Limits to Behavioural Consumer Law and Policy: The Case of EU Alcohol Labelling

Hanna Schebesta and Kai Purnhagen

Abstract Limits of the implementation of findings from behavioural science into law and policy are increasingly recognized in the literature. In this contribution, we analyse the example of alcohol nutrition labelling to show the potential and the limits of how behavioural science can be meaningfully used to inform policy makers. We first explain what we understand to be proxies for the limit of the implementation of behavioural science into policy. Subsequently we illustrate how alcohol nutrition labelling is currently regulated and survey the on-going policy process, including an analysis of the self-regulatory proposals that have been tabled by the alcohol beverages industry. We then survey and apply existing consumer studies. Our research shows that behavioural insights support stronger alcohol nutrition labelling at a general level. However, the different options of labelling are currently understudied and provide an insufficiently sound empirical basis for policy making.

1 Introduction

The use of behavioural research is gaining prominence as a tool to assess policies[1] and, increasingly, also, the law itself.[2] At EU level, this approach is applied with increasing prominence to the area of consumer contract law, in particular unfair commercial practices law[3] and information legislation, which can be summarised as a new field of research of behavioural EU law.[4] Initial applications were largely enthusiastic about the potential of behavioural insights for internal market law,

[1] See e.g. Straßheim and Beck (2019).

[2] Alemanno and Sibony (2015) and Mathis (2015).

[3] Herpen and Purnhagen (2018) and Sibony (2015).

[4] Purnhagen and Schebesta (2019).

H. Schebesta (✉) · K. Purnhagen
Law Group, Wageningen University and Research, Wageningen, The Netherlands
e-mail: Hanna.schebesta@wur.nl; kai.purnhagen@wur.nl

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applying the insights largely uncritical to the interpretation and assessment of EU law.[5] With EU behavioural law coming of age, more nuanced and critical appraisal take centre stage in scholarship. Increasingly, scholars look into the question which criteria shall be applied to draw meaningful conclusions from behavioural research for internal market law.[6] This raises the question: What are the limits for the implementation of behavioural analysis into EU law? Our contribution uses the case of alcohol labelling law in the EU to illustrate how the implementation of behavioural science research is both, a welcome science-based approach to justify regulation and a tool which can be used to hide behind science to "legitimise" policy considerations not backed up by the underlying behavioural science (and thereby constituting the limits of implementation of behavioural science research).

In order to do so, this contribution first illustrates the existing literature on the limits of the implementation of behavioural science into law. Second, the special case of alcohol labelling in the EU is introduced and the existing behavioural studies used for their assessment. The case of alcohol labelling is particularly appealing, as it is the only area in EU food information law that is systematically exempted from general food labelling provisions,[7] while behavioural science is conventionally interpreted in a way which does not justify such an exemption. Third, we show how the application of behavioural science has been used to analyse cases of alcohol labelling, sometimes leading to valuable insights and sometimes to justify policy claims not covered by the science in question. Based on this illustration, we will close with a call for more quality in the use of insights from behavioural science in EU consumer law.

2 Limits to the Implementation of Insights from Behavioural Sciences into Law: A Short Literature Review

A strand of literature exists, which rejects the use of behavioural insights into policy or law-making *per se*.[8] We do not deal with this criticism here. Rather, we look into the criticism of those scholars who are in principle open to using insights of behavioural science into law-making, but raise specific, thoughtful concerns that one may engage with to improve the system of behavioural policy making. These criticism can be summarised in four clusters, namely legality, legal validity, scientific validity and social validity of behavioural interventions. Together, they form a

[5] Purnhagen (2014), Purnhagen (2015) and Sibony (2015).

[6] Fabbri and Faure (2018), Purnhagen and Feindt (2015) and Purnhagen (2018).

[7] Purnhagen and Schebesta (2019).

