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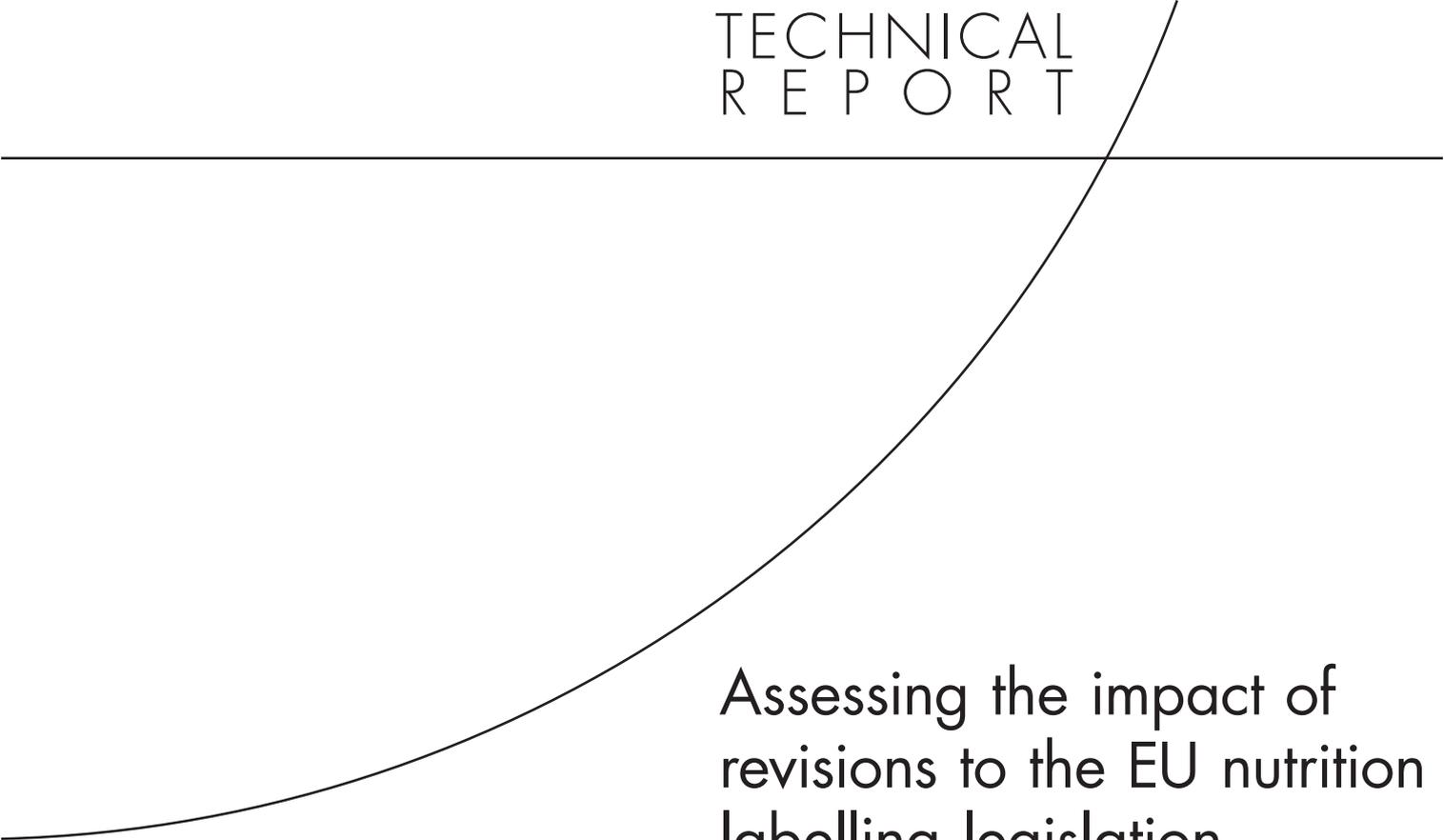
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TECHNICAL
R E P O R T



Assessing the impact of revisions to the EU nutrition labelling legislation

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Prepared for the European Commission

The opinions expressed in this study are those of the authors and do not necessarily reflect the views of the European Commission.

