, 2012) and so the claim on a product might be over-exaggerating the results to be expected from use of the product (Article 6(1)(b) UCP).

#### *Not misleading to provide normative information*

However, not all nudges work by directly framing or presenting a product as healthy or unhealthy, as what is the case for the examples of visual, textual and physical food packaging elements. For example default choice framing and product size framing use nudging to steer towards a certain choice. Could this framing also present untruthful information?

#### *Providing an untruthful description by default choice framing*

In default choice framing, it could be suggested that you are providing false information when you present a product as the default choice, while it might not be the “real” default choice that it would have been without the intervention.

However, this would probably not be misleading as in fact, there is no “rule” that states “what is the default”. If the product bears the claim *“this product is the default”* this does not refer to beneficial nutritional properties or relation between food and health; so it would not be a nutrition or health



claim<sup>29</sup>. It would just be a normal claim as it does say that the product has particular characteristics, namely, that it would be the default choice. The substantiation of this claim or way of presenting the product would be that it is the default choice when searching for healthy eating behaviour.

#### *Providing an untruthful description by product size framing*

The same as for default choice framing as explained above, holds for product size framing. It could be suggested that it is misleading to state that 50 grams product is a normal size, as displayed in Figure 5, while in terms of satiation<sup>30</sup> it is actually more of a small product size. Or vice versa, to state that it is a small product size while, in terms of satiation, it is actually more of a normal product size. Indicating that a product is a small, normal or big size, is providing information about the food product with regard to quantity and this information should not be false (Article 6(1)(b) UCP).

But would it be really false and misleading to name a product tall or small? Views on product sizes are rather dependent on the person, his standards, uses and habits and therefore such a statement is normative. As stated in literature: *"The one man's tall is another man's small"* (Just and Wansink, 2014). However, it might be disappointing when something is presented as a big size while it is in fact a small amount; it is not fixed when a product is small, normal or big. Also take into account that the factual amount of the product is also indicated, as that is mandatory information to provide (Article 9(1)(e) Regulation 1169/2011<sup>31</sup>). Therefore, product size framing providing normative information is probably not misleading.

It would indeed be misleading to charge a consumer for a normal sized product while giving him the small-sized 50 grams product. However, as explained in previously, when nudging, no economic incentives should be changed. This means that this would not only be misleading, but also this would not be regarded nudging.

#### **3.1.2.2 Encouraging consumption of unhealthy products**

##### **Not misleading to use nudges as normal marketing**

When a consumer is nudged towards healthy eating behaviour, the product encourages should actually fit in healthy eating behaviour; this could be stimulated by having adequate criteria, as explained previously.

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<sup>29</sup> For more information on nutrition and health claims, please see section 3.2 on Claims.

<sup>30</sup> As stated by Bellisle et al. (2012), *"Satiation occurs during an eating episode and brings it to an end. Satiety starts after the end of eating and prevents further eating before the return of hunger"*.

<sup>31</sup> 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; *OJ L 304*, 22.11.2011, p. 18–63

However, this does not mean that only products that fit in healthy eating behaviour are allowed to be encouraged, as currently “normal” marketing practices also encourage consumption of unhealthy products. Unfortunately this means that producers could misuse nudging to “steer” people towards unhealthy choices, for example when a big bar of chocolate, containing 700 calories and containing too high sugar, saturated fat and salt, is labelled as small. This is in particular relevant to product size framing, default choice framing and addition of a dominated alternative to the market. Probably this can, unfortunately, not be regarded misleading, based on the same arguments as described above on why it would probably also not be misleading when product size framing and default choice framing are used to promote healthy eating behaviour.

### *3.1.2.3 Misleading - Confusion*

#### *Misleading because not clear to consumer*

Nudging could be misleading as it could confuse the consumer. It could confuse the consumer when it is not clear why a food packaging element is changed or what it means. Also, confusion and consequent reduced effect of the attempt could be caused by the abundance of different logos, claims, marketing attempts and ways of presenting nutritional information (Draper et al., 2011). Furthermore, when adding a dominated alternative to the market, confusion of consumer is possible as there is an exactly same alternative available, only at a higher price. It could also confuse the consumer to see that a product is categorized “small” or “default” when the consumer does not share this view.

#### *Dual system*

This confusion could be partly solved by for example informing about the meaning of a logo or claim and by encouraging the producers to all use the same “system”. A dual system, as previously mentioned, simultaneously encouraging healthy products and discouraging unhealthy products might reduce confusion caused by products that do not have a, for example, thumbs-up-logo. Because if a product does not have a logo, does this mean that it does not meet the criteria or does it perhaps not join the system? A dual system, simultaneously encouraging or discouraging consumption of products respectively healthy or unhealthy, could ensure that every product could have a logo.

#### *Mandatory*

However, as indicated in Chapter 2.4, for non-beneficial nudging that discourages consumption of products, probably a mandatory system is required as non-beneficial nudging is contrary to corporate interests. A mandatory system could also reduce confusion. For example with regard to a food choice logo the RIVM advises that it should be mandatory to be more clear to the consumer and

to avoid confusion (Hoogendoorn and Van den Berg, 2016). Such a logo should be simple and clear and consistently presented on the front of the packaging (Hoogendoorn and Van den Berg, 2016).

#### 3.1.2.4 (Mis-)leading?

Nudging is misleading for average consumer

As indicated previously, Article 8 GFL writes that *“Food law shall aim at the protection of the interests of consumers and shall provide a basis for consumers **to make informed choices** in relation to the foods they consume (...)”* and Article 2(e) UCP writes that it is misleading when a commercial practice is used to *appreciably impair the consumer’s ability to make an informed decision*. Consumers have right to *“correct and complete material information”* (Incardona and Poncibò, 2007).

When using a view of the consumer that is rational and who can make his own choices, it is undesirable to use nudging as nudging can be misleading, confusing and overpromise health benefits.

#### The non-rational consumer

However, the basis of this thesis is the understanding that the consumer is not rational and that he does not seem to use the information he is provided with very well. Instead, the idea is that nudging is required to nudge non-rational consumers towards healthy eating behaviour. It is suggested that we could make use of the biases that people are subject to in order to nudge them in the direction of healthy eating behaviour.

Previously, Article 8 GFL has been interpreted as indicating the importance for providing a basis for informed choices. However, Article 8 GFL indicates also that *“Food law shall aim at the protection of the interests of consumers”*. When aiming for protection of health, it will probably not be sufficient to only provide him with information, as he is not rational. Therefore, it is instead suggested in this thesis that nudging might need to be used to have people make healthy choices, since people do not seem to do this by themselves, using rational capacities. This protection of the interest of the consumers could be safeguarded by steering the consumer in the direction of healthy eating behaviour, by the use of nudging. Important in this respect is that the nudge is used with the aim to benefit the non-rational consumer and not to benefit the producers. For example promotion of health could be a benefit, but increase of profit for the producer would not be one.

The discussed ways of how nudging could be misleading by confusing and by overpromising health benefits might be inherent to the effect of nudging. The confusion caused by using the biases of people or making them use their automatic systems, might be the route through which the nudge works. For example, when adding a dominated alternative to the market, confusion of consumer is likely as there is an exactly similar product available, only at a higher price. The “misleading” that the

nudging causes is probably also why the nudge would be effective. It is questionable whether it is possible to nudge without a bit of confusion, deceiving and misleading.

Would it be fair to assess fairness of a commercial practice by using a consumer view that does not reflect the actual consumer behaviour? We aim to protect a rational consumer, but what if he is not rational? Also in literature the perception of the consumer is discussed, often arguing for the adoption of a more realistic, non-rational consumer concept, for example Hacker (2015) and Incardona and Poncibò (2007). As indicated by Incardona and Poncibò (2007), *“the average consumer standard should be interpreted more flexibly or even abandoned to mirror consumer behaviour more effectively”*.

Maybe it should not be regarded misleading, but perhaps it should be regarded “leading” to use nudging, as it would lead the non-rational consumer towards better choices? But how would this work, and is there a way that this would be fair and would it ultimately really protect the consumer?

#### Nudging is not misleading for the rational consumer

As explained previously, in the EU the benchmark of a rational consumer is used<sup>32</sup>. Because the label does provide factually true information, it could be stated that the consumer is still able to make an informed decision, even though nudging is used. If the consumer is really this rational, he should use the label to make good choices. From case law follows that labelling should achieve adequate protection of the consumer since he can make his choice in “full knowledge of the facts”<sup>33,34</sup>. Therefore, it should not be a problem that there might be some attempts to mislead him, as he should be rational enough to see through them and resist them: it would not be regarded misleading. This is similar to normal marketing attempts that are also influencing choice however not regarded misleading. As the consumer can use the label to make informed decision, nudging should not be regarded misleading and so nudging should be accepted. Furthermore important in this respect is that the definition of nudging encompasses the requirement that choice options are not taken away from people. This means that if they would like, people can still choose the rational choice option if they would prefer that option.