[8] See for a summary Fabbri and Faure (2018), pp. 248–249.

regulatory validity test, which can be applied to identify robust behavioural interventions into legal systems.[9]

2.1 Legality Concerns

The category 'legality concerns' comprises concerns that relate to the compliance of behavioural intervention with legal standards. In this way, most types of behavioural interventions are used as a tool for the executive.[10] It has been argued that they hence have a problem with democratic legitimacy.[11] Depending on the respective legal system, some scholars claim for a formal legal review of the use of behavioural interventions.[12] They have been argued to violate human rights,[13] particularly human dignity,[14] or, in the case of Germany, at least require justification for violation of basic rights granted by the national constitution.[15] Most of these criticism based on legality target public nudging approaches, and hence interventions where the executive makes use of behavioural findings to steer behaviour. These critiques carry an undertone that by using nudges, the executive would eventually circumvent established checks and balances. Interestingly, to our knowledge no-one has ever argued that nudges shall not be subject to legal review. Quite the contrary: Most prominently it has been argued that all governmental action, including nudges, shall be subject to justification and hence to a legality review.[16] Either way, we do not address this criticism as this contribution does not engage primarily with nudging by the executive, but rather with the evaluation of legislative measures in the area of alcohol labelling.

2.2 Legal Validity

Legal validity refers to value or policy commitments in the underlying legal regime that directly or indirectly affect requirements or expectations of which data are to be included and how these data are to be accessed or collected.[17] This particularly applies to situations where behavioural insights are used for assessment of

[9]Purnhagen (2018).
[10]McCrudden and King (2015), p. 123 and Hansen and Jespersen (2013), p. 5.
[11]McCrudden and King (2015), p. 123 and Hansen and Jespersen (2013), p. 5.
[12]Van Aaken (2015) and Purnhagen and Reisch (2016).
[13]Alemanno and Spina (2014), p. 446.
[14]McCrudden and King (2015), pp. 100–104.
[15]Purnhagen and Reisch (2016).
[16]Sunstein (2015).
[17]Purnhagen (2018) p. 290.

legislation. Do the studies and the policy recommendations really take into account the value commitments the law carries? To take an example from food information law for illustration: Suppose data from behavioural science shows that if consumers have a wider information base on the risks and benefits of GMOs they would also be more supportive of GMO introduction to the market.[18] As a consequence, as a policy tool, proper labelling may be a better alternative than an authorization procedure. However, it would make little sense to require labelling of GMOs to replace the authorisation procedure, as in some legal systems the authorisation procedure reflects the constitutional principle of precaution and is the outcome of a well-balanced compromise under WTO law. It would make sense, however, to base the same policy consideration on behavioural science, if this science illustrates that labelling can serve the purposes of the precautionary principle better and is better to deal with the requirements of WTO law. Such concerns of a neglect of legal considerations in behavioural analysis of EU law were particularly voiced where behavioural science was implemented into the review of policy making at the EU level. In particular, this criticism concerned the incorporation of behavioural science into the regulatory impact assessment,[19] the determination of the "vulnerable consumer"[20] and the "average consumer"[21] benchmark in EU consumer law.

2.3 Scientific Validity

Scientific validity conventionally distinguishes between internal[22] and external[23] validity. Internal validity refers to whether observed covariations should be interpreted as a causal relationship.[24] In other words, whether the single observed behavioural patterns can be reasonably connected to the influence under investigation. For example, can one really infer from a study where students are misled according to the size of a product that their purchase decision is affected?[25] Is the underlying measurement method, the stimuli used in the right setting and can this really result in the observed behaviour? External validity describes whether internally valid causal relationships can be generalised to different measures, persons, setting and times outside of the experiment.[26] For example, can we extrapolate

[18]Heiman and Zilberman (2011).
[19]Purnhagen and Feindt (2015).
[20]Purnhagen (2018), pp. 283–289, 290–293.
[21]Purnhagen and van Herpen (2017).
[22]Campbell and Stanley (1966).
[23]Calder et al. (1982).
[24]Campbell and Stanley (1966).
[25]Paraphrasing our study on the Mars-case Herpen and Purnhagen (2018).
[26]Calder et al. (1982), pp. 240–244.

findings on misleadingness of student consumers tested on a coffee pack to other products and groups of human beings?

