EUROPE

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Assessing the impact of revisions to the EU nutrition labelling legislation

Lila Rabinovich, Jan Tiessen, Flavia Tsang, Christian van Stolk

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.
This report presents findings from a study to support the European Commission Directorate General for Public Health and Consumer Protection (DG SANCO) in assessing the impacts of a revision of the European legislation on nutrition labelling for foodstuffs. 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 potential costs and benefits for key stakeholders of the policy options proposed by DG SANCO. The main aim of this exercise is to support DG SANCO in assessing how a change in the existing policy could impact on the costs and benefits of nutrition food labelling to key stakeholders, identified as food producers and retailers, consumers and the Member States.

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.

On the basis of the available evidence, the study then conducted a qualitative comparison of the potential impacts of the different policy options proposed by DG SANCO. The findings from RAND Europe’s research are discussed in detail in the report.

This report will be of particular interest to DG SANCO and other DGs in the European Commission, such as DG Enterprise, for which a revision of food labelling legislation is relevant. In addition, the study will be relevant to policy-makers in EU Member States, as well as for consumer and food industry organizations concerned with food labelling legislation.

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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. 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), 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. The proposed policy options for nutrition labelling for foodstuffs are shown in Table 1 (where SME stands for ‘small and medium-sized enterprises’).

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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

<table>
<thead>
<tr>
<th>Voluntary versus mandatory nutrition labelling</th>
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<tbody>
<tr>
<td>A Maintain current rules – nutrition labelling mandatory if a claim is made (gradual increase in proportion of products bearing nutrition labels).</td>
<td></td>
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<tr>
<td>B Introduce mandatory nutrition labelling for all businesses (aim to have all products with nutrition labels within 3 years).</td>
<td></td>
</tr>
<tr>
<td>C Introduce mandatory nutrition labelling for all businesses, but with exemptions for all SMEs (aim to have a significant proportion of products, &gt;50%, with nutrition labels within 3 years).</td>
<td></td>
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<tr>
<td>D Introduce mandatory nutrition labelling for all businesses, but with exemptions for a limited number of SMEs. (aim to have the majority of products, &gt;95%, with nutrition labels within 3 years).</td>
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<table>
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<tr>
<th>Information to be included as part of nutrition labelling</th>
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<tbody>
<tr>
<td>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.</td>
<td></td>
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<tr>
<td>B Restrict nutrition labels, front or back, to 5 key nutrients – calories, fat, saturated fat, salt and sugar.</td>
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<tr>
<td>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.</td>
<td></td>
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<tr>
<td>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.</td>
<td></td>
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<table>
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<tr>
<th>Ensuring information is legible</th>
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<tbody>
<tr>
<td>A Maintain current rules – broad requirement for the label to be legible and some prescription on format.</td>
<td></td>
</tr>
<tr>
<td>B Introduce a minimum text size for information on nutrition labels, other presentation issues left open, although further measures could be introduced via comitology.</td>
<td></td>
</tr>
<tr>
<td>C Introduce clear rules for presentation covering all relevant issues (text size, font, colour, format, etc.).</td>
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<table>
<thead>
<tr>
<th>Where nutrition information should be included on the label</th>
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</thead>
<tbody>
<tr>
<td>A Maintain current rules – placement of nutrition label left to discretion of manufacturer, no mention of front-of-pack systems.</td>
<td></td>
</tr>
<tr>
<td>B Clearly differentiate between the two types of nutrition labelling – back and front of pack – with clear rules for each.</td>
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### 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. Data from 2000 in the European Union (EU) show that nutritional factors, coupled with lack of physical activity, were implicated in:

- 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.

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. 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

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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. 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. Overall, labelling requirements might lead to higher per unit costs for SMEs and thus to a reduction in their competitiveness. 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. 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.  

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

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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.\(^\text{13}\) 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.

\(^\text{13}\) 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.
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

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:

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\(^{18}\) 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.
Acknowledgments

We would like to thank all the colleagues at RAND Europe who have made important contributions throughout this research. In particular, we wish to thank Cameron Munro, who provided invaluable support with the development and analysis of the food manufacturer survey, and Michael Hallsworth, who contributed to the copy-editing process. We are also grateful to the project’s Senior Advisers: Dr Evi Hatziaandreu and Professor Tom Ling, for sharing their experience and knowledge of public health policy, and Professor Jonathan Cave, who provided important insight into the economic aspects of food labelling policy.

We would also like to thank the project team at DG SANCO for engaging constructively with us throughout the development of the research.
Introduction

1.1 Impact assessment of a revision of the European Council directive on nutrition labelling

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 that 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.

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 legislation, Directive 90/496/EEC of the Council on nutrition food labelling of foodstuffs. This study is designed to support DG SANCO in assessing the impacts of a number of policy options for the legislation on nutrition labelling for foodstuffs 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 impact assessment conducted by RAND Europe examines the evidence on the potential costs and benefits of the proposed options for key stakeholders. The central issue in this exercise is to assess how a change in the existing policy could impact on the costs and benefits to key stakeholders, identified as food producers and retailers, consumers and the Member States.