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<sup>32</sup> Case C-210/96 Gut Springenheide GmbH and Rudolf Tusky v Oberkreisdirekto des Kreises Steinfurt – Amt für Lebensmittelüberwachung (Gut Springenheide) Reference for a preliminary ruling: Bundesverwaltungsgericht - Germany. Marketing standards for eggs - Promotional descriptions or statements liable to mislead the purchaser - Reference consumer [1998] ECR I-04657

<sup>33</sup> Case 120/78 Rewe-Zentrale AG v Bundesmonopolverwaltung für Branntwein Reference for a preliminary ruling: Hessisches Finanzgericht - Germany. Measures heaving an effect equivalent to quantitative restrictions [1979] (Cassis de Dijon) ECR -00649; paragraph 13

<sup>34</sup> Case 178/84 Commission of the European Communities v Federal Republic of Germany. Failure of a State to fulfil its obligations - Purity requirement for beer [1987] ECR -01227; paragraph 25

With regard to the misleading that is inherent to nudging, this might need to be regarded as leading, instead of misleading, as it aims to protect the interests of the non-rational consumer. The question remains however, whether the CJEU will follow this reasoning of accepting misleading if its aim is justified, especially as the CJEU uses a benchmark of a rational consumer (Hacker, 2015). However, if the CJEU persists to use the rational-consumer benchmark, would this consumer not be able to rationally use the information that is provided, even when nudging is used?

## 3.2 Claims

Previously has been explained that a nudge should not be misleading. Also relevant to deploying food packaging elements as nudges is the regulation of claims. This section is applicable to the examples of textual and visual elements as nudges to promote healthy eating behaviour.

### 3.2.1 Regulation of claims

With regard to claims, of main relevance is Regulation 1924/2006<sup>35</sup> on nutrition and health claims made on food. As defined in this Regulation, a claim is *“any message or representation, which is not mandatory under Community or national legislation, including pictorial, graphic or symbolic representation, in any form, which states, suggests or implies that a food has particular characteristics”* (Article 2(2)(1) Regulation 1924/2006).

#### *Nutrition and health claims*

A nutrition claim is *“any claim which states, suggests or implies that a food has particular beneficial nutritional properties due to: (a) the energy (calorific value) it (i) provides; (ii) provides at a reduced or increased rate; or (iii) does not provide; and/or (b) the nutrients or other substances it (i) contains; (ii) contains in reduced or increased proportions; or (iii) does not contain”* (Article 2(2)(4) Regulation 1924/2006). A health claim is *“any claim that states, suggests or implies that a relationship exists between a food category, a food or one of its constituents and health”* (Article 2(2)(5) Regulation 1924/2006).

Important is that nutrition and health claims are only allowed when they are authorised and used in accordance with Regulation 1924/2006 (Article 8(1) and Article 10(1) Regulation 1924/2006). For example, the claim “low fat” is an authorised nutrition claim and use of this claim should comply with the requirements as set in Regulation 1924/2006.

In principle, all authorised claims could be used as textual elements to nudge to promote healthy eating behaviour. Important is that from Article 2(2)(1) Regulation 1924/2006 follows that when it would be mandatory to state something, this would not be a claim and so this would not be covered

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<sup>35</sup> 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, 30.12.2006, p. 9–25*

by Regulation 1924/2006. This means that Regulation 1924/2006 only applies to the provision of non-mandatory information.

When a claim does not suggest particular beneficial properties, or when it does not suggest a relationship between the food product and health, such a claim would not be subject to Regulation 1924/2006. Also, for example, stating that a product contains 67% vegetables would not be a nutrition or health claim, as it solely provides information about the product and it does not suggest particular beneficial properties and it does not suggest a relationship between the food product and health. However important is still that if a textual element is not a nutrition or health claim, it would still need to comply with other requirements applicable to voluntary food information, for example the requirement not to mislead as discussed previously.

From Article 1(3) of Regulation 1924/2006 follows that if a trade mark, brand name or fancy name appearing in the labelling, presentation or advertising of a food could be construed a health or nutrition claim, this is allowed to be used without authorisation, provided that the product also holds a related authorised nutrition or health claim. With regard to general statements referring to health, Article 10(3) Regulation 1924/2006 indicates: *“Reference to general, non-specific benefits of the nutrient or food for overall good health or health-related well-being may only be made if accompanied by a specific health claim (...)”*.

#### *Textual elements as nudges: a nutrition or health claim*

Now, the question is how a textual claim from the provided examples of possibilities for deploying food packaging elements as nudges, being “meets the nutritional criteria for healthy eating behaviour” would be regulated. Would it be a nutrition or health claim? Please note that another example of a claim from the provided examples of possibilities for deploying food packaging elements as nudges was “this product is low in fat”; previously has been indicated that this is a nutrition claim.

To state that a product meets certain criteria does not directly suggest particular beneficial properties and does not suggest a relationship between the food product and health. Therefore it could be suggested that this claim would not be a health or nutrition claim.

On the other hand, the claim “meets the nutritional criteria for healthy eating behaviour” could be perceived as a suggestion that a product fits in a certain diet. This could be regarded as a beneficial property. In addition, it could be interpreted as a claim stating that due to the energy or nutrients or other substances the product contains (Article 2(2)(4) Regulation 1924/2006), the products has this beneficial property. Therefore, this claim could be regarded to be a nutrition claim.

At the same time, the claim that a product “meets the nutritional criteria for healthy eating behaviour” could be perceived as a claim stating that the product makes you healthy and suggesting a relationship between the food product and health (Article 2(2)(5) Regulation 1924/2006). The claim could suggest a health benefit. Therefore, this claim could be regarded to be a health claim.

If the CJEU would regard such a textual element not to be voluntary food information but to be a nutrition or health claim, the claim would be prohibited or would need to be authorised in accordance to Regulation 1924/2006. Nutrition and health claims are only allowed to be used when they meet the requirements set in Regulation 1924/2006.

### *Visual elements as nudges*

Although Article 2(2)(1) Regulation 1924/2006 indicates that pictorials, graphics and symbols<sup>36</sup> are covered also by this Regulation<sup>37</sup>, in practice they are not regulated. No list of permitted visual nutrition or health claims has been established, and establishing this could however be a complex matter (K. P. Purnhagen et al., 2015). Whether a visual element could be regarded a nutrition or health claim could be also doubted: would such a logo, that does not intent to provide information but instead intends to nudge towards healthy eating behaviour, be able to suggest that a product has particular nutritional properties, or be able to suggest that there is a relationship between the food and health? However, similar to textual elements; if the CJEU decides that such a logo would constitute a nutrition or health claim, the visual element would be prohibited or would need to be authorised in accordance with Regulation 1924/2006.

### **3.2.2 (No) regulation of non-beneficial claims**

Important in the scope of this thesis is recital 6 of Regulation 1924/2006 stating that non-beneficial claims do not fall under the scope of Regulation 1924/2006. This implies that claims deployed as a nudge to discourage consumption of a product, do not have to meet the requirements from Regulation 1924/2006. Examples of such claims from the provided examples of possibilities for deploying food packaging elements as nudges to promote healthy eating behaviour are the textual claims “this product is high in fat” and “does not meet the nutritional criteria for healthy eating behaviour”. The visual claim was the “thumbs down” logo or the crossed version of the “thumbs up” logo.

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<sup>36</sup> Important to note is that, as indicated previously, if a trade mark could be perceived as a health or nutrition claim, this is allowed to be used without authorisation, provided that the product also holds a related authorised nutrition or health claim (Article 1(3) Regulation 1924/2006).

<sup>37</sup> The example of the possibility physical elements are not covered by Regulation 1924/2006, so they are also not subject to the requirements from this Regulation.

### *Non-beneficial claims are not regulated*

It might seem strange that such types of claims are not regulated. However, the explanation is probably that it is not likely that manufactures will voluntarily use non-beneficial nutrition claims on their products. As explained in Chapter 2, using non-beneficial claims is against corporate interests. There might be no regulation for non-beneficial claims as it is expected that non-beneficial claims would not be used.

### *Regulating non-beneficial claims*

However, if non-beneficial claims are used, they would still need to comply with the requirements that are also applicable to other voluntary food information, for example from FIC, GFL and UCP, as they fall under communications about the product. Non-beneficial claims should for example not be misleading: also non-beneficial claims should not present products as something it is not. So, on voluntary basis there is some freedom to use non-beneficial claims.

Regulation of non-beneficial claims would aim at prevention of misleading of the consumer and prevention of unfair competition for producers. This could encompass for example ensuring of a level playing field, to make sure the same requirements apply for all producers and that the conditions to use non-beneficial claims are fair. This is mainly relevant when it would be mandatory to use non-beneficial nudging.