2.4 Social Validity

Social validity requires that relevant findings resonate with the values and concerns of affected groups.[27] That means, that the design of the experimental research for policy considerations is not detached from the legal and policy considerations, but rather a co-production process between scientists, policy-makers, regulators and stakeholders.[28] For example, an experiment to determine whether young children require nutrition labelling of alcohol can be conducted in the best scientifically valid manner, but makes little sense when taking into account that in many societies young children are very unlikely to drink alcohol. Likewise, if behavioural interventions are not being accepted by the addressees, social acceptance of such interference is likely to trigger resistance and hence not very promising.

2.5 Validity and Behavioural Interventions in the Law

Unfortunately, overgeneralisation, cherry-picking of studies, investigation of a selected number of policy tools, and neglect of societal value commitments as enshrined in the law are a steady companion to policy claims based on scientific studies and in particular behavioural studies.[29] Following this practice, the danger exists that science is used as a shield to hide behind for justifying normative policy decisions. In the subsequent section, we will illustrate how such uses of behavioural sciences can materialise on the example of the EU law on alcohol labelling.

3 Alcohol Labelling in EU Law, Policy and Behavioural Sciences

When it comes to being regulated, the alcoholic beverages sector is, on one hand, subject to an important amount of sector-specific regulation, making alcohol a highly regulated area through *lex specialis*. On the other hand, it was also highly successful in securing exemptions within legislation. Within food regulation, alcohol must be regarded as exceptional. As such, as we will illustrate below, alcoholic beverages are

[27] Purnhagen (2018).
[28] Gibbons et al. (1994).
[29] Zeiler (2010).

widely exempt from food information labelling, and do not need to bear a list of ingredients or a nutrition declaration. A policy discussion on how to regulate alcoholic beverages in the future is ongoing, and we discuss relevant evidence from behavioural law, and how it will shape policy considerations including the impact on future regulation.

3.1 Alcohol Labelling Law in the EU

Alcohol labelling enjoys a special treatment in the EU Food Information Regulation ('FIR'). Part of these specific regulations are justified as to the "specific nature of alcoholic beverages,"[30] without indicating further what makes this nature specific. Indeed, most of the special provisions concerning alcoholic beverages in the FIR[31] are linked to the minimum amount of alcohol contained in the beverage (>1,2% by volume).

Another reason for special treatment mentioned in the FIR is more explicitly connected to the intoxicating effect, namely in relation to alcohol beverages and the attraction to the specific vulnerable groups, such as young people. Recital 40 explicitly stipulates that there is "general public concern about alcohol-related harm especially to young and vulnerable consumers". Hence "the Commission, after consultation with stakeholders and the Member States, should consider the need for a definition of beverages such as 'alcopops', which are specifically targeted at young people." This aim was taken up as a regulation in Art. 16 (4) para 2 FIR.

Thus, according to the FIR, the intoxicating effect of alcohol beverages justifies special labelling regimes towards average consumers. However, if alcoholic beverages are designed to attract consumption by young people, the FIR defines this group as a specifically vulnerable group of consumers, which may mandate also more specific regulation.

While alcoholic beverages above 1,2% by volume of alcohol must mention their alcoholic strength by volume,[32] they are exempted from a nutrition declaration and the list of ingredients.[33] They do need to comply with the other mandatory requirements, i.e. the name, allergen labelling, quantity of certain ingredients, date marking, business operator and country of origin, and instructions for use.

On one hand, therefore, the FIR imposes more stringent requirements on food business operators. Art. 9 (1) lit. k FIR requires for all "beverages containing more

[30]Recital 40 FIR.

[31]Such as Art. 9 (1) lit. k, 16 (4), 28, and 41 FIR.

[32]Art. 9 (1) lit. k FIR requires for all "beverages containing more than 1,2% by volume of alcohol" to indicate "the actual alcoholic strength by volume" as a mandatory food information to consumers.

[33]Art. 16 (4) subpara 1 FIR relaxes food information obligations "for beverages containing more than 1,2% by volume of alcohol" in a way that the "list of ingredients or a mandatory nutrition declaration" is not needed.

than 1,2% by volume of alcohol" to indicate "the actual alcoholic strength by volume" as a mandatory food information to consumers.