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Executive Summary

Introduction

The European Commission aims to put in place a comprehensive nutrition labelling policy, one that is responsive to the Lisbon Strategy's agenda of better regulation for Europe and helps consumers make healthy, sustainable dietary choices. As with all major policy proposals, this revision of the regulation on nutrition labelling requires an evidence-based, *ex ante* impact assessment.

Nutrition labelling refers to a list of nutrients on a food label accompanied by some form of quantifying mechanism.¹ Nutrition labelling of foodstuffs is currently regulated by Directive 90/496/EEC, under which nutrition labelling is optional, unless a nutrition claim is made— that is a suggestion that a food has particular nutritional properties, such as being low in fat – is made in the labelling, advertising or presentation of the product. In this case it is compulsory for producers to provide nutrition information, in the standardized format stipulated by the Directive.

According to the European Commission's Directorate General for Public Health and Consumer Protection (DG SANCO),² the aims of nutrition labelling legislation are to:

- provide consumers with the necessary information to enable them to make safe, healthy and sustainable choices
- create a pro-competitive market environment in which dynamic, efficient, innovative operators can make full use of the power of labelling to sell their products
- create a common framework and rules in order to eliminate barriers to the free circulation of goods.

In addition, nutrition labelling should be consistent, coherent and 'transparent' (have clarity of meaning) in order to enable a high degree of compliance and to optimise its outcomes.³ The proposed policy options for nutrition labelling for foodstuffs are shown in Table 1 (where SME stands for 'small and medium-sized enterprises').

¹ C. Hawkes, *Nutrition labels and health claims: The global regulatory environment* (World Health Organization, 2004).

² DG SANCO, *Labelling, competitiveness, consumer information and better regulation for the EU: A DG SANCO consultative document*. (European Communities, 2006).

³ *Ibid.*

Table 1: Policy options for nutrition labelling

Voluntary versus mandatory nutrition labelling	
A	Maintain current rules – nutrition labelling mandatory if a claim is made (gradual increase in proportion of products bearing nutrition labels).
B	Introduce mandatory nutrition labelling for all businesses (aim to have all products with nutrition labels within 3 years).
C	Introduce mandatory nutrition labelling for all businesses, but with exemptions for all SMEs (aim to have a significant proportion of products, >50%, with nutrition labels within 3 years).
D	Introduce mandatory nutrition labelling for all businesses, but with exemptions for a limited number of SMEs. (aim to have the majority of products, >95%, with nutrition labels within 3 years).
Information to be included as part of nutrition labelling	
A	Maintain current rules – labels have 4 or 8 nutrition elements, each of which is given per 100g/ml, additional information can be provided voluntarily.
B	Restrict nutrition labels, front or back, to 5 key nutrients – calories, fat, saturated fat, salt and sugar.
C	Specify the 5 key elements that must appear on the front and back of pack, but allow additional elements from a positive list to be added to the latter.
D	Specify 9 elements that must appear on back-of-pack labelling – calories, fat, saturated fat, salt, sugar, protein, fibre, carbohydrate and trans fatty acids (with additional voluntary elements from a positive list). Specify 5 elements for front-of-pack labelling – calories, fat, saturated fat, salt and sugar.
Ensuring information is legible	
A	Maintain current rules – broad requirement for the label to be legible and some prescription on format.
B	Introduce a minimum text size for information on nutrition labels, other presentation issues left open, although further measures could be introduced via comitology.
C	Introduce clear rules for presentation covering all relevant issues (text size, font, colour, format, etc.).
Where nutrition information should be included on the label	
A	Maintain current rules – placement of nutrition label left to discretion of manufacturer, no mention of front-of-pack systems.
B	Clearly differentiate between the two types of nutrition labelling – back and front of pack – with clear rules for each.