To regulate national schemes of non-beneficial claims, Recital 6 of Regulation 1924/2006 states that before introducing the measure, the Member State should file a technical regulation in line with Directive 98/34/EC, which has been replaced with Directive (EU) 2015/1535<sup>38</sup>. The technical regulation would need to be approved before producers or other parties need to comply with the regulation<sup>39</sup>.

## **3.3 Competence to make it mandatory**

As previously discussed, food packaging elements could be used on own voluntary basis by the producer, but it might need to be necessary to use nudging on a mandatory basis. This section is applicable to all provided examples of deploying food packaging elements as nudges to promote healthy eating behaviour.

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<sup>38</sup> Directive (EU) 2015/1535 of the European Parliament and of the Council of 9 September 2015 laying down a procedure for the provision of information in the field of technical regulations and of rules on Information Society services

<sup>39</sup> Case C-443/98 Unilever v Central Food. Reference for a preliminary ruling: Pretore di Milano - Italy. Technical standards and regulations - Obligations of notification and postponement of adoption - Applicability in civil proceedings [2000] ECR I-07535



### 3.3.1 Competence, proportionality, subsidiarity: the terms explained

Relevant to when it is mandatory to deploy food packaging elements as nudges to promote healthy eating behaviour, is that there needs to be legal competence before the EU can act. This is called the “principle of conferral” and is laid down in Article 5(1) of the Treaty on the European Union.

The Treaty on the European Union (abbreviated by: TEU) establishes the European Union (abbreviated by: EU), *on which the Member States confer competences to attain objectives they have in common* (Article 1 TEU). The TEU lists that *the Union's aim is to promote peace, its values and the well-being of its peoples* (Article 3(1) TEU). Article 3(2) TEU states that *the Union shall offer its citizens an area of freedom, security and justice without internal frontiers, in which the free movement of persons is ensured in conjunction with appropriate measures with respect to external border controls, asylum, immigration and the prevention and combating of crime*. Furthermore, Article 3(3) TEU states inter alia that *the Union shall establish an internal market. It shall work for the sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment*.

If the Union is competent to regulate with regard to a certain topic, this competence is subject to subsidiarity and proportionality (Article 5 (1) TFEU). Subsidiarity means that the Union shall act only if and in so far as the objectives of the proposed action cannot be sufficiently achieved by the Member States (Article 5(3) TEU). Proportionality means that the content and form of Union action shall not exceed what is necessary to achieve the objectives of the Treaties (*Article 5(4) TEU*).

### 3.3.2 Who is competent

The Treaty on the Functioning of the European Union (abbreviated by: TFEU) provides the constitutional basis of the European Union. The TFEU is legally binding to all members of the EU. From TFEU follows that regarding consumer protection (Article 4(2)(f) TFEU) and regarding common safety concerns in public health matters (Article 4(2)(k) TFEU), shared competence between the Union and the Member States applies. Also from case “Tobacco I”<sup>40</sup> follows that the Community is not competent to act solely on the legal basis of consumer or health protection; its competence is limited to harmonizing measures that aim to safeguard the functioning of the internal market. This means that in principle, it can only be made mandatory in a Member State to deploy food packaging elements as nudges to promote healthy eating behaviour, as the EU is not competent to regulate this.

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<sup>40</sup> Case C-376/98, Germany v. Council and the European Parliament. Federal Republic of Germany v European Parliament and Council of the European Union. Directive 98/43/EC - Advertising and sponsorship of tobacco products - Legal basis - Article 100a of the EC Treaty (now, after amendment, Article 95 EC) [2000] (Tobacco Advertising I) ECR I-8419

### *Member State to regulate*

Therefore, it would not be possible to make it mandatory in the EU to deploy food packaging elements as nudges to promote healthy eating behaviour, as the EU is not have the competence to do this.

Therefore, it could for example become mandatory to deploy food packaging elements as nudges in a Member State of the EU. This could be, for example, in the Netherlands. When measures need to be taken to promote healthy eating behaviour, Member State, being the Netherlands, should act since they are probably capable to do this. It would be within the competence of the Member State to make it mandatory for producers to use the nudge in the Netherlands to promote healthy eating behaviour before placing a product on the Dutch market.

### *EU to support and harmonise*

The EU should support the Netherlands in regulating the system, since in the TFEU is established that a high level of human health protection shall be ensured in defining and implementation of Union policies and activities (Article 168(1) TFEU). Besides health protection, the Union shall also contribute to protection of the health, safety and economic interest of the consumers (Article 169(1) TFEU). The EU could contribute to the protection of the consumer by taking measures which support, supplement and monitor the policy pursued by the Member States (Article 169(2) TFEU).

However, from case law follows that the EU would be competent to take measures which are related to health protection, but only if they intent to improve the conditions for the establishment and functioning of the internal market, as also following from case “Tobacco II”<sup>41</sup>. Such a harmonizing action would also be subject to proportionality. For example, when multiple Member States start defining rules to make nudging mandatory, the EU could take measures to harmonize the regulatory aspects, in order to safeguard the internal market as different rules in different Member States could harm the functioning of the internal market. This way, hypothetically it could be possible that it does become mandatory in the whole EU to deploy food packaging elements as nudges to promote healthy eating behaviour, if this is regulation on grounds of harmonisation. If it would be solely on grounds of consumer or health protection, the member state is the one with competence to regulate.

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<sup>41</sup> Case C-380/03 Germany v. Council and the European Parliament. Action for annulment - Approximation of laws - Directive 2003/33/EC - Advertising and sponsorship in respect of tobacco products - Annulment of Articles 3 and 4 - Choice of legal basis - Articles 95 EC and 152 EC - Principle of proportionality [2006] (Tobacco Advertising II) ECR I-11573

### 3.4 Barrier to trade

Next to competence, with regard to making it mandatory to deploy food packaging elements as nudges to promote healthy eating behaviour it is also very relevant to discuss the possibility that this could impair trade. Below, two scenarios will be discussed. First will be discussed on the possible trade consequences and legal aspects when it would be mandatory in a Member State of the EU, using the Netherlands as an example again. Secondly will be discussed on the possible trade consequences and legal aspects when it would be mandatory in the EU to use nudging. This section is applicable to all provided examples of deploying food packaging elements as nudges to promote healthy eating behaviour.

#### 3.4.1 When mandatory in Member State – TFEU

##### *Obstacle to the functioning of the internal market*

The TFEU states that the Union shall adopt measures with the aim of establishing or ensuring the functioning of the internal market (Article 26(1) TFEU). This “internal market” of the EU has been constructed with much effort during the past decades. The EU should function as a “single market” since this is beneficial to trade, efficiency, competition and thereby it enhances quality and lowers prices within the EU (European Commission, n.d.). In this respect, Article 26(2) TFEU establishes the four fundamental freedoms of the EU, by stating that *“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”*. With regard to goods, Article 34 TFEU states that *“quantitative restrictions on imports and all measures having equivalent effect shall be prohibited between Member States”*. Article 35 TFEU states the same regarding exports instead of imports. In conclusion, this means that obstacles to the functioning of the internal market are prohibited. Furthermore, from Article 114(1) TFEU follows that to achieve the objectives set out in Article 26 TFEU, *“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”*. This means that if Article 35 TFEU is impaired, based on Article 114(1) measures can be taken to protect the internal market.

##### *Nudging could form an obstacle to the functioning of the internal market*

Trade could be impaired for example when it would be mandatory to deploy food packaging elements as nudges to promote healthy eating behaviour before a product can be placed on the market. To illustrate this, the example of a national measure taken by the Netherlands to deploy food packaging elements as nudges before a product can be placed on the market in the Netherlands, will be used. Such a measure could have equivalent effect for trade as a quantitative

restriction on import. It would make it more difficult for the producer to place a product on the market in the Netherlands than in another Member State of the European Union and therefore it could violate the basic freedom of the free movement of goods that is laid down in Article 34 TFEU. For example, the producer would need to acquire knowledge on the requirements and subsequently the food packaging should be adjusted, to which costs are related. If those costs do not outweigh the benefits of entering the Dutch market, this could result in the products not placed on the market in the Netherlands or the price of the traded products could increase. Therefore, this national measure could impair trade and therefore it could be prohibited.

### *Justification possibilities for an obstacle to the functioning of the internal market*

Of main importance is that this prohibition on obstacles to the functioning of the internal market does not preclude prohibitions or restrictions on imports justified on grounds of, among others, the protection of health and life of humans (Article 36 TFEU)<sup>42</sup>. *“Such prohibitions or restrictions shall not, however, constitute a means of arbitrary discrimination or a disguised restriction on trade between Member States”* (Article 36 TFEU).

This would mean that if there is a justification “why is this mandatory nudging necessary”, the obstacle to the functioning of the internal market formed by the national measure, might not be prohibited. Such a justification could be, for example, because the measure is necessary to protect health and life of humans as it aims to promote healthy eating behaviour. Whether this justification applies would need to be analysed.