Alcohol beverages must also comply with allergen labelling, such as sulphur dioxide/sulphites, egg and milk products, glycyrrhizinic acid, ammonium salt etc. These must be added/highlighted in the list of ingredients or, in the absence of such, accompany the name of the beverage. A date of minimum durability only applies for beverages of <10% abv.

On the other hand, Art. 16 (4) subpara 1 FIR relaxes food information obligations for beverages of >1,2% abv in a way that the "list of ingredients or a mandatory nutrition declaration" is not needed. Regarding the nutrition declaration, Article 30 (4) specifies that a voluntary nutrition declaration on alcoholic beverages may be limited to the energy value only.

Deviating from the maximum harmonization approach of the FIR, Art. 41 FIR opens the possibility for Member States to maintain national measures for the *ingredient list*.

At EU level, alcohol is thus exempt from the two most important tools of consumer information that other foods need to provide.

At the same time, alcoholic beverages with 1,2% abv may not make nutrition claims,[34] apart from the alcohol specific ones relating to a reduction in the alcohol or energy content. Additionally, it appears that vitamins or minerals may not be claimed on these beverages: the NHCR lists a "source of [vitamin/mineral]" claim, which is defined as "(a) claim that a food is a source of vitamins and/or minerals, and any claim likely to have the same meaning for the consumer". The nutrition declaration would seem to satisfy this point. Since alcoholic beverages may only make the aforementioned specified claims, they are barred from claiming the presence of vitamins and minerals, including in a nutrition declaration.

Alcohol is subject to a lot of sector-specific exemptions and is a typical case for *lex specialis*. Generally, alcohol beverages are distinguished along the categories of wine, spirits, beer and cider and fruit wines.

Labelling for wine has always been subject to a complementary special regime for the wine sector, originally in the framework of the Wine CMO Regulation.[35] It instituted a legal regime and defined categories of grapevine products. Additionally, wines with PDO and PGI are subject to the specific wine rules in the framework of the EU Quality Schemes Regulation. To date, the 2013 CMO Regulation[36] lays

[34]Article 4(3)b of 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, pp. 9–25.

[35]Originally Council Regulation (EC) No 479/2008 of 29 April 2008 on the common organisation of the market in wine, amending Regulations (EC) No 1493/1999, (EC) No 1782/2003, (EC) No 1290/2005, (EC) No 3/2008 and repealing Regulations (EEC) No 2392/86 and (EC) No 1493/1999 [now repealed].

[36]General CMO-Regulation of 2013, Regulation (EU) No 1308/2013 of the European Parliament and of the Council of 17 December 2013 establishing a common organisation of the markets in agricultural products and repealing Council Regulations (EEC) No 922/72, (EEC) No 234/79, (EC) No 1037/2001 and (EC) No 1234/2007 – OJ L 347, 20.12.2013, p. 672.

down compulsory labelling particulars for the wine sector. The horizontal FIR rules are applicable, unless superseded by a specific rule of the CMO regime. The compulsory particulars include for instance the designation of grapevine category. The EU compositional and production rules for the grapevine sector are very detailed (now in the 2013 CMO Regulation), and therefore the main consumer protection derives from the fact that in order to use the recognized grapevine product categories[37] as name, producers must comply with a tight set of intricate rules. In the case of sparkling wine, aerated sparkling wine, quality sparkling wine or quality aromatic sparkling wine, an indication of the sugar content is compulsory.[38]

Similarly, spirits[39] are subject to stringent definition about the sales denominations, production (e.g. of the ethyl alcohol) and composition. Aromatised wines,[40] next to fixed sales denominations, may be supplemented with particulars that depend on their respective sugar content, i.e. extra-dry is a sugar content of less than 30 g/litre or sweet for a sugar content of 130 g/liter or more. Beer, on the other hand, has so far eschewed any particular EU rules next to the general horizontal regime for alcoholic beverages.