Regulations impose costs on, and often cause changes in the behaviour of producers, consumers and public administrations. Changes in regulations necessitate a social and economic impact assessment that weighs these costs against the potential benefits for stakeholders of the proposed policy options. The key issue in this exercise is whether a proposed change in existing policy will return a net social and economic benefit to society.19

An assessment of the impact of new or revised regulations must address three main questions:

• Which positive and negative effects may occur as a result of the new regulations, and what is the likelihood that they will?

• Who are the primary stakeholders that will be affected or involved in the process?

• How high are the costs and benefits going to be?

The first two questions involve a balanced, objective analysis of the possible impacts of the policy options, and the distribution of these impacts among stakeholders. The third question regards the quantification of the impacts, which can be problematic. Evidence is often scarce and, where available, it can be contradictory. An impact assessment for a new or revised regulation often necessitates evidence that does not yet exist, and attribution and causality are consequently difficult to prove. Further research, which is beyond the scope of this study, could be conducted to estimate the costs of revisions in labelling legislation to producers, and to quantify the possible benefits to consumers. For example, a stated preference survey could allow policy-makers to collect data on consumers’ stated responses to proposed changes in labelling legislation, thus informing decision-making on revisions of the legislation. In addition, Healthy Life Years could be used as an indicator to measure the impact of a healthier lifestyle on health as a result of improved food labelling.20

Nonetheless, this study collects relevant data and conducts a qualitative analysis that aims, to the extent possible, to shed light on the potential social and economic impacts of the Commissions’ proposed policy options. The study was designed to support DG SANCO in conducting a regulatory impact assessment exercise, to evaluate the impacts of a revision of food labelling legislation. This report refers to a wide range of sources, including peer-reviewed research from Europe and elsewhere, studies conducted by and for the European Commission, a survey of food producers, and 12 key informant interviews.

1.2 Research methodology

The purpose of an ex ante impact assessment is to consider what will happen in the future if different policy options are adopted.21 The research approach that RAND Europe proposed to the European Commission consists of four appropriate methodologies to gather the data and information necessary for the impact assessments of general and nutrition labelling. These comprise a:

1. document and literature review
2. set of semi-structured interviews
3. survey
4. cost-consequence analysis.


The first three methodologies are aimed at gathering information and data to be used as an input into the cost-consequence analysis. The cost-consequence analysis serves as a synthesising exercise to understand the impact of – in terms of the economic, social and environmental costs and benefits of and trade-offs involved with – the various policy options available to the European Commission in the area of general and nutrition labelling. The cost-consequence analysis will take the shape of a qualitative assessment of the evidence uncovered. Much of the evidence gathered here can be an input into further cost and benefit analysis concerning the impact of food labelling.

1.2.1 Document, literature and data review

We have reviewed relevant documents and literature. The literature reviewed can be categorised as falling across four main axes: background/context information; country or region of focus; area of labelling discussed; and types of costs and benefits examined. The document and literature review, which served as input to the survey and the semi-structured interviews, had three main aims: 1) to provide understanding of the context of the introduction of food labelling requirements; 2) to map and categorise data and information relevant to the impact assessment (including international comparisons); and 3) to identify data gaps. The first two aims relate to the analysis of existing data and information for each main category. (A meta-analysis is a formal process of synthesising available data.) This analysis will be a main input into the cost-consequence analysis.

The relevant documents that we identified include:

- impact assessments and other materials (e.g. consultations, academic papers, information from Member State regulators) provided by DG SANCO
- reports produced by relevant agencies and organisations including, for example, the World Health Organization; the CIAA (Confederation of the Food and Drink Industry); the European Commission, governments of EU Member States and international governmental bodies (e.g. reports and papers by the Economic Research Service of the United States Department of Agriculture); and national regulators (e.g. the Food Standards Agency in the UK and the Swedish National Food Administration)
- peer-reviewed literature on different aspects of labelling produced in Europe, the United States, Canada, Australia and New Zealand, and other countries.

Following an initial assessment of the scope of the available evidence, we reviewed the material, focusing on the areas of interest to this impact assessment specified in the Invitation to Tender (ITT) and in discussions with the project’s officers.

There is a vast literature dealing with the different aspects of nutrition labelling, particularly the issue of voluntary versus mandatory. 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 that can be informative for future European policy.

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22 These aims deviate slightly from the ones mentioned in the original proposals. However, they remain in the same line.
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 of different nutrition labelling policies for the European Union (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.

1.2.2 Survey

At the outset of this study the ‘task specification’ for the impact assessment specified a consultation with stakeholders. However, after meetings with the desk officers within DG SANCO in advance of the impact assessments, we specified the focus and identified three main aims of the survey: 1) to address the data gaps identified in the document and literature review; 2) to incorporate additional questions of relevance that we identified in conjunction with DG SANCO officials; and 3) to gain an understanding of the administrative burden of the regulatory options available to the European Commission on the basis of ‘Standard Cost Modelling questions’.