### *Mutual recognition*

Via the principle of “mutual recognition”, a product legally marketed in one member state is allowed to be sold in another member state. The mutual recognition principle only holds for products not subject to EU harmonisation; the mutual recognition principle ensures market access for those products (European Commission, 2017). Therefore, it is not an obligation to have the product that is legally marketed in another EU member state compliant *“with the technical rules of the other country”* (European Commission, 2017). When discussing about making it mandatory in the Netherlands to use nudging, the route of the mutual recognition can be regarded as a “threat” as via mutual recognition a product without a nudge could come on the market in the Netherlands while in

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<sup>42</sup> This is confirmed in case law: In the Dassonville case, the Court of Justice judged that all trading rules enacted by Member States which are capable of hindering, directly or indirectly, actually or potentially, intra-Community trade are to be considered as measures having an effect equivalent to quantitative restrictions (Case 8/74 Procureur du Roi v. Benoît and Gustave Dassonville. Reference for a preliminary ruling: Tribunal de première instance de Bruxelles - Belgium [1974] ECR -00837). In Cassis de Dijon case this has been nuanced, and situations have been defined in which restrictions on imports are actually allowed; one of those situations is the protection of public health. (Case 120/78 Rewe-Zentrale AG v Bundesmonopolverwaltung für Branntwein Reference for a preliminary ruling: Hessisches Finanzgericht - Germany. Measures having an effect equivalent to quantitative restrictions [1979] (Cassis de Dijon) ECR -00649)

the Netherlands it would be mandatory to use nudging. Continuing with the example of the requirement in the Netherlands to use nudging before a product can be placed on the market; the product legally marketed in another member state could be a product from Germany. This product might not contain a nudge, however it would be mandatory for the product to hold a nudge in the Netherlands.

However, this mutual recognition route to place on the market in the Netherlands this product for example from Germany that is not meeting the requirements of the Netherlands, could be prohibited by the importing member state (Article 2(1) Regulation 764/2008<sup>43</sup>), which in this example would be the Netherlands. From Article 6(1) Regulation 764/2008 follows that the usage of the mutual recognition principle can be prohibited when this prohibition is *“justified on one of the grounds of public interest set out in Article 30 of the Treaty or by reference to other overriding reasons of public interest and (b) the intended decision is appropriate for the purpose of achieving the objective pursued and does not go beyond what is necessary in order to attain that objective”*. Article 30 of the Treaty has been replaced by Article 36 TFEU<sup>44</sup>. Previously has already been discussed that Article 36 TFEU provides grounds on which the obstacle to the functioning of the internal market can be justified. This same justification could be used to justify the obstacle to the functioning of the internal market and also to justify the prohibition of the usage of the mutual recognition principle.

So, it can be prevented that a product without a nudge comes on the market in the Netherlands when in the Netherlands it is mandatory to use nudging. The arguments to justify an obstacle to the functioning of the internal market could also be used to prevent individual products entering the market under the mutual recognition principle.

### Preventing the obstacle

The obstacle to the functioning of the internal market (Article 34 TFEU) could however also be prevented by only imposing the requirement on products that are both produced and sold within the Netherlands. This follows from Case 98/86 on the Labelling of Butter<sup>45</sup>. However, this would probably have the disadvantage as for example unfair competition of Dutch producers and non-Dutch

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<sup>43</sup> Regulation (EC) No 764/2008 of the European Parliament and of the Council of 9 July 2008 laying down procedures relating to the application of certain national technical rules to products lawfully marketed in another Member State and repealing Decision No 3052/95/EC; OJ L 218, 13.8.2008, p. 21–29

<sup>44</sup> TFEU Article 36 (ex 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; 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”*.

<sup>45</sup> Case 98/86 *Ministère public v Arthur Mathot*. Reference for a preliminary ruling: Tribunal de première instance de Dinant - Belgium. Preliminary - Labelling of butter [1987] ECR -00809

producers, to the detriment of the Dutch producers that are required to use the nudge and so impair the level playing field. Furthermore, it could cause a reduced effectiveness of the nudging system since not all products on the market in the Netherlands would hold the nudge to promote healthy eating behaviour.

### 3.4.2 When mandatory in the EU - TBT Agreement

#### *Obstacle to international trade*

Besides the requirement from the TFEU not to pose an obstacle to the functioning of the internal market, also the Agreement on Technical Barriers to Trade has a similar provision.

The Agreement on Technical Barriers to Trade (abbreviated by: TBT Agreement) by the World Trade Organisation (abbreviated by: WTO) aims to ensure that technical regulations and standards, including packaging, marking and labelling requirements and procedures for assessment of conformity with technical regulations and standards do not create unnecessary obstacles to international trade (Recitals TBT Agreement). Article 2.2 TBT agreement lists that *“Members shall ensure that technical regulations are not prepared, adopted or applied with a view to or with the effect of creating unnecessary obstacles to international trade”*.

A “technical regulation” is defined in Annex 1(1) of the TBT agreement as *“a document which lays down product characteristics or their related processes and production methods, including the applicable administrative provisions, with which compliance is mandatory. It may also include or deal exclusively with terminology, symbols, packaging, marking or labelling requirements as they apply to a product, process or production method”*. A “standard” is defined in Annex 1(2) of the TBT agreement as *“a document approved by a recognized body that provides, for common and repeated use, rules, guidelines or characteristics for products or related processes and production methods, with which compliance is not mandatory. It may also include or deal exclusively with terminology, symbols, packaging, marking or labelling requirements as they apply to a product, process or production method”*.

#### *Nudging could form an obstacle to international trade*

Previously is explained that when it would be mandatory in for example the Netherlands to deploy food packaging elements as nudges when placing a product on the market, this could create an obstacle to trade under EU law according to the TFEU. However, it could also create an obstacle to international trade under the WTO law according to the TBT agreement.

The barrier will be dealt with under EU law instead of WTO law, as the under the TFEU would be the more “local” level of dealing with the problem. What would be regulated by the TBT agreement is

when it would be mandatory to deploy food packaging elements to bring a product on the market in the EU. Such a measure would be regarded technical regulation (Article 1(1) TBT Agreement). In this example, when a country, for example Argentina, would want to import a product in to the EU, it would be mandatory to use the system of nudging. Similar to the previously explained example of the requirement in the Netherlands to use nudging, it would be more difficult for a producer to place a product on the market in the EU and therefore the requirement could form an obstacle to international trade.

### *Justification possibilities for an obstacle to international trade*

As indicated previously, technical regulations should not create unnecessary obstacles to international trade (Article 2.2 TBT Agreement). In the TBT agreement the nuance is in the word “unnecessary”. Similar to when it would be mandatory only in one member state of the EU, if it is mandatory in the whole EU, justifications of the obstacle to international trade are possible. The “legitimate objective” that should be fulfilled, by which causing the trade restriction, is, inter alia, protection of human health or safety (Article 2.2 TBT Agreement). This would make the barrier to trade “necessary”. In assessing risks, relevant elements of consideration are, inter alia: available scientific and technical information, related processing technology or intended end-uses of products (Article 2.2 TBT Agreement). Upon request of other Member State(s), the Member State should explain this justification (Article 2.5 TBT Agreement).

Article 2.2 TBT Agreement states that the technical regulation should not be more trade restrictive than necessary to fulfil a legitimate objective. So when an alternative to nudging would exist that would be less trade-restrictive but would lead to the same protection of human health, this alternative should be used instead. The TBT agreement also states that posing the technical regulation should be compared to the risks of non-fulfilment (Article 2.2 TBT Agreement). Therefore, the “costs” of the technical regulation, formed by impaired trade, loss of revenues for companies, less availability of products for consumers, etcetera, should be compared with the “costs” of the unhealthy eating behaviour in the Netherlands, formed by medical costs, loss of DALYs, etcetera. Furthermore, Article 2.3 TBT Agreement states that the technical regulation shall not be maintained when the problem does not require it any more or when other, less trade-restrictive, solutions become possible. For example this would happen when there is no need any more to protect human health because everyone is very healthy and consumes a healthy diet.

As nudging is used to promote healthy eating behaviour, similar as the justification under TFEU, this might be a legitimate objective to fulfil, as it would fall under “*protection of human health or safety*”. Again, whether this justification applies, would need to be analysed.

### 3.4.3 Proportionality

The measure to make it mandatory to deploy food packaging elements as nudges would only pass the proportionality test if there is no other option that is equally or more effective but that has less “disadvantages”. Mandatory nudging would only pass the proportionality test if nudging would be regarded so effective that there is no other less trade-restrictive option available that would lead to the same results. Alternatives should be considered, as it is in everyone’s best interest if the best option is chosen. In addition, in order to be proportional, the benefit should outweigh the costs and the cost of intervention should be compared with the cost of non-fulfilment. Below, some arguments con and pro nudging will be provided with regard to proportionality.