The aims of this study

The European Commission Health and Consumer Protection Directorate General (DG SANCO) commissioned RAND Europe to provide support in performing an Impact Assessment of the policy options for the revision of Community nutrition labelling legislation, as codified in Directive 90/496/EEC of the European Parliament and the Council. This study is designed to support DG SANCO in assessing the impacts of a number of policy options for the revision of the nutrition labelling legislation identified by DG SANCO. These policy options can be found in Table 1. This report will serve as an input into DG SANCO's own regulatory impact assessment exercise. The research conducted by RAND Europe examines evidence on the costs and benefits for key stakeholders of the policy options proposed by DG SANCO. The central issue in this exercise is to assess how a change in the existing policy could change the costs and benefits to key stakeholders, identified as food producers and retailers, consumers and the Member States.

The European context

There are estimates in Europe of the cost of nutrition-related disease in terms of healthy life years lost to diseases that have a substantial dietary basis. In 2000, it was estimated that approximately 136 million healthy life years were lost, of which 56 million were due to major nutritional risk factors.⁴ Data from 2000 in the European Union (EU) show that nutritional factors, coupled with lack of physical activity, were implicated in:⁵

- from 30-40% of cancers
- at least a third of premature deaths from cardiovascular diseases (CVD) in Europe
- the pan-European ‘epidemic’ in obesity and overweight, which in turn is linked to maturity onset diabetes mellitus, increased risks of CVD and certain cancers, and premature death
- osteoporosis and its consequences, including the increasing number of hip fractures in the elderly (382,000 in the EU in 1995).

In addition, dietary factors are also critically linked to dental caries, iron deficiency, and iodine-deficiency disorders. While the disease patterns vary widely across EU Member States (and more so since 2000, with the accession of twelve new ones), and between socio-economic groups *within* Member States, it is clear that nutrition and diet have a widespread impact on public health in the region. Moreover, even though a definitive audit of the economic cost of nutrition-related disease has not yet been compiled, evidence suggests that the direct costs incurred by national health services in Europe is in the order of billions of euros.⁶

Determinants of labelling costs to food producers

The costs of labelling legislation and changes of labelling legislation occur primarily at the company level – at the level of producers of foodstuff and to some degree at retailers of foodstuff. They occur either “in-house”, or as costs for outsourced services.⁷ It is important to note that labels are not only changed for regulatory reasons as food would also be labelled in the absence of any regulations; therefore the costs of food labelling legislation are not defined as the total costs of producing a food label, but as the additional costs of including the required information on the label.

Labels are usually changed by producers at regular intervals, either for marketing purposes, to reflect changes in the recipes of the product or for various other reasons. These life cycles of a label may range from a few months for highly marketed, branded products, such as cereals or soft drinks, to a few years for niche products and commodified products, such

⁴ World Health Organization, “Food and health in Europe: A new basis for action,” *WHO Regional Publications European Series* no. 96 (2004).

⁵ Euro Diet, *Nutrition and diets for healthy lifestyles in Europe: Science and policy implications* (University of Crete: Euro Diet Project, 2000).

⁶ *Ibid.*

⁷ Depending on the elasticity of demand and supply these costs might, however, be passed on to the final consumer, see E. Golan, F. Kuchler, and L. Mitchell, “Economics of Food Labelling”, *Journal of Consumer Policy* 24, (2001): 117-84.

as sugar, salt or flour.⁸ If labels change frequently, some regulatory changes can easily be incorporated into scheduled labelling changes at reduced cost. The costs incurred in changing labels arise from the firm's need to familiarise itself with the new regulation, the process of obtaining the information required for the label, and design and printing costs.