The overview demonstrates that alcohol is a legal regulatory outlier. Paradoxically, in some respects alcoholic beverages are highly regulated, including compositional and process requirements that specific categories of alcoholic drinks have to satisfy. They are also barred from most nutrition claims. At the same time, they are exempt from the main pillars of general food information law, the list of ingredients and the nutrition declaration.

3.2 Alcohol Labelling Policy Initiatives

Alcohol food information regulation has been a contentious affair all along in the political process.[41] Exemptions were made, and the study of a 'future inclusion'

[37]The recognized categories of grapevine products (Annex VII 2013 CMO Regulation) are wine, new wine still in fermentation, liqueur wine, sparkling wine, quality/aerated/semi- sparkling wine, grape must (partially fermented, concentrated, rectified), wine from raisined overripe grapes, wine vinegar. Wine, by definition, may be obtained exclusively from the total or partial alcoholic fermentation of fresh grapes.

[38]Now Article 119(1)(g) of 2013 CMO Regulation, ex-Article 59 of Wine CMO Regulation.

[39]Regulation 110/2008 on the definition, description, presentation, labelling and the protection of geographical indications of spirit drinks and repealing Council Regulation (EEC) No 1576/89, Regulation (EC) No 110/2008 of the European Parliament and of the Council on the definition, description, presentation, labelling and protection of geographical indications of spirit drinks—OJ L 39, 13.2.2008, p. 16.

[40]Regulation (EU) No 251/2014 of the European Parliament and of the Council of 26 February 2014 on the definition, description, presentation, labelling and the protection of geographical indications of aromatised wine products and repealing Council Regulation (EEC) No 1601/91 – OJ L 84, 20.3.2014, pp. 14–34.

[41]See González Vaqué (2018), p. 233.

promised in various legislative texts. Also, the FIR of 2011 promises a review of the special treatment of alcohol. Art. 16 (4) subpara 2 FIR mandates the Commission to review this special treatment of alcoholic beverages in the FIR with a view on inter alia determining whether the policy of the non-inclusions of the list of ingredients and the information on nutrition as mandatory requirements "should in the future be covered". The Commission adopted its report 13 March 2017. The report acknowledges that there may be a link between food information labelling and "a more moderate alcohol consumption", but *excludes* this issue, looking exclusively at the consumer information. The Commission concludes that it "has not identified objective grounds that would justify the absence of information on ingredients and nutrition information on alcoholic beverages", but will first consider the self-regulatory proposals by the sector.

On 12 March 2018, Commissioner Andriukaitis met the alcoholic beverages industry, in which the industry proposed a self-regulatory proposal. The self-regulation proposal comes with distinct Annexes of the four predominant alcoholic beverages sectors (spirits, wine, beer and cider and fruit wine), testifying to their individual and often not homogeneous concerns.

The general industry commitment is weak. Although a lot of emphasis is placed on developing online tools, and joint information websites, the industry remains uncommitted to food labelling and wants to keep information off the package.

The spirits sector underlines that "spirits, unlike most other food sectors, are subject to stringent rules on their production and composition - Regulation 110/2008. How spirits are made and what they are made from is therefore legally defined."

In light of these statements it is questionable for the beverages industry what the advantage of self-regulation would be over mandatory labelling obligations. If, for instance, the beer brewers recommend to their members to simply comply with the Regulation, then this is either not a serious commitment, or they would not have an issue with EU regulation.

Overall, the main proposals are different for the sectors. There is a partial commitment in the sector of beer for full voluntary compliance with all food information law. All sectors highlight their commitment to improve off pack labelling, including nutrition information about alcoholic beverages. A specific issue that was highlighted (particularly by the spirits sector) is whether the current 100ml labelling is a suitable way of indicating nutrition information.

Why have alcoholic beverages been exempt from mainstream food information obligations, and should this continue to be the case? It is hard to identify the scientific or consumer-based reasons that led to the alcoholic beverage exemption. Certainly, it was politically difficult[42] to gain consensus for labelling, but this appears to be have resulted from hard industry concerns, rather than scientific or consumer-based reasons.