#### *Con-nudging: alternative should be chosen*

##### Questionable whether it will pass proportionality test

Unfortunately, as explained previously, the CJEU assumes the previously explained rational average-consumer concept. Therefore, it is questionable whether nudging will pass the proportionality test. If the CJEU is convinced that information provision would be more effective and/or less trade-restrictive option, it might be that measures to use nudging are not regarded proportional. As indicated previously, from case law follows that labelling could achieve adequate protection of the consumer. This could result in the decision that mandatory nudging and the barrier to trade that it could bring, would not be proportional as there would be an alternative available that is less trade-restrictive.

#### *Pro-nudging*

##### Estée Lauder

Similar to the discussion about misleading: if the proportionality test assumes rationality of the consumer, would this ever protect the “real” non-rational consumer? From case “Estée Lauder”<sup>46</sup> also follows that in case of serious health risks, it should be taken into account that the consumer might not be able to solely be protected by rational processing of information, which for example could pose ground for bans of marketing practices (Hacker, 2015).

##### Protection internal market or protection consumer

If we aim for protection of the consumer, it should be taken into account whether he is really protected eventually. What is important in this regard is that from Article 114(3) TFEU follows that the Commission, the European Parliament and the Council in taking measures which have as their object the establishment and functioning of the internal market that concern health, safety,

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<sup>46</sup> Case C-220/98 Estée Lauder Cosmetics GmbH & Co. OHG v Lancaster Group GmbH. Reference for a preliminary ruling: Landgericht Köln - Germany. Free movement of goods - Marketing of a cosmetic product whose name includes the term "lifting" - Articles 30 and 36 of the EC Treaty (now, after amendment, Articles 28 EC and 30 EC) - Directive 76/768/EEC. [2000] ECR-I-00117



environmental protection and consumer protection, the Commission will take as a base a high level of protection, taking account in particular of any new development based on scientific facts.

However, as also indicated by (Weatherill, 2016), the aim of the internal market is ultimately to bring benefit to the consumer, however it is not well connected to the interest of the consumer. If nudging would be prohibited as it is blocking the internal market and/or because it does not work on informational rationale, this would theoretically be benefiting the consumer, however in practice it would not be benefiting the interest of the consumer. Would this be fair? The current regulatory environment does however not seem satisfying to the needs of the consumer.

#### **Nudging less trade restrictive than information regulation**

In addition, in general it is posed that nudging is less trade-restrictive than information regulation and therefore might be preferred based on the proportionality principle (Kai P Purnhagen and Van Kleef, 2017). Therefore, the proportionality principle may prefer nudging techniques over other forms of regulation. This could however be debatable when assessing this in comparison with mandatory nudging.

#### **Effectivity and need**

Important that mandatory nudging will only be judged as proportional if there is evidence that voluntary nudging would not be sufficient to achieve the objective of promoting healthy eating behaviour. For this, arguments could come for example from the “bigger effect” of non-beneficial nudging which unfortunately would require a mandatory system, compared to beneficial nudging and/or other strategies. This could however require additional scientific substantiation before this argument can be used to justify a barrier to trade.

This discussion is however also highly related to the problem the nudging aims to solve. If the diet-related health problems increase in the future and it is accepted that the consumer cannot solve this by himself, it might become “easier” to pass the proportionality test in favour of using nudging.

In conclusion, if a measure is taken in the EU, for example to make it mandatory to deploy food packaging elements as nudges to promote healthy eating behaviour before a product can be placed in the market in a Member State, it should not form a barrier to trade, but when it does, this needs to be justified. Only if it is the only option to protect consumers adequately, it might be possible to make it mandatory to deploy food packaging elements as nudges: it should pass the proportionality test. Whether mandatory nudging would pass the proportionality test, would need to be analysed. It would need to be analysed whether mandatory nudging is really the best option and necessary to solve the problem of unhealthy eating behaviour, before it is “allowed” to form a barrier to trade.

### 3.5 Impeding rights

However Van Aaken (2015) wrote that *“the potential infringement of the rights of those being nudged is neglected”*, human rights are important to consider. Therefore, below will be explained what is relevant to deploying food packaging elements as nudges to promote healthy eating behaviour, from the perspective of human rights. The section below is applicable to all provided examples of deploying food packaging elements as nudges to promote healthy eating behaviour.

#### Legal basis

The European Convention on Human Rights protects the human rights and fundamental freedoms in Europe. It applies to the Members of the Council of Europe. The European Convention on Human Rights (hereinafter, the Convention) is relevant as previously has been explained that nudging would be within the competence of the Member States<sup>47</sup>. Suspected violations to the Convention can be taken to the European Court of Human Rights (ECtHR).

#### Nudging could limit freedoms

Article 8 of the Convention is about the right to respect for private and family life. This article *“protects the right to live one’s own life with a minimum of interference”* (Directorate General of Human Rights and the Rule of Law, 2015, p. 8, resolution 428). Article 9 of the Convention is about the freedom of thought, conscience and religion. This article implies that everyone is allowed to have his own opinion and thoughts on, for instance, “what is healthy”, without any interference by public authority and regardless of frontiers. From this follows that it is not up to the government (or: the “nudger”) to decide what or how you need to be. The freedom of thought of both the consumer and producer could be limited by posing just one definition of what is healthy<sup>48</sup>.

In addition, Article 10 of the Convention lists the freedom of expression. This freedom may be limited by public health measures that limit advertising (McHale, 2010). When it would be mandatory to use a nudge complying with a determined set of nutritional criteria classifying products as healthy or not, as this could limit the producer in expressing his own definition of “healthy”. This is of main relevance when it would concern a claim-like nudge. Because, the “system” would force the producer towards expressing one certain defined opinion of “healthy”.

So, nudging could limit freedom as listed in Articles 8, 9 and 10 of the Convention.

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<sup>47</sup> Please note that the Charter of Fundamental Rights of the European Union applies to institutions of the European Union and to Member States when implementing EU law. The Charter is consistent with the European Convention of Human Rights.

<sup>48</sup> Voluntary nudging would however probably not really impair this freedom, because of the libertarian paternalistic nature of nudging: the opt-out possibility is maintained and options are not taken away.

### Freedoms subject to restrictions

However, from both Article 9(2) and 10(2) of the Convention follows that those freedoms of thought, conscience and religion, and of expression, may be subject among others to restrictions in the interest of the protection of public health. This could imply that despite those rights are respected; it might be possible that those freedoms could be foregone because nudging would be required for protection of health. In addition, Article 2 of the Convention states that everyone's right to life shall be protected by law. Based on this right could be posed that food packaging elements should be deployed as nudges to promote healthy eating behaviour. This because healthy eating behaviour could promote health and thereby protect life.

### Acceptability

So, from a human rights perspective, there are both arguments pro and against nudging. It would need to be analysed whether nudging would be acceptable in the scope of human rights. As also concluded previously in the context of the justification of a barrier to trade, this will probably depend on the view of the consumer: does he need protection against nudging or does he need protection in the form of nudging?

It has been suggested that *"the law should take into account principles of individual faith and belief when formulating health law and health policy"* (McHale, 2010). Van Aaken (2015) indicated that it should be considered *"whether an intervention is necessary and whether the mildest instrument has been chosen"*. Also, as written by Kirchsclaeger (2016), *"From a human rights perspective, it is necessary to choose alternatives to nudging of humans by states if nudging is violating human rights. And there are alternatives to nudging"*. At the core of this thesis however lies the understanding that the consumer is not rational and that a libertarian paternalistic way of helping the consumer might help them in making healthy choices. A little bit of paternalism might be required, as it is in the societies' best interest if everyone is as healthy as possible. If this "soft approach" of the past years will be, probably we will have only more and more illnesses and therefore the consumer might need protection. In addition, it is important to realise that Member States do enjoy a certain level of discretion with regard to human rights. If a Member State would find it necessary to use nudging and thereby limit human rights, the ECtHR will probably respect this. Taking into account that nudging would probably limit human rights to a small extent only, especially when compared to a ban or to an economic measure, it is very likely that nudging would pass the proportionality test.

### 3.6 Summary chapter 3

This chapter has discussed on several legal aspects relevant to deploying food packaging elements as nudges to promote healthy eating behaviour. When deploying food packaging elements as nudges to promote healthy eating behaviour in the European Union, in general, the requirements from food law should be met. The legal requirements are, among others, laid down in Regulation 178/2002, Regulation 1169/2011 and Regulation 1924/2006. In case of comparative advertising, this needs to be compliant to the requirements from Directive 2006/114 concerning misleading and comparative advertising. Also, the national requirements that apply in a Member State should be taken into account. Below, a summary of the aspects discussed in more detail in this chapter will be provided.