SMEs are likely to face relatively higher costs due to labelling changes. In general, SMEs command far less resources and cannot realise economies of scale in reacting to changes in labelling regulation compared to large companies. These resources might be needed to acquire information on the regulation, to comply with the regulation by overhauling labels, and to reposition and re-brand products affected by changes in consumer demands as a result of information disclosure.⁹ Overall, labelling requirements might lead to higher per unit costs for SMEs and thus to a reduction in their competitiveness.¹⁰ An analysis of British SMEs, in the wake of the full introduction of European regulation in 1993, found no considerable effects of the labelling regulation on their competitiveness.¹¹ A recent study of the American case, however, shows that the introduction of mandatory nutrition labelling in the U.S. increased the likelihood of SMEs – compared to large companies – exiting the food market.¹²

Assessing the impact of the policy options on nutrition labelling

In order to examine the possible impacts of the policy options on nutrition labelling proposed by the European Commission, available relevant evidence was collected, synthesised and analysed on the four broad headings under which the policy options were developed, namely:

- voluntary versus mandatory nutrition labelling
- the content of nutrition labelling
- the legibility of nutrition labels
- the best place to put nutrition information on food packages.

The evidence reviewed was organised into four chapters following the four headings above.

1. Voluntary versus mandatory nutrition labelling

Mandatory labelling was introduced in a number of countries with the aim of helping consumers make better-informed decisions for their diets, and thus to lead to public health

⁸ EAS, *The introduction of mandatory nutrition labelling in the European Union: An impact assessment*. (Belgium: DG SANCO, 2004): 32.

⁹ Christine Moorman, D. Rex and Carl F. Mela, "The effect of standardized information on firm survival and marketing strategies", *Marketing Science* 24 (2) (2005): 263-74.

¹⁰ E. Golan, F. Kuchler and L. Mitchell, "Economics of Food Labelling", *Journal of Consumer Policy* 24 (2001): 117-84.

¹¹ A. Cumbers, R. Leigh and D. Smallbone, "The Single European market and the new regulatory regime in the food sector: The impact on small and medium-sized manufacturing firms", *British Food Journal*, 97(4) (1995): 13-19.

¹² Christine Moorman, D. Rex and Carl F. Mela, "The effect of standardized information on firm survival and marketing strategies": 263-74.

improvements through the reduction of nutrition-related diseases such as obesity, diabetes and certain types of cancer. Evidence from these countries show that harmonised mandatory nutrition labelling helped some consumers better understand the nutrition information provided. To some extent this is due to the fact that they become familiar with the format and content of the labels, which helps understanding. However, evidence on the extent to which consumers changed their consumption behaviour is limited. The available evidence suggests that some positive changes have taken place. While *ex ante* impact assessments in countries that introduced mandatory labelling indicated that the net benefits of the legislation would exceed its costs, *ex post* calculations on the actual impact of mandatory labelling are yet to be conducted. There is agreement amongst policy-makers, healthcare professional and others, nonetheless, that nutrition labels are not a panacea for improved nutrition and public health, but that they should be an important element of a wider, comprehensive public health strategy on nutrition and health.

It is clear that mandatory labelling imposes costs to producers. The competitive position of SMEs is of particular concern. As a result, countries in which mandatory nutrition labelling was introduced, also put in place cost-reducing mechanisms – such as nutrition calculators and panels; exemptions for some small firms; and adequate time-frames to allow firms to respond. Ultimately, however, it is expected that any increases in costs of production are passed on to consumers, which means that firms' survival is not at risk. There is little evidence that the introduction of mandatory labelling had a significant negative impact on firms' survival and competitiveness.

2. The content of nutrition labelling

While information overload is a risk when including too many nutrition elements on a nutrition panel – thus affecting consumers' ability to understand and use the label – it is important to include an evidence-based, comprehensive list of elements on a label. This can act as a signal to consumers, which indicates to them that all the elements included on the label are important and should be balanced in a diet.