[42]See overview González Vaqué (2018), p. 233.

3.3 Behavioural Studies on Alcohol Labelling

Available behavioural studies on alcohol labelling can be clustered into studies which look into first whether consumers want nutrition information about alcoholic beverages and second into what kind of nutrition information on alcoholic beverages will be useful to consumers.

3.3.1 Do Consumers Want Nutrition Information About Alcoholic Beverages?

A GfK study from the Gesellschaft für Konsumforschung (GfK, Consumer Insights Study) of consumers across the EU (n = 9000)[43] showed that an overwhelming 86% would welcome the same nutrition information per 100 ml for alcoholic beverages as for regular foodstuffs. The interest is high on average for all specific food information—ingredients (74%), energy value (71%) and the full nutrition declaration (71%). Across Member States, however, the expressed interest varies very significantly (around 90% in Italy, around 50% in the Netherlands). Due to the specific scope of this study, it is the most pertinent study on the issue identified. Other studies support these findings.[44]

On the particular issue of energy labelling in alcoholic beverages, a systematic literature review conducted by EUFIC[45] found that studies generally show a misconception by consumers of calories in alcohol. The majority of consumers (around 60–70%) was shown to overestimate the caloric content of beer and wine, while a smaller share underestimated the caloric content (roughly 20%). The same literature review found that consumer demand for calorie labelling is strongly supported by studies (ranging between 60 and 80%).

An overwhelming majority of consumers across the EU would welcome nutrition labelling of alcohol.

3.3.2 What Kind of Means of Nutrition Information on Alcoholic Beverages Will be Useful to Consumers?

Behavioural data show that on-pack label information is the predominant mode used by consumers to acquire nutrition information. The Consumer Insights Study concludes that there is a "growing use of digital platforms, combined with traditional information sources".[46] A critical look at the data, however, reveals that for

[43]GfK Consumer Insights Study, Report for the Brewers of Europe by GfK Belgium (2016).

[44]E.g. Thomson et al. (2012), VicHealth (2009) and Kypri et al. (2007).

[45]On file with authors.

[46]GfK Consumer Insights Study, Report for the Brewers of Europe by GfK Belgium (2016), available at http://www.beerwisdom.eu/downloads/GfK-Consumer-Insights-Study.pdf, p. 4.

nutritional values, 31% of consumers *only* uses traditional methods, with another 44% using both digital and traditional methods. In the mixed method category, on-pack labels remain the most important information source with 71%. In addition, around 60% of consumers indicated that they never or rarely use any of the off-label information sources, with 20% using them occasionally.

This puts the self-regulatory initiative into a dire perspective—it shows a high commitment to off-pack data provision, but—at least in the current state of consumers' information acquisition—this solution does not meet consumer needs for information acquisition.

4 The Limits of the Behavioural Policy Debate: What Kind of Labelling?

If we look at the available evidence from behavioural science and nutrition labelling as the only information requirement on pack in isolation, we put forward that nutrition labelling of alcoholic beverages should occur on pack. This conclusion, however, only rests on a model with two options, namely information yes or information no. It does not give any guidance as to how such information shall be designed. If we divert attention to the "how", an articulation about the regulatory goal such an information shall achieve is warranted. Information as such is never neutral, it always works in a context towards achieving a certain goal. This also accounts for labelling of alcohol. Compared to the majority of other foods, alcohol is special in that it is scientifically clearly linked to negative health consequences (the same would be true for sugar[47]). The effect of alcohol on health is not only a link in terms of caloric value, or other nutrients. The substance alcohol affects health independently, due to its toxic effect. Under current EU legislation, alcohol content must be indicated by % of volume on a product, but this information can be in a different visual field and does not immediately provide an absolute amount. While, therefore, caloric and other standard nutrition particulars are an important variable to show about alcohol, the nutrition declaration does not provide information about the alcoholic content.

The health effects of alcohol are currently entirely neglected in labelling, and the Commission explicitly excludes this topic in their report.[48] This is a notable deficit in the ongoing debate and in the policy proposals. The discussion about the ingredient list and nutrition declaration labelling diverts attention from the question of whether

[47] See on the parallels Lustig (2010) and Lustig et al. (2012).