**With regard to misleading of the consumer,** the relevant provisions from the General Food Law, the Unfair Commercial Practices Directive, FIR and from case law have been discussed. Summarized, it would be misleading to present a product as something it is not. Therefore, adequate, science-based nutritional criteria should be designed to which should be complied to. Provision of normative information would probably not be misleading. Also, normal marketing practices that encourage unhealthy products can under the current food law not be regarded misleading. Nudging could be misleading as it could overpromise health benefits and because it could confuse consumers. However, this probably inherent to nudging. Maybe it should not be regarded misleading, but perhaps it should be regarded "leading" to use nudging, as it would lead the non-rational consumer towards better choices? This will depend on the perception of the consumer.

**With regard to claims and the regulation of non-beneficial claims,** it is explained that when a nutrition or health claim would be voluntarily deployed as a nudge, this would need to be an authorised claim in accordance with Regulation 1924/2006. Claims that do not refer to a particular beneficial nutritional property of a food nor suggesting the relationship between the food product and health would not be construed as a nutrition or health claim and would therefore not require authorisation, although they should not be misleading. Furthermore, it is indicated that non-beneficial claims do not fall under the scope of Regulation 1924/2006. Probably this is because non-beneficial claims are against corporate interests. However, non-beneficial claims need to be not misleading as they can be regarded voluntary food information. A national scheme of non-beneficial claims, for example when it would be mandatory to use non-beneficial claims as nudges to promote healthy eating behaviour, should be filed as technical regulation in line with Directive 2015/1535 before introducing the measure.

**With regard to competence to make it mandatory,** before it can become mandatory in a Member state of the EU or even across the EU, it is important to realise that in order to regulate, competence

is required. The Union is not competent to act solely on the legal basis of consumer or health protection, but its competence is limited to harmonizing measures to safeguard the functioning of the internal market. Therefore, mandatory nudging should be regulated by the Member State and only if there becomes a need to take harmonizing measures, the Union would be allowed to make it mandatory across the EU.

**With regard to barriers to trade,** is indicated that if it would be mandatory in a Member State of the EU, for example in the Netherlands, to deploy food packaging elements as nudges to promote healthy eating behaviour, this could pose an obstacle to the internal market under the TFEU. If in the whole EU it would be mandatory to deploy food packaging elements as nudges to promote healthy eating behaviour, this could pose a barrier to trade under the TBT agreement.

In both situations, this impairment to trade could be justified on grounds of protection of health and life of humans or the protection of human health or safety. As nudging would be used to promote healthy eating behaviour, this could be an option. However, this is subject to proportionality and therefore it should be analysed whether mandatory nudging is really the best option to protect consumers adequately. If there is an alternative option available, it should be carefully weighted what option is preferred.

**With regard to impeding rights,** from the European Convention on Human Rights follows that both voluntary and mandatory nudging could limit the right to respect for private and family life, the freedom of thought, and the freedom of conscience and religion and that mandatory nudging could in addition limit the freedom of expression. However, those freedoms are subject to restrictions in the interest of protection of public health. In addition, the right to life from the same European Convention on Human Rights calls for nudging. As Member States enjoy a certain level of discretion with regard to human rights, Member State could probably use nudging if they would find it necessary, even when it would limit for example the freedom of thought, conscience and religion or the freedom of expression.

As also indicated with regard to misleading, it will depend on the view of the consumer whether food packaging elements can be deployed as nudges to promote healthy eating under the current legal framework: does the consumer need protection against nudging or does he need protection in the form of nudging?

## 4. Conclusion and discussion

### 4.1 Conclusion

The objective of this thesis was to find **how food packaging elements can be deployed as nudges to promote healthy eating behaviour under the current legal framework**. For this purpose, the following research questions have been addressed in this thesis:

1. What are **possibilities** for deploying food packaging elements as nudges to promote healthy eating behaviour?
2. What are the **legal aspects** relevant to deploying food packaging elements as nudges to promote healthy eating behaviour?

Information from legal texts and scientific literature has been used to answer the research questions. Due to the multidisciplinary scope of the topic as well as to the background of the researcher, this research has approached the issue using a combination of legal research, social sciences and natural sciences. The law and case law that has been used, was selected based on their relevance to the topic of this thesis. For reasons of feasibility, the scope of this research was limited to European Food law.

This qualitative and explorative research has provided a description of possibilities for, and legal aspects relevant to, deploying food packaging elements as nudges to promote healthy eating behaviour.

The examples presented to illustrate possibilities for deploying food packaging elements as nudges to promote healthy eating behaviour are (1) default choice framing; (2) product size framing; (3) the addition dominated alternative to the market; (4) placing textual elements on the food packaging, for example claims; (5) placing visual elements on the food packaging, for example logos and colours; and (6) by using the physical design of the food packaging. With regard to placing textual and visual elements on the food packaging, using “normal”, as well as “negative” nudging are explained. For all examples, beneficial as well as non-beneficial nudging is possible. “Non-beneficial nudging”, that aims to discourage consumption of certain products, could be done by “normal” nudging, but it might be more effective to use “negative nudging” to discourage consumption. Deploying food packaging elements as nudges to promote healthy eating behaviour could be done on a voluntary basis. However, it might be required to make it mandatory as otherwise non-beneficial nudging might not be used as this is contrary to corporate interests. Adequate nutritional criteria are required to classify products as one of which consumption should be discouraged or encouraged.

The legal aspects relevant to deploying food packaging elements as nudges to promote healthy eating behaviour that have been discussed in this thesis are: the misleading of the consumer; claims, including a discussion on the regulation of non-beneficial claims; the competence to make it mandatory; barriers to trade; and lastly, impeding rights.

In conclusion, to deploy food packaging elements as nudges to promote healthy eating behaviour, in general, the requirements from European food law should be met. This encompasses, among others, the following requirements:

- The consumer should not be misled. Therefore, a product should not be presented as something it is not.
- If a nutrition or health claim would be voluntarily deployed as nudge, this would need to be an authorised claim in accordance with Regulation 1924/2006.
- To make nudging mandatory, there should be competence to regulate. If the set requirement to make nudging mandatory would pose a barrier to European or world trade, this barrier would need to be justified and proportional.

Whether the misleading that is inherent to nudging would be accepted, whether nudging would limit or would be supported by freedoms as laid down in the European Convention on Human Rights, and whether a barrier to trade formed by mandatory nudging would be justified and proportional, would depend on the view of the consumer. Does he need protection against nudging or does he need protection in the form of nudging?

Under the current legal framework, food packaging elements can be deployed as nudges to promote healthy eating behaviour. However, when used on a voluntary basis, from the perspective of regulatory aspects it does not matter whether or not nudging is used to benefit the consumer. This means that if the producer would find it necessary to protect the consumer by using nudging, also indicated as “benign corporate nudging”, the current regulatory framework would not be of any additional support to this positive action. Even more, the current regulatory framework allows producers to use nudging to encourage consumption of unhealthy products, so to the disadvantage of the (health of the) consumer.

In contrast, the current legal framework does contain provisions that would support the positive action of the Member State making it mandatory to nudge. Making it mandatory would only be possible if the Member State would find it necessary to protect the consumer. Supporting provisions are related to the possibility of justifying a barrier to trade, misleading, and impeding rights. So, in this situation, the current legal framework could be of additional support to this positive action.

As previously has been concluded that the possibility to nudge would depend on the view of the consumer, it is striking to realise that the current regulatory framework does not seem to distinguish between (voluntary) actions that intend to benefit the consumer, and actions that do not have this intention. However, still, to deploy food packaging elements as nudges to promote healthy eating behaviour under the current legal framework, the consumer needs to be viewed as in need protection in the form of nudging.

## **4.2 Strengths of the study**

One of the strengths of this thesis is its multi-disciplinary approach. By combining natural sciences with social sciences and legal sciences, this thesis has highlighted several aspects of what could make it a challenge to deploy food packaging elements as nudges. In addition, this thesis has analysed a purely theoretical situation, something what could be of great value in analysing possibilities for policymaking. Furthermore, this thesis has assessed a completely new, although hypothetical, regulatory situation that might provide people in the field in food law with new insights and ideas.

## **4.3 Limitations of the study**

A limitation of this study is that it did not succeed to determine what exactly the boundaries are of deploying food packaging elements as nudges to promote healthy eating behaviour. As usual, the answer contains the phrase “it depends”. This decreases the practical usability of the results of this thesis. This could be caused by the complexity of the topic.

Another limitation is that the provided examples of possibilities for deploying food packaging elements as nudges to promote healthy eating behaviour are non-exhaustive. Many more biases exist which can be used to nudge to promote healthy eating behaviour, so also more options of using nudging exist than provided in this thesis. Also, due to limited amount of time and resources available, not all requirements that could apply have been discussed to fully assess how nudging can be used under the current legal framework. However, relevant legal requirements with regard to deploying food packaging elements as nudges have been discussed, in order to illustrate the requirements that are related to this possibility of promoting healthy eating behaviour.