There is little reliable quantitative evidence about the cost to firms of obtaining nutrition information for their products' labels. An impact assessment of the introduction of mandatory nutrition labelling in the EU, undertaken for DG SANCO, found that while the costs of obtaining information on 'the Big 4' (energy, protein, carbohydrate and fat) is relatively modest, increasing the number of nutrients to seven (to include sugars, saturated fats, and sodium) raises costs significantly, from a mean of €57 to a mean of €256.¹³ However, other evidence found during this research indicates that the costs of obtaining nutrition information for labels can be lower. In particular, it was found that information on macro-nutrients is less costly to obtain than that for micro-nutrients. In addition, increasingly, companies can rely on a wealth of inexpensive resources such as nutrient composition tables and software, which can be provided by public authorities (as is the case in Australia and New Zealand). This could in some instances replace the more expensive laboratory analysis. Finally, exemptions can be put in place for SMEs that might face disproportionate challenges in complying with the regulations.

¹³ European Advisory Services.

3. The legibility of nutrition labels

Nutrition labels have to be clear and comprehensible in order to be useful for consumers wanting to make better-informed food and diet choices. Studies show that the format of labels is an important element in “maximizing the possibility that labeled information will influence its audience”.¹⁴

Experience of mandatory nutrition labelling in the US could prove illuminating. In the US, nutrition labelling became mandatory for almost all packaged foods in 1990, when the Nutrition Labeling and Education Act (NLEA) was passed. The legislation was further modified in 1993, when the format in which nutrient information should be presented was standardised. This standardised format was developed through extensive consultations with consumers, manufacturers and health professionals. American food labelling regulations specify the format in which nutrition information must be provided on a label, although flexibility is allowed if there are packaging space constraints or if certain nutrients normally required on the label are not found within a product. While it remains unclear whether consumers have changed their actual behaviour following the introduction of standardised nutrition labels, some American studies suggest that these labels are in fact less confusing for them, are preferred by consumers, and provide the best performance for identification of nutrients and understanding of values.¹⁵

Research on the impact of a standardised format on food manufacturers is not widely available. However, anecdotal evidence from the US suggests that the exemptions and considerations for package size and other particularities of individual products meant that American food producers did not have significant difficulties in adjusting to the NLEA’s requirements.¹⁶ It is even possible that detailed legibility and format requirements might reduce costs to most manufacturers as there is then no need to design a bespoke nutrition label.

4. The best place to put nutrition information on food packages

Nutrition labels have traditionally been placed on the back of food packages. However, recent research suggests that back-of-pack (BOP) information might not be enough to ensure consumers read the nutrition information. For example a study of consumer views of food labels, conducted by the European Food Information Council (EUFIC) in France, the UK, Germany and the Netherlands, suggests that consumers’ lack of time while shopping often leads to them to disregard BOP nutrition information. In contrast to this, front-of-pack (FOP) ‘flags’ or signposts, which provide a quick at-a-glance sense of the nutrition quality of the product, are welcomed by most consumers.¹⁷

¹⁴ Golan, E. et al., 139.

¹⁵ Ibid.

¹⁶ Elise Golan, PhD, Deputy Director for Research, Food Economics Division, Economic Research Service, USDA. Interviewed April 5th, 2007.

¹⁷ European Food Information Council (2006) *An energy-based approach to nutrition information on food labels*, EUFIC. (Accessed May 2007: <http://www.eufic.org/article/en/nutrition/food-labelling-claims/expid/forum-consumer-attitudes-information-food-labelling/>).

There are a number of possible FOP signposting or labelling such as the ‘traffic lights’ system (as approved by the British Food Standards Agency) and the ‘energy-based’ flag (supported by EUFIC). There is little consensus, however, on which system is more effective in providing information to consumers, and methodologically robust research to assess the impact on consumers of the different FOP systems is lacking.¹⁸

It is difficult to assess what costs to manufacturers would be entailed by the different policy options on placement of nutrition labels. Much depends on whether the specifications on FOP and/or BOP labelling are mandatory or voluntary.