The survey was aimed at food producers and on collecting data about the current cost to food producers of labelling; the normal cycle of labelling redesign and changes; and the specific costs of some of the regulatory options available to the European Commission. In addition, the survey aimed to understand the administrative burdens associated with labelling regulations. Understanding this administrative burden is a requirement of the Impact Assessment Board and fits within the ‘better regulation’ agenda that the European Commission is promoting.

The survey was posted online on a designated website, www.foodlabelsurvey.eu with a link from the SANCO consultation webpage to the survey. Survey responses are provided in Appendix B.

Limitations of the survey

The survey has a number of methodological limitations which might have led to response biases. First, by nature, a survey into food labelling and administrative burdens will consist of technical language. It is difficult to ask non-technical cost questions. Therefore, there is a chance that respondents will have found it difficult to answer questions or may even have given up on filling out the questionnaire. Also, given the multiplicity of the food producing business, it was very difficult to formulate question in a technical language that is generic enough to suit all respondents. This might have meant that respondents misinterpreted some questions and provided us with inaccurate responses. Similarly, given the data requirements and the technical nature of the subject, the questionnaire is quite long. The length of the survey could have affected the quality of responses. Secondly, the survey may have an over-reporting bias. Asking food producers about the cost of labelling and the administrative costs associated with these labelling changes may have led some to overstate their actual costs. There is little that we could have done to manage this bias. Thirdly, given resource constraints, the survey was drafted in only one language. Though English is widely spoken and used, food producers in some Member States might have
found it difficult to respond. Fourthly, there is an issue around the management of the respondents. In most surveys, the designers of the survey know the number of respondents, can establish a distribution among respondents, and have control over the sampling frame. This proved difficult in this case, given that we needed to use the Advisory Group on the Food Chain and Animal and Plant Health of DG SANCO. Therefore, it is impossible to determine in advance who the respondents would be or to target specific respondents. That is, we had little control of the true sampling frame, due to non-response and self-selected response issues.

It is likely that certain contacts (trade associations) will have been more effective at getting national associations and members involved than others. Thus, the survey might be skewed towards certain subgroups. The lack of such control might have biased the outcome of the survey. We have aimed to control for this bias as much as possible, for instance by working closely with DG SANCO to ensure that the sector was informed and by cleaning the data where appropriate. Finally, web-based surveys will always have lower response rates than telephone surveys and surveys sent by mail.

Finally, because of the lack of face-to-face interaction in a web-base survey, quality of response can be low because there was no interviewer to explain the survey questions to the respondent, and there was no way for the analyst of the survey to validate the user input. We have sought to deal with this problem by cleaning the data where appropriate.

1.2.3 **Standard Cost Modelling**

Standard Cost Modelling measures the administrative burden to industry of complying with regulations. The burden refers to the provision of information to third parties, the regulator and the public. In the case of food labelling, the administrative burden of providing information to regulators will be minimal as the regulator does not require the provision of information from those regulated. As to the cost of providing information to the public, the cost of compliance in essence is part of the overall cost of labelling and therefore difficult to disaggregate, i.e. the administrative burden of regulation might be hard to differentiate from the overall administrative costs involved in putting labelling on stock-keeping units.

1.2.4 **Semi-structured interviews**

We conducted a number of key-informant, semi-structured interviews in order to supplement the information obtained through the literature review and the survey. In particular, the interviews sought to provide additional evidence by focusing on the impacts of labelling in the EU, since there is limited literature available from the EU. Much of the literature originates in the US, Australia and New Zealand. The interviews also aimed to gather information on issues on which the literature is limited, particularly the impact of regulations on public administrations, on third countries and overseas relations. While

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they were not meant to be representative, interviews can often be a means to verify or test some of the information gathered from the survey and literature review.

The interviewees were identified in the course of the literature and data review, as well as in consultation with the project officers. In order to fully optimise each opportunity, wherever appropriate the interviews addressed issues relevant to both general and nutrition labelling. The research team conducted 12 interviews. We identified the following groups of respondents to interview:

- food producers and retailers (we interviewed three companies in the UK)
- relevant public authorities in five different Member States (the UK, Netherlands, Czech Republic, Spain, and Sweden)
- representatives from two European producer associations
- experts in the area of food labelling from the US – an academic and a researcher at the Food and Drugs Administration (FDA).

1.2.5 Cost-consequence analysis

The cost-consequence analysis is a synthesis exercise where we examine the costs and benefits of the regulatory options in general and nutrition labelling considered by the European Commission. A cost-consequence analysis has four stages:

- determining the impacts of key policy issues
- performing the cost-consequence analysis
- categorisation of impacts
- synthesis and analysis.

The first stage consisted of gathering data about what the impacts of the proposed policy options are likely to be. In this study, we used the literature and document review, survey, and semi-structured interviews for this. On the basis of the evidence, we also filtered out what the key impacts are likely to be and which stakeholders are most likely to be affected.