In addition, this research has particularly focussed on the topics “food” and “healthy eating behaviour”. It is difficult to extend the findings of this study to other fields or problems because of the specific nature of food law and especially in relation to the promotion of health. Therefore, the generalisability of the results is limited. However, this could be “justified” by the exploratory nature of this research.



Besides the legal aspects that have been discussed in this thesis, there are also other aspects relevant to the question how food packaging elements can be deployed as nudges to promote healthy eating behaviour. Some practical challenges could make it less feasible to use nudging. Below, some of those practical problems will be discussed briefly.

### Challenge in classifying products by using nutritional criteria

Chapter 2 has indicated that nutritional criteria should classify products as one of which consumption should be discouraged or as one of which consumption should be encouraged. Chapter 3 has indicated that it is important that those criteria are adequate, in order to prevent misleading. However, it could be a challenge to define those criteria. Simple criteria, that for example set limits for the amount of sugar above which a product will be classified as unhealthy, might not be adequate. For example, a banana is also high in sugar, however it is generally considered a healthy product. On the other hand, different criteria for particular products or product groups could make it complex to classify products. In addition, different populations may require different criteria. Furthermore, if criteria are set that aim to maximise health, it could be a challenge as it is also important to consider other aspects of food, for example sustainability aspects. Therefore, it could be a challenge to define adequate criteria.

Also, when the product composition deviates, it could be difficult to determine whether the product will always meet the nutritional criteria. This could be because the product is, for example, a natural product subject to seasonable variability. Therefore, it might be difficult to decide whether the consumption of this kind of products should be encouraged or discouraged.

### Exposure to the nudge

Another challenge is that a food packaging is required to expose the consumer with food packaging elements as nudges. It might be a challenge to use nudging on non-prepacked foods, since they have no “standard” food packaging elements on which the nudge can be used. For example fresh waffles on the street, bananas in the supermarket or a plate of spaghetti in a restaurant. This limitation is also applicable to for example inner packs, for example biscuits that are packed individually in a multipack, as they do not require individual labelling.

### Costs

And what about the costs? If food packaging elements will be deployed as nudges to promote healthy eating behaviour, it is very likely that this will bring costs. The food packaging element would need adjustment in order to be deployed as a nudge. Also for example costs related to explanation of how to use nudging are relevant. In the situation that it would be mandatory to deploy food packaging elements as nudges, this would also bring costs to set up such a mandatory system. For

some producers, the costs for using the nudge will be an investment, as using the nudge might result in increase of sales. However, for some producers, using the nudge that is non-beneficial will result in loss of sales. This could also be regarded as “costs”. In the best situation however, this will only stimulate the producer to make their products healthier. As Alemanno (2016) wrote: *“By altering the architecture of consumption of a given product or service, it induces a lasting behavioural change in the population, which could in turn impact the business model of the whole industry. As a result, the benefits gained from the modification of the consumption pattern first go to the benefit of the individual consumers. Then they go to society as a whole and, eventually, they may go to the business interests who will benefit from a more durable customer base and sustainable environment”* (Alemanno, 2016, p. 21). However, this argument will probably of no value to producers experiencing loss of sales. Please note that to meet the proportionality requirement, the benefits should outweigh the costs.

#### Addition dominated alternative: food waste

Another practical problem is food waste. This problem occurs in the example of addition of a dominated alternative to the market. When an alternative is really dominated, this alternative will not be chosen by the consumer at all. Subsequently, the dominated product will have to be discarded if the expiration date has passed.

#### Effect nudge undone by marketing

As also indicated previously, producers could misuse food packaging elements as nudges to encourage consumption of unhealthy products by making use of default choice framing or addition of a dominated alternative to the market. In addition, it would be a shame when the producer can undo the nudge or its effect by marketing. As written by Thaler and Sunstein (2008), *“even when we’re on our way to making good choices, competitive markets find ways to get us to overcome our last shred of resistance to bad ones”* (Thaler and Sunstein, 2008, p. 49). Additional regulation might be required to prevent this, for example in the form of prohibiting advertisement of unhealthy products.

#### Targeting specific groups

Instead of the approach as used in this thesis, which is one that will confront the whole population, it could also be posed that it is more required to find a strategy that targets children specifically. After all, appropriate nutrition is a crucial element of healthy child development (World Health Organization (WHO), 2016a, no. 2). Childhood sets the basis for future mental and physical health (World Health Organization (WHO), 2016a, no. 3). Because children are our future, it is important that they are healthy. It has been shown that eating behaviour in adulthood can be influenced by childhood food rules and eating experiences and feeding practices in childhood (see for example Puhl

and Schwartz (2003); Ainuki et al. (2013); Branen and Fletcher (1999)). Also, associations are found between diet quality and academic performance (Florence et al., 2008). Furthermore, it is sustainable to put effort in children's development since it may affect eating behaviour and health inherent to it later in life<sup>49</sup>. If we take as an example the situation in the Netherlands, 12.2% of the children in the age of four to twelve is overweight and 3.9% is obese. Of the children in the age of 12 to 16 the numbers are respectively 12.3% and 2.5% and in the age group of 16 to 20 respectively 11.5% and 1.3%. Also, of the children between 12 and 16, 3.0% is underweight (Centraal Bureau voor de Statistiek, n.d.). The results of a food consumption study in the Netherlands over the period of 2007 to 2010 show that more than 85% of the Dutch population consumes more salt than the maximum guided amount<sup>50</sup>. The results also show that children do not meet the nutritional advices. On average, children consume more salt than the maximum guided amount (National Institute for Public Health and the Environment, 2011). Also, the average consumption of saturated fat<sup>51</sup> by both boys and girls is higher than the maximum guided amount<sup>52</sup>. Furthermore, children eat too few fibre and too few fish (National Institute for Public Health and the Environment, 2011; Rijksinstituut voor Volksgezondheid en Milieu (RIVM), 2012)<sup>53</sup>.

Often, it is advised to target parents when aiming to change children's behaviour<sup>54</sup>. However, it could also be stated that children themselves should be targeted. The main reason for this is because children have an influence on their eating behaviour themselves. Already in 1968, it was found that children have an influencing role in family decision making (Berey and Pollay, 1968). Later studies present similar findings<sup>55</sup>. Children are regarded as well as the current consumer that spends its money, as the future consumer that they will be and as the influencing consumer who cause purchasing among their parents (McNeal, 1987). Probably adolescents are the "current consumer that spends its money" the most from all age categories of children, since adolescents often have

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<sup>49</sup> For information on determinants of eating behaviour of children in particular, see Scaglioni et al. (2011). They wrote a review which goes into the genetic determinants of food preferences of children, parental influences, awareness of BMI, energy density, and the obesogenic environment. Also it emphasises the importance of nutritional and behavioural habits of children.

<sup>50</sup> The maximum guided amount of salt is set to 6 grams per day by the "Richtlijnen goede voeding 2015", which is the same amount as in the guidelines from 2006 (Gezondheidsraad, 2015).

<sup>51</sup> The average consumption of saturated fat by boys is 12,8% energy percent (en%) and by girls this is 12,7en%

<sup>52</sup> The guidelines from 2006 were to consume less than 10en% saturated fat; the "Richtlijnen goede voeding 2015" the guideline is to replace butter, hard margarine and cooking fats by soft margarines, liquid shortening and frying fat and butter, and vegetable oils (Gezondheidsraad, 2015).

<sup>53</sup> More recent data regarding diet based on the period 2012 to 2016 will be published in the near future (Rijksinstituut voor Volksgezondheid en Milieu, n.d.).

<sup>54</sup> See for instance: Scaglioni et al. (2011); Savage et al. (2007).

<sup>55</sup> See for instance: Atkin (1978); Maubach et al. (2009); Labrecque and Ricard (2001), Flurry and Burns (2005); Ebster et al. (2009); Russell et al. (2014).

some money that they can spend in accordance with their own desires<sup>56</sup>. The definition of adolescents in this thesis is children in the age of 13-18 years<sup>57</sup>. Younger children less often buy things of their own money and also the amount of money spent by younger children is less compared to older children (Van Der Schors and Wassink, 2013). This makes it important to target the eating behaviour of adolescents. Furthermore, adolescents need to be prepared for the “real world”, which they will have to deal with when they reach adulthood. They are growing towards the future consumer that they will be. This could stress the need for developing policies to target adolescents and so to promote healthy eating behaviour of specifically one group.

However, when food packaging elements are deployed as nudges, it is very likely that all consumers will be confronted with this nudge. In contrast to information provision for example on schools, in this case it is not possible to distinguish between target groups. It is for example not feasible to exclude certain groups from certain shelves or areas in the supermarket. Therefore, when deploying food packaging elements as nudges, it will be difficult to target specific groups.