Comparing the options

A scoring framework was developed and applied to the individual policy options in order to synthesise the information provided throughout the report and to allow for a comparison of the policy options. The framework summarises the evidence, discussed in the various chapters, of the likely impact of each policy option. This framework identifies six main categories on which each policy option could have an impact. These categories are:

1. Consumers
2. Industry
3. SMEs
4. International trade
5. Member States
6. Environment.

There is a vast literature dealing with the different aspects of nutrition labelling, particularly the issue of voluntary versus mandatory nutrition labelling. As a result of its strong tradition of policy-impact assessment and evaluation, much of this literature comes from the United States. In spite of some obvious contextual differences (cultural, economic and social), it is possible to draw lessons and insights from these that can be informative for future European policy making on nutrition labelling. Europe is also a source of interesting literature on the impact of different nutrition labelling policies, although a significant portion of this consists of consultations and surveys that are not methodologically robust. However, combining the findings from American, European and other international research, this report provides comprehensive evidence of some of the potential outcomes that different nutrition labelling policies could have for the EU. On the basis of the evidence presented here, this report compares the different policy options proposed by the European Commission to address nutrition labelling in foodstuffs.

The main findings from this exercise are as follows:

¹⁸ There is evidence, however, that the Pick the Tick programme led food manufacturers to exclude approximately 33 tonnes of salt from their products through the reformulation and formulation of 23 breads, breakfast cereals and margarine. Pick the Tick is therefore not only a tool for consumer information but also an incentive for manufacturers to improve the nutritional value of their products. (L. Young and B. Swinburn, “Impact of the Pick the Tick information programme on the salt content of food in New Zealand”, *Health Promotion International* 17(1) (2002))

1. Voluntary versus mandatory nutrition labelling

On the basis of the evidence collected, this study suggests that the introduction of mandatory labelling for all businesses with the exception of a limited number of SMEs could facilitate decision-making for consumers at the point of purchase without compromising the survival of the most vulnerable companies. While mandatory nutrition labelling would impose some costs to non-exempted firms, these would be mitigated with an adequate time-frame for compliance, as well as the provision of inexpensive, accessible software and databases for the calculation of nutrition values.

2. The content of nutrition labelling

Our assessment of the evidence suggests that specifying a list of nine elements that must appear on back of pack labelling ensures that all firms disclose nutrition information about their products, even if they are negative attributes of the product. This provides consumers with comprehensive information on which to base their purchasing decisions. Without this regulation, firms with products with negative attributes have no incentive to disclose this information. In addition, the provision of information on five key nutrition elements in front of pack could make nutrition information more readily accessible to consumers. Possible costs of this policy include information overload and costs to producers of providing nutrition information on front and back of pack. However, education and awareness campaigns for consumers, and availability to firms of inexpensive databases and software for calculation of nutrition values are possible cost-reducing mechanisms.

3. The legibility of nutrition labels

The evidence presented suggests that the introduction of clear rules for presentation of nutrition information, covering all relevant issues (text size, font, colour, etc) can significantly improve clarity, comparability, usability and familiarity with nutrition labels amongst consumers. These benefits are likely to be maximised if the specifications are developed in consultation with consumers, manufacturers and health professionals. While this is likely to incur costs to manufacturers, these might be mitigated if an adequate time-frame is allowed for compliance with the new regulation.

4. Best place to put nutrition information on food packages

An assessment of the best place to put information on food packages depends on a range of other factors, particularly whether legibility requirements are standardized, and whether nutrition labelling is mandatory or voluntary. For example, while front-of-pack labelling, whether mandatory or voluntary, can facilitate consumer use of information by providing at-a-glance nutrition information, the absence of specific legibility requirements could lead to a profusion of labelling systems which would increase consumer confusion and thus decrease use of nutrition information. In addition, while voluntary FOP or BOP labelling does not incur new costs to industry, mandatory FOP or BOP labelling would impose new costs. These, however, can be mitigated if an adequate time-frame for compliance is allowed.