[48] Report from the European Commission to the European Parliament and the Council regarding the mandatory labelling of the list of ingredients and the nutrition declaration of alcoholic beverages, Brussels, 13.3.2017, COM(2017) 58 final, section 1: "While nutrition labelling can play a certain role in the promotion of a more moderate alcohol consumption, the issue of the labelling of the list of ingredients and the nutrition declaration for alcoholic beverages is examined in this report under the perspective of consumer information about the identity and the properties of a food."

the alcohol content should be immediately included in the nutrition declaration. In determining how nutrition labels shall be designed, regard shall be had as to how nutrition labels can contribute to a healthier diet, so-called directive labelling.[49]

We hypothesise that the empirical evidence of the effectiveness of directive labelling is sparse and to our knowledge non-existent for non-directive alcohol labels. However, in our view, it is one of the most pressing issues that needs further study and policy consideration in the future.

4.1 Limited Data Availability on Different Policy Options

A systematic literature review on 46 empirical, English-language, peer-reviewed studies addressing alcohol labelling from a consumer point of view showed two serious limitations in studies addressing alcohol labelling on alcoholic beverages.[50] These are, notably:

(1) **The specifics of intervention measures that were subject to consumer studies are often overlooked and heavily over-generalized**. For instance, a cluster of the earlier—and well quoted—studies on alcohol labelling were done in the US context. Under the US Alcoholic Beverage Labeling Act (ABLA), government warnings on alcoholic beverages address pregnancy risks, ability to drive a car and a short 'may cause health problems'.[51] These are *specific sentences* that group *three distinct risks (alcohol-pregnancy/alcohol-driving/alcohol-health)* that have to be stated in *textual form*. The health warning is non-prominent, and formulated in a 'may' format, thus being semi-directive.

Such generalization can be questioned, for instance, for studies relating only to the 'pregnancy warning' logo. The generalizability is limited due to the specificity of the risk they are indicating, as well as for the design of the intervention measure (simply a logo, as opposed to the US textual warning, for instance, *According to the Surgeon General, women should not drink alcoholic beverages during pregnancy because of the risk of birth defects.*)

Studies on intervention measures, in addition, are often insufficiently clear in their reporting as to what exactly was shown to consumers and lead to drawing conclusions that may be overgeneralizing.

Even if studies are specific in mentioning the intervention measures used, the findings are often abused way beyond a specific kind of intervention measure at issue. In assessing the utility of a consumer study on alcohol labelling, it is therefore

[49]Hodgkins et al. (2012) and Bialkova et al. (2013).

[50]On file with one of the authors.

[51]Alcoholic Beverage Labeling Act (ABLA) of the Anti-Drug Abuse Act of 1988, Pub.L. 100–690, 102 Stat. 4181, enacted November 18, 1988, H.R. 5210.

necessary to carefully consider (a) the design of the intervention measure, (b) the risk addressed, and the (c) directiveness of the message.

(2) **Not all policy options are equally represented in consumer research, and some not at all**. Not the full range of policy options has equal attention, and some policy options are understudied or not studied at all. The literature review showed that around half of the consumer studies have been conducted on health warning messages, and around a third on Standard Drink Units and Standard Drink Guidelines, i.e. very directive or semi-directive options. No studies address the pure non-directive option of including the alcohol content in gram.

The alcohol labelling case study shows that there is limited availability of scientific data matched to different policy options that could be considered by the policy makers. It is therefore paramount for policy makers to examine whether consumer insights on the different policy options under consideration is available at all.

One explanation of the lack of a non-directive pure alcohol gram labelling option in policy discussions is the fact that such intervention measure is not currently studied in consumer studies. One risk is that policy makers' options are limited and influence by studies on what is available, instead of the other way around (policy makers formulating questions to study) as it should be. This strikes us as a plausible hypothesis.