#### **4.4 Recommendations further research**

In this thesis, no discussion with regard to the effectiveness of nudging has been included as this is outside the scope of this thesis. Of main importance before any policy action is taken, is however that the expected effect of nudging is studied and as far as possible, all possible desired and undesired possible consequences should be identified. Further research should also look into the expected effectiveness of the nudge to promote healthy eating behaviour. In addition, the influence of the reduction of misleading and confusion on the effect of nudging should be studied. This in order to enable policy makers to know how they can most effectively use nudging under the current legal framework. More evidence is needed before implementation. Before the system is implemented, it should be tested for its effectiveness in order to be an evidence-based system worth the investment. This would also be required to pass the proportionality test. When for example non-beneficial nudging is mandatory, this could as well stimulate the producer to innovate until the product does not fall in the category anymore where this logo is required<sup>58</sup>. This in order to maintain sales of his

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<sup>56</sup> According a report of the Nibud, on average 76% of the students in the Netherlands spends money on sweets and snacks, this is around €11,- per month. The study also shows that with increasing age, a higher percentage of children spends money on sweets and snacks, being: 12 years 63%; 13-14 years 73%; 15-16 years 82%; 17-18 years 84%(Blanken and Werf, 2016).

<sup>57</sup> The definition of adolescence can be regarded a cultural and social phenomenon which is not bound to age. The period is recognized by developments in psychology, personality and the academic career of a person (World Health Organization (WHO), 2016b). For more information regarding adolescent development and puberty see (Dorn and Biro, 2011)

<sup>58</sup> This follows the Porter's hypothesis which describes that regulation does not hinder competitive advantage but that they often enhance it (Porter, 1991). Also as described by Bremmers et al. (2013, p 164) with regard to

product. In addition, this would make it less attractive for the producer to produce those unhealthy products, what could result in a more healthy range of products available. Furthermore, the possibility to use beneficial nudging on products that do meet the nutritional criteria might also encourage innovation of products. This should be studied as it could have a significant effect on the functioning of the market. In addition, if the perception of the consumer is changed into a non-rational consumer, this could also have consequences in other fields. Therefore, it is important that further research looks into this.

Furthermore, it is important to keep searching for new ways to promote healthy eating behaviour and to use a policy approach based on up to date scientific insights. Other ways of nudging should be researched, taking in account their regulatory aspects. Continued research on the effects of interventions and new possibilities should be done in order to use the best possible approach.

As this thesis concludes among others that it is striking to realise that the current regulatory framework does not seem to distinguish between (voluntary) actions that intend to benefit the consumer, and actions that do not have this intention, it should be research what are the options to solve this. In addition, what could be an alternative solution to nudging is to only allow claims on products with a beneficial nutritional composition. It was the intention to put in place such a system (Article 4 Regulation 1169/2004), however, this has not been achieved (yet?). Further research could look into why this has failed to be established and whether it could still be of benefit when aiming for promotion of healthy eating behaviour.

Although this study did not provide a “ready-to-eat” solution, hopefully this study contributes to the development of the knowledge on how we can get people to make better food choices.

## Legislation

### EU Treaties

- **Treaty on European Union** (Consolidated version 2016), OJ 2016/C 202/01, p. 13-46
- **Treaty on the Functioning of the European Union** (Consolidated version 2016), OJ 2016/C 202/01, p. 47-338

### Conventions

- **European Convention on Human Rights**

### Regulations

- **Regulation** (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 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; *OJ L 31, 1.2.2002, p. 1–24*
- **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, 30.12.2006, p. 9–25*
- **Regulation** (EC) No 764/2008 of the European Parliament and of the Council of 9 July 2008 laying down procedures relating to the application of certain national technical rules to products lawfully marketed in another Member State and repealing Decision No 3052/95/EC; *OJ L 218, 13.8.2008, p. 21–29*
- **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; *OJ L 304, 22.11.2011, p. 18–63*

### Directives

- **Directive** (EC) 2005/29 of the European Parliament and of the Council of 11 May 2005 concerning unfair business-to-consumer commercial practices in the internal market and amending Council Directive 84/450/EEC, Directives 97/7/EC, 98/27/EC and 2002/65/EC of the European Parliament and of the Council and Regulation (EC) No 2006/2004 of the European

Parliament and of the Council ('Unfair Commercial Practices Directive'); *OJ L 149*, 11.6.2005, p. 22–39

- **Directive** (EC) 2006/114 of the European Parliament and of the Council of 12 December 2006 concerning misleading and comparative advertising; *OJ L 376*, 27.12.2006, p. 21–27
- **Directive** (EU) 2010/13 of the European Parliament and of the Council of 10 March 2010 on the coordination of certain provisions laid down by law, regulation or administrative action in Member States concerning the provision of audiovisual media services (Audiovisual Media Services Directive), *OJ L 95*, 15.4.2010, pp. 1–24.
- **Directive** (EU) 2015/1535 of the European Parliament and of the Council of 9 September 2015 laying down a procedure for the provision of information in the field of technical regulations and of rules on Information Society services

#### International agreements

- **WTO Agreement on the on Technical Barriers to Trade** (TBT agreement), [https://www.wto.org/english/docs\\_e/legal\\_e/17-tbt\\_e.htm](https://www.wto.org/english/docs_e/legal_e/17-tbt_e.htm) (accessed 21-9-2017)

#### Case Law

- **Case 8/74** *Procureur du Roi v. Benoît and Gustave Dassonville*. Reference for a preliminary ruling: *Tribunal de première instance de Bruxelles - Belgium* [1974] ECR -00837
- **Case 120/78** *Rewe-Zentrale AG v Bundesmonopolverwaltung für Branntwein* Reference for a preliminary ruling: *Hessisches Finanzgericht - Germany. Measures having an effect equivalent to quantitative restrictions* [1979] (*Cassis de Dijon*) ECR -00649
- **Case 98/86** *Ministère public v Arthur Mathot*. Reference for a preliminary ruling: *Tribunal de première instance de Dinant - Belgium. Preliminary - Labelling of butter* [1987] ECR -00809
- **Case 178/84** *Commission of the European Communities v Federal Republic of Germany*. *Failure of a State to fulfil its obligations - Purity requirement for beer* [1987] ECR -01227
- **Case C-315/92** - *Verband Sozialer Wettbewerb v Clinique Laboratories and Estée Lauder (Clinique)* Reference for a preliminary ruling: *Landgericht Berlin - Germany. Free movement of goods - Name of a cosmetic product liable to mislead consumers* [1994] ECR I-00317
- **Case C-210/96** *Gut Springenheide GmbH and Rudolf Tusky v Oberkreisdirekto des Kreises Steinfurt – Amt für Lebensmittelüberwachung (Gut Springenheide)* Reference for a preliminary ruling: *Bundesverwaltungsgericht - Germany. Marketing standards for eggs - Promotional descriptions or statements liable to mislead the purchaser - Reference consumer* [1998] ECR I-04657

- **Case C-376/98**, *Germany v. Council and the European Parliament. Federal Republic of Germany v European Parliament and Council of the European Union. Directive 98/43/EC - Advertising and sponsorship of tobacco products - Legal basis - Article 100a of the EC Treaty (now, after amendment, Article 95 EC)* [2000] (Tobacco Advertising I) ECR I-8419
- **Case C-443/98** *Unilever v Central Food. Reference for a preliminary ruling: Pretore di Milano - Italy. Technical standards and regulations - Obligations of notification and postponement of adoption - Applicability in civil proceedings* [2000] ECR I-07535
- **Case C-220/98** *Estée Lauder Cosmetics GmbH & Co. OHG v Lancaster Group GmbH. Reference for a preliminary ruling: Landgericht Köln - Germany. Free movement of goods - Marketing of a cosmetic product whose name includes the term "lifting" - Articles 30 and 36 of the EC Treaty (now, after amendment, Articles 28 EC and 30 EC) - Directive 76/768/EEC.* [2000] ECR-I-00117
- **Case C-380/03** *Germany v. Council and the European Parliament. Action for annulment - Approximation of laws - Directive 2003/33/EC - Advertising and sponsorship in respect of tobacco products - Annulment of Articles 3 and 4 - Choice of legal basis - Articles 95 EC and 152 EC - Principle of proportionality* [2006] (Tobacco Advertising II) ECR I-11573
- **Case C-195/14** *Bundesverband der Verbraucherzentralen und Verbraucherverbände - Verbraucherzentrale Bundesverband e.V. v Teekanne GmbH & Co. KG. Request for a preliminary ruling from the Bundesgerichtshof. Use of the indication 'raspberry and vanilla adventure' and of depictions of raspberries and vanilla flowers on the packaging of a fruit tea not containing those ingredients - Teekanne* [2015] - ECLI:EU:C:2015:361



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