In the second stage, we perform a qualitative assessment of the costs and consequences of the proposed policy options. We looked at the available evidence on costs and benefits for every policy option considered by the European Commission. Based on the tender documents for this research project and reflecting the impact assessment guidelines of the European Commission we identified six main impact categories that we used to focus our analysis and to compare the policy options in a later stage. These categories cut across the main stakeholder groups and cover the economic, social and environmental impacts. In addition, the impacts on international trade are considered, where relevant evidence could be retrieved. The six impact categories used to structure the discussion policy options were:

1. Consumers
2. Industry

3. SMEs
4. International trade
5. Member States
6. Environment

After the key impacts were identified, a more advanced qualitative or quantitative analysis of the relevant impacts could be performed. We performed a cost–consequence analysis for each policy option. A cost-consequence analysis allows for the:

1. monetisation of costs and benefits wherever this is practical
2. wider qualitative discussion of cost effectiveness in key areas
3. examination of unintended outcomes.

In the third stage we designed an impact matrix, consisting of the seven impact categories and a scoring mechanism, which allowed us to examine trade-offs between the different policy options based on their possible impacts as drawn from relevant evidence. The examination of the trade-offs is by necessity qualitative, and aims to provide an at-a-glance and simplified comparison of the possible impacts of the proposed policy options. This is done in Chapter 11.

The fourth stage consisted of synthesising and analysing the evidence base, in order to identify the main conclusions regarding the impact of changes to the nutrition labelling legislation in the EU.

1.2.6 Methodological comments

The general disclaimer in a study of this nature is that the impact assessment is reliant on the availability of data and evidence. We rely on existing evidence from impact assessments, evaluations and other studies. We can only generate data and evidence through the survey and semi-structured interviews. In general, we found that data collection had been problematic in certain areas. On the benefit side, we encountered problems of attribution and how benefits could be monetised. We set up the research in such a way as to overcome these limitations, for instance by attempting to address data gaps in the survey and semi-structured interviews. In the cost-consequence analysis, we also used more qualitative narrative to arrive at the likely impact of some of the regulatory options. In the synthesis exercise, we devised a method for scoring the evidence on policy options in order to arrive at recommendations and conclusions for the impact assessment.

1.3 Report structure

This report is structured as follows. Chapter 2 outlines the current situation regarding nutrition labelling in Europe and the context in which a revision of the EU legislation is taking place. Chapter 3 is a discussion of the key stakeholders affected by nutrition labelling policy. Chapter 4 provides an overview of the costs of labelling – both nutrition and general – to firms. Chapters 5 to 8 provide evidence from European and international sources on the impact of nutrition labelling issues for which the European Commission is developing policy options, namely: voluntary versus mandatory nutrition labelling, content
of nutrition labels, legibility of the labels, and front- and/or back-of-pack labels. Each chapter then assesses the likely impacts of each policy option, on the basis of the evidence presented. In Chapter 9 a scoring framework is applied to the individual policy options in order to synthesise the information provided in the previous chapters and to allow for a comparison of the policy options. Chapter 10 discusses the monitoring and evaluation implications of a revision of the nutrition labelling legislation. Finally, the concluding chapter summarises the key findings again and provides suggestions for further research.
2.1 Background

It is now widely accepted that good nutrition can help reduce the prevalence of a number of non-communicable diseases (NCDs) such as cancer, cardiovascular disease, diabetes, and osteoporosis. Obesity, itself considered a NCD associated with poor nutrition, results in a higher risk of diabetes, cardiovascular disease, hypertension and some types of cancer. Physical inactivity is also relevant to all these conditions.

While until recently concerns with the effect of nutrition on health and morbidity was seen as primarily related to under-nutrition and vitamin and mineral deficiencies, the problems today are of a different nature. Inadequate nutrition is increasingly recognised as a key factor influencing the growing prevalence of certain NCDs, such as those mentioned above. A number of nutrition-related factors have an impact on the increasing prevalence of these diseases, including being overweight, low fruit and vegetable consumption, and a diet high in saturated fats.

NCDs are an issue of key importance for public health policy, particularly since they are reported to account for about 75% of the burden of disease. Public health nutrition policies in the European Community aim to tackle one of the important factors influencing the prevalence of such diseases, so as to both implement the Community’s mandate to protect the health of its citizens and to reduce the heavy costs associated with treating these conditions. Obesity, for example, is a risk factor for other diseases, and is recognised as a pan-European epidemic that presents a challenge for public health policy. It is estimated that obesity may cost some countries up to 70% of their total health care budget.