5 Conclusions and the Way Forward

Currently available studies from behavioural and health and safety science do not justify the current exemption of alcohol labelling from the major food labelling requirements in EU law. Quite the contrary, particularly insights from food, health and safety science mandate policy interventions in order to protect consumers. The self-regulatory proposals from industry are unlikely to be a sufficient response to the health and safety requirements, nor do they outbalance the lack of justification of the current exemption from the most important labelling requirements in Union law. However, with respect to what exactly should be done instead in order to communicate to consumers effectively about the risks involved with alcohol consumption there is only limited valid data available. As a default, long known deficiencies about the 'information overload' of consumers in the food chain[52] indicate that a simple application of all provisions of EU food information law on alcoholic beverages may not be fit for the purpose to effectively communicate risks to consumers. However, acquiring data on the effect of policy options is difficult,[53] and those who make

[52]Verbeke (2005).

[53]Purnhagen and van Kleef (2018), p. 126.

policy recommendations based in currently available data from behavioural science base their recommendations of patchy data.

Concluding, an overwhelming evidence from especially health and safety science require intervention into drinking behaviour of European consumers. However, limited data on the effect on policy interventions exists. So, which policy options to choose on which basis?

On one hand, one could meaningfully conclude that some data is better than no data, hence, in light of the requirement to act, rather than having no indication one could at least base one's intervention on the little and patchy data available. However, if this argument is followed, other policy problems may emerge. "(P)atchy data might be misleading if the patterns of omission are unknown, and often data collected for other purposes might carry categories that are not suited to the regulatory purpose at hand."[54] As a consequence, a rigorous application of a regulatory validity test is warranted to justify robust policy advice on how to design alcohol labelling laws.[55]

First legal validity. The exemption in EU labelling law concerns the nutrition label and the list of ingredients. Hence, EU-related studies on whether consumers endorse such an exemption relate to ingredient and nutrition labelling, which directly refers to the legal requirement. However, with regards to how one shall interfere, most alcohol labelling studies concern labelling of health risks and/or risks to specific vulnerable groups such as pregnant women. From the perspective of legal validity, the studies may only carry some normative value to determine if consumer want nutrition and ingredients information. When determining which kind of labelling is required, studies do not refer to nutrition and health labelling, which makes it difficult to connect to the fact that only nutrition and health labelling are exempted. Furthermore, the studies concerning nutrition and ingredients information do not distinguish between the different vulnerability levels and type of alcohol as required by the FIR. For example, alcopops and teenagers are treated in the same category as senior wine drinkers. This also limits the legal validity of the studies, as EU law requires a different yardstick to be applied to alcohol typically consumed by teenagers and other consumers.

With regards to scientific validity, most of the studies investigating different policy tools did not include all of the relevant policy options into their assessment. It is hence impossible to make a final judgment regarding which policy options are the "better" ones, as most have simply not been included in the analysis. The type of interventions are also often confused, comparing textual with pictorial claims (or disregarding the fact that pictorial claims may be the better policy option).

Social validity is a concern throughout all studies, as neither stakeholders were sufficiently engaged in the research design nor was acceptability of the application of respective behavioural findings tested on stakeholders.

[54]Purnhagen and Feindt (2015).

[55]See on the requirement to conduct a regulatory validity test Purnhagen (2018).

No robust conclusion can hence be made relying on the available behavioural science. However, relatively robustly one can conclude that consumers want to know more about the nutritional value and the ingredients of the alcohol they consume. A recommendation how such information shall be conveyed cannot be based on behavioural science research so far available. Safety science, however, indicates that such information shall be directed more clearly towards enabling consumers to drink healthier.

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Hanna Schebesta Associate Professor of Law at the Wageningen University & Research. P.O. Box 8130, 6700 EW Wageningen, Fields of Interest: EU Law, Food and Agricultural Law, Public Procurement Law.

Kai Purnhagen Associate Professor of Law at the Wageningen University & Research. P.O. Box 8130, 6700 EW Wageningen. Fields of Interest: EU Law, International Economic Law, Law and Behavioural Science, Risk Regulation (incl. Food Law), Comparative Law.