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26 Ibid.
29 Ibid, 22.
The distribution of less than optimal dietary habits is not even across the European population. The diet of some sections of the population is of sub-optimal nutritional value, that is, it is not sufficiently healthy. People in low-income brackets, for example, spend a greater proportion of their income on food, but nevertheless their diet is of lower nutritional quality than that of people with higher incomes.30

In Europe and elsewhere, nutrition labelling of foodstuffs is considered a key tool for the provision of information to consumers, allowing them to make informed choices about their food consumption. In the United States and Europe, interest in nutrition labelling for foodstuffs is based primarily on the view that effective labelling may ultimately contribute to controlling or reducing the incidence of diet-related disease.31

Legislation on nutrition labelling has been the subject of much debate in recent years. In America, for example, the Nutritional Labelling and Education Act (NLEA) was passed in 1990.32 The Acts stipulated that, with a few exceptions, food products must display a standardised nutrition label.33 Since then, new regulations have been enacted providing further standards for food labelling.34 The key aim of this legislation was to help consumers choose more healthful foods thereby promoting better health outcomes, for example reducing the growing levels of obesity in America. However, despite reports of a positive correlation between label use and more healthful diets,35 the trend towards obesity in America has accelerated over the past decade, to 23% in 2003, up from 18% in 1995.36 Nonetheless, even though this is a topic of considerable public policy interest, there has been limited empirical research on the actual overall effects of mandatory nutrition labelling on either dietary intakes or obesity rates in America since the NLEA came into place.37

The Codex Alimentarius has as its parent organisations the Food and Agriculture Organization (FAO) and the World Health Organization (WHO). The Codex Alimentarius organisation has developed a set of voluntary international guidelines and standards for food following extensive consultation with Member Countries and

32 Other countries that have mandatory nutrition labelling legislation include: Argentina, Canada, Israel, Australia, New Zealand and Malaysia (on a wide range of foods). (C. Hawkes, Nutrition labels and health claims: The global regulatory environment, World Health Organization, 2004).
37 Ibid.
organisations. The Codex aims both to protect consumer health and to encourage fair practice in international trade. In terms of nutrition labelling, the Codex has so far developed three relevant texts. 38

1. *The General Standards for the Labelling of Pre-Packaged Foods* sets down the principle that “prepackaged food shall not be described or presented on any label or in any labelling in a manner that is false, misleading or deceptive or is likely to create an erroneous impression regarding its character in any respect”.

2. *The General Standard for the Labelling of and Claims for Pre-Packaged Foods for Special Dietary Use* recommends that all foods for special dietary uses display a nutrition label.

3. *The Guidelines on Nutrition Labelling* suggest that nutrition labelling be voluntary unless a nutrition claim is made.

These guidelines and standards are broad and flexible allowing countries to go beyond, and elaborate on, the principles they set down if national legislation so requires. The European Commission’s nutrition labelling legislation is closely based on the Codex. The regulations set out by individual Member States must comply with the general EU framework. 39

2.1.1 **Eating in and eating out**

In order to put the revision of food labelling legislation in context, it is important to have a brief overview of European food consumption patterns, in particular European tendencies to eat food prepared at home, or to eat food in other establishments – restaurants, bars, and so forth. An understanding of this provides insights into the relative importance of labelling food sold to consumers for direct consumption. If consumers spend a larger share of their household expenditure on food from ‘away-from-home’ catering establishments, than on food bought to prepare at home, then the provision of relevant information may be increasing important. However, if consumers spend more of their expenditure on food to prepare at home than on food from away-from-home catering establishments, this reinforces the need to improve food labelling and enable consumers to make better-informed food choices.

A report on household consumption produced for the EU shows that, while in many European countries food and non-alcoholic beverages constitute 14.54% of total household consumption on average, expenditure on restaurants and hotels – a proxy for food eaten away from home – is just over 7%. Figure 1 provides an overview of household expenditure on food-away-from-home (FAFH) in the 15 European countries.

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Statistics from the United States show that restaurants and fast-food outlets are significantly increasing their share of total food consumption. Long-term trends show that, as household incomes have increased and more women have entered the workforce, the share of household spending for prepared foods and meals has risen. By 2005, FAFH spending by households and businesses accounted for 49% of all food spending, up from 45% in 1990 and 39% in 1980. Food consumption away from home, in other words is a significant and increasing part of household consumption.  

In the United Kingdom, for example, an increasing trend is also noticeable. However, the share of FAFH is lower than in America. On a per person per week basis there was a rise in total expenditure on all food and drink of 1.7% to £34.97; all household food and drink of 2.2% to £23.56; all food and drink recorded as being eaten out of 0.7% to £11.41 (i.e. to about 30%). Eating-out expenditure on food alone was unchanged, a fall in real terms.

While a number of American studies indicate that the rising prevalence of obesity in that country is likely to be associated with increased consumption of FAFH, this is not yet clear for Europe. For example, France’s large FAFH sector but low levels of obesity and

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overweight suggest that the relationship between the sources of food and the prevalence of diet-related diseases in Europe requires further examination.

2.2 Objectives of nutrition labelling regulation

Nutrition labelling refers to a list of nutrients on a food label accompanied by some form of quantifying mechanism. Nutrition labelling of foodstuffs is currently regulated by Directive 90/496/EEC, under which nutrition labelling is optional unless a nutrition claim – a suggestion that a food has particular nutritional properties, such as it is ‘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 standardised format stipulated by the Directive. Two types of nutrition label are permitted by the Directive: one that specifies four nutrition elements – energy, protein, carbohydrate and fat (group 1); and the other, specifying energy, protein, carbohydrate, sugars, fat, saturated fat, fibre and sodium (group 2). The regulation applies to pre-packaged food and to food supplied to restaurants, hospitals, canteens and so forth.

According to the European Commission’s Directorate General for Public Health and Consumer Protection (DG SANCO), 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. The proposed policy options for nutrition labelling for foodstuffs are shown in Table 2 (where SME stands for ‘small and medium-sized enterprises’).

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45 DG SANCO, Labelling, competitiveness, consumer information and better regulation for the EU: A DG SANCO consultative document (European Communities: Brussels, 2006).
46 Ibid.
Table 2: Policy options for nutrition labelling

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Nutrition labelling legislation in the EU is one of a number of policy initiatives aimed at promoting healthy diets, thus preventing overweight, obesity and chronic disease. The prevention of NCDs requires “an integrated approach to fostering health, an approach which combines the promotion of healthy lifestyles with actions aimed at addressing social and economic inequalities and the physical environment, and with a commitment to pursue health objectives through other Community policies”. Other policies for the promotion of healthy lifestyles and diets are in the area of advertising and marketing, education, and health care. While an important tool for communicating information to consumers, nutrition labelling is not the only reliable, effective channel but an element – albeit important – in a wider approach to public health promotion.

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2.3 **The need for change**

There has been much disagreement, since it was enacted, about the need for a revision of the Directive to make it more effective as a tool for consumer information. The Commission undertook an extensive stakeholder consultation in 2006, which indicated that there is widespread consensus regarding the need for a revision of the legislation. It was clear to stakeholders in the consultation that both general and nutrition labelling has great potential benefits for consumers and producers. According to the various stakeholders involved, the main benefit to consumers of nutrition information, for example, is that it allows them to make informed choices about what products, and in what quantities, to purchase. For producers, nutrition labelling enables them not only to pass on important information to the consumers, but also to highlight the benefits of their products relative to those of their competitors.48

However, while these potential benefits were widely accepted by the stakeholders, they also agreed that labelling is not fulfilling its full potential. Particularly in the case of nutrition labelling, it appears that consumers do not use them consistently, and its effectiveness as a communication tool is questionable.49

In this context, the Commission has begun the process of revision of the regulations for general and nutrition labelling. The main objective of a revision of the nutrition labelling regulations is to make key nutrition information more widely available and more easily understandable to the consumer. This report will contribute to the assessment of the social, economic and environmental impacts of the proposed changes to the regulations, which will provide fundamental input into the process informing the Commission’s policy decisions.

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49 Ibid.
Understanding the behaviour, expectations, interrelations and interests of different actors is an important aspect in assessing the impact of public policy options. This chapter aims to provide an overview of the stakeholders affected by, and with an interest in, nutrition labelling policy. The key stakeholders identified in the analysis are consumers, industry, and EU Member States’ public administrations. Each of these categories can be divided into a number of sub-categories of stakeholders, all of which would differ slightly – and sometimes significantly – in their positions, interests and influence. For example, producers include micro, small, medium-sized and large firms, which have diverse experiences in the domain of nutrition labelling policy. While this chapter provides a useful overview of the broad categories of main stakeholders, and certain key sub-categories are examined, a more in-depth discussion is beyond the scope of this study.

3.1 Industry

Stakeholders within industry directly or indirectly affected by food regulation usually include businesses along the whole food chain, ranging from primary food producers to food manufacturers, food wholesalers and retailers. However for the case of food labelling, the impacts can be expected to be concentrated on two subgroups of the food industry: food and beverage producers on the one hand, and food retailers on the other.

In considering industry as one key stakeholder group, particular attention has to be given to the respective structure of the sector and especially the proportion of large, medium-sized and small enterprises.

3.1.1 The food and beverage industry

The food and beverage industry within the EU-25 had a turnover of €836 billion in 2005, employing 3.8 million people. The industry is, in comparison to other manufacturing sectors, characterised by a predominance of SMEs. In 2003, a total of 282,600 or 99.1% of the businesses had less than 250 employees. These companies generated over 47% of

50 CIE, Evaluating benefits and costs of food regulation. A scoping study prepared for the Australia New Zealand Food Authority (Canberra and Sydney: Centre for International Economics, 2002).

51 Ibid.

52 These and following data are based on EUROSTAT data, as presented in: CIAA, Data & trends of the European Food and Drink Industry (Brussels: CIAA, 2006).
total turnover and employed 61.3% of the workforce within the food and drink sector. In contrast, the large companies, constituting just 0.9% of the business population, provided just over 53% of the turnover and employed 38.7% of the respective workforce. Figure 2 illustrates these structural characteristics of the food and beverage industry.

Figure 2: Structure of European food and drink industry

![Figure 2: Structure of European food and drink industry](image)

### 3.1.2 The food retail industry

The food retail industry\(^5\) in the EU had a total turnover of €889 billion in 2004.\(^4\) This was distributed between specialised food, drink and tobacco retailers; and retail specialised stores with food, beverages or tobacco predominating. Specialised food retailers are generally relatively small outlets – such as fruit and vegetable shops, bakers, butchers and fishmongers – which do not belong to a larger chain.\(^5\) A dominance of the specialised

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\(^5\) For the purpose of this overview, food retail is defined as the “retail sale of food, beverages and tobacco in specialised stores” (NACE G52.2), and “retail sale in non-specialised stores with food beverages or tobacco predominating” (NACE G52.11).

\(^4\) 2004 is the latest available data from the EUROSTAT database.

food-retailers is usually an indication of a more traditional retail structure. Figure 3 illustrates key characteristics of the food retail sector. The number of specialised food retailing companies outweighs the non-specialised (495,228 to 394,056), but total turnover (€121 billion to €767 billion) and total employment (1.3m to 4.7m) are far smaller.

**Figure 3: Structure of European food retail industry, 2004 data**

A closer look at the structure of the specialised food retail business (Figure 4) confirms this general observation. In most European countries, more than 99% of the company population in specialised food, beverage and tobacco retail are small companies with less than 50 employees. In total, SMEs contribute between 70% (Austria) and 100% (Italy, and Greece) to this sector’s employment. The turnover of the very few medium-sized and large companies, where they are present, often exceeds the total turnover of the specialised stores.

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56 Ibid.
Figure 4: Structure of retail sale of food, beverages and tobacco in specialised stores, 2004 data

No. of companies in retail sale of food, beverages, tobacco in specialised stores

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Employment in retail sale of food, beverages, tobacco in specialised stores

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<tr>
<th>Country</th>
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<th>20%</th>
<th>40%</th>
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Turnover of companies in retail sale of food, beverages, tobacco in specialised stores

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3.2 Consumers

Consumers are a key stakeholder group in the debate about food labelling. Consultations about the most appropriate types of labelling should always include the consumers' perspective, as labelling should respond to their needs and expectations when purchasing food products. However, it is important to understand that consumers is an overarching category that covers a multitude of different characteristics, interests, priorities and concerns.

Firstly, consumers within the EU vary across regional and national borders. Those in southern France are likely to have different concerns and priorities about labelling from those in rural Latvia, Scotland or Bulgaria. Taking these differences into account is fundamental in developing a pan-European labelling policy, which should have a degree of flexibility to allow for national specifications. Similarly, it is paramount to be aware of what preferences and public interest concerns are common across the EU, in order to develop a policy that effectively addresses them.

In addition to regional and national differences, consumers also have diverse characteristics that bear on food labelling. For example, while a large number of consumers across the EU have a nut or other kind of allergy, others are diabetic or place great emphasis on being able to identify which products have been genetically modified. Because food labelling policies aim primarily to provide information to the consumers, to allow them to make informed decisions, careful consideration of the kinds of information that consumers want or need is paramount.

Yet another aspect of consumer diversity bears strongly on nutrition labelling in particular. The provision of information on the nutritional quality of foodstuffs is intended to help consumers improve their decision-making about the products they purchase, and thus to consume a more healthful diet. However, not all consumers will have the same needs in relation to nutrition information. Some consumers require or prefer a comprehensive specification of the nutritional quality, while others have concerns regarding only a fraction of this (for example, they want to know the salt, trans fatty acid or carbohydrate content of a product). Deciding on the most effective way of responding to such diverse preferences and requirements is a challenging task.

A labelling policy should also take account of variations between consumers of different educational and income groups. Evidence from the United States, for example, suggests that higher-income and higher-education consumers are increasingly aware of nutrition and thus may choose to consume more healthful diets than low-income, low-education

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57 Due to data limitations and the confidential character of some of the statistics, no European average data (EU-27 or EU-25) can be provided and results are only shown for countries with complete data sets.
consumers.\textsuperscript{58} Similarly, studies show that the degree to which consumers can understand and use the information provided in nutrition labels varies greatly.\textsuperscript{59}

### 3.3 Member States’ public administrations

Public administrations are important stakeholders in the food labelling debate. Public administrations are the ultimate decision-makers on the scope, structure and aims of labelling legislation, but also stand to benefit when the legislation is effective.

As a tool for direct consumer information, labelling regulations aim to ensure that consumers are provided with essential or very important information about the products they wish to purchase. This reflects public administrations’ concerns about, and responsibilities for, consumer protection and safety.

In the case of nutrition labelling policy in particular, the role of public administrations goes beyond consumer protection. Nutrition labelling ultimately aims to contribute to improving public health. In the United States, the NLEA of 1990, which made nutrition labelling mandatory, responded to two main findings. On the one hand, the information provided voluntarily in labels by food producers, particularly in relation to health claims, was often found to be “both exuberant and undocumented”.\textsuperscript{60} On the other hand, the public administration had recognised the urgency of the obesity epidemic in America, and became committed to developing measures to address the problem. Nutrition labelling was seen as one such measure. In America, then, the public administration aimed not only to protect consumers from fraudulent or inaccurate information provided in many food labels, but also to help them improve their diets thus reducing the costs of preventable diet-related conditions to the health care system and the nation as a whole.

In addition, it is sometimes argued that regulations to standardise the provision of information increase the transparency of alternatives to consumers, thus allowing them to choose those alternatives that align with their preferences. This, in turn, “should lead manufacturers to adapt their offerings to match consumers’ tastes”.\textsuperscript{61} The American Federal Trade Commission noted that “information remedies have the direct benefit of improving the free flow of truthful commercial information. Informed consumer decisions then give sellers an economic incentive to improve the quality and selection of their marketplace offerings”.\textsuperscript{62} Thus, by introducing labelling regulations into the market for food products, public administrations may have an indirect positive impact on the quality of these products.


\textsuperscript{59} G. Cowburn, and L. Stockley, A systematic review of the research on consumer understanding of nutrition labelling (Belgium: European Heart Network, 2003).


\textsuperscript{61} C. Moorman et al., 263-74.

This chapter will give an overview of the labelling processes and an assessment of the various cost categories of labelling for the food and retail industry. The costs of nutrition labelling typically accrue to food producers and retailers, while the benefits accumulate predominately with the consumers of foodstuffs. The costs of the different regulations follow similar patterns, which are best explained by reference to the firm’s food labelling process presented later in this chapter. This insights provided by this chapter will be used in the later stages of the impact assessment to gauge the effects of specific policy options.

4.1 The food labelling process

The costs of labelling legislation and changes in labelling legislation occur primarily at company level – at the level of producers of foodstuffs and, to some degree, at that of retailers of foodstuffs. They occur either “in-house”, or as costs for outsourced services. It is important to note that labels are not only changed for regulatory reasons and that food would also be labelled in the absence of any regulations, so 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.

Figure 5 gives an overview of the process of food labelling and its major steps. The detailed steps of producing a label will be presented in the subsequent sections.
4.1.1 **Label changes**

A label change can be triggered for various reasons, the most common ones being: changes in regulation; marketing reasons; product reformulation and recipe changes; and adding additional information to the label. Figure 6, which reports findings from a study amongst European SMEs conducted for the European Commission, gives an impression of the importance of different reasons for changing labels.\textsuperscript{64} While changes in regulation are identified as the single most common reason for labelling changes, less than half of the respondents consider it the main reason for changing the label. Labels are usually changed by producers at regular intervals, for marketing purposes, to reflect changes in the recipes of the product or for various other reasons. The life cycle of a label may range from a few months, for those on highly marketed, branded products such as cereals or soft drinks, to a few years, for those on niche products and commodified products such as sugar, salt or flour.\textsuperscript{65} If labels change

\textsuperscript{64} EICN (2006).

\textsuperscript{65} EAS (2004), p.32.
frequently, regulatory changes can easily be incorporated into scheduled labelling changes at reduced cost.

**Figure 6: Reasons for modification of labels: “What is the main reason for changing a product label?”**

![Bar chart showing reasons for label change](chart.png)

**SOURCE:** EICN (2006); Question 11

Somewhat similar results were obtained from the survey conducted as part of this impact assessment. Figure 7 shows the reasons reported for the modification of labels. Changes in regulations, ingredients and marketing requirements (i.e. the need to update the design of the labels) were reported as the most common reasons for changes in labels.

**Figure 7: Most frequent reasons to change labels**

![Bar chart showing reasons for label change](chart.png)

**SOURCE:** RAND Survey

A study for the United States FDA was used to develop a cost model of labelling processes as it estimated how many stock-keeping units’ labelling changes could be incorporated into
scheduled label changes, given different compliance periods.\textsuperscript{66} Table 3 summarises these estimates. Using a transition period of 36 months, changes could be piggy-backed for all stock-keeping units (SKUs) of branded products and 67\% of all private labels, i.e. non-branded products.\textsuperscript{67} America uses a different system from that currently used in Europe. It currently uses a system of uniform compliance dates, with new food labelling legislation coming into force every two years, leaving a maximum compliance period of 36 months and a minimum compliance period of 12.

Table 3 : Proportion of SKUs that could be coordinated with a scheduled labelling change (US estimate)

\begin{tabular}{|c|c|c|}
  \hline
  Compliance period & Branded product & Private label \\
  \hline
  6-month & 5\% & 0\% \\
  12-month & 33\% & 5\% \\
  24-month & 67\% & 33\% \\
  36-month & 100\% & 67\% \\
  \hline
\end{tabular}

SOURCE: Muth et al. (2003), FDA Labeling Cost Model

While introducing mandatory nutrition labelling in Australia and New Zealand, the lack of a sufficiently long transition period increased the costs for producers, who would have preferred a two-year transition period without further changes to the regulation.\textsuperscript{68} However, some labelling requirements have the potential to shorten the life cycle of labels considerably. Producers with diversified, variable and seasonal sourcing, for example, may need to adapt their labels several times a year and for different batches of the same product under more detailed ingredient listing and country of origin legislation.\textsuperscript{69}

According to data from our own survey, most food manufacturers change their products’ labels at least once every 3 years. This is similar to the American FDA cost model finding, described above. Figure 8 shows the distribution of survey responses by frequency of label change.


\textsuperscript{67} It is worth noting that these numbers are estimates by the authors based on a number of interviews rather than grounded in statistical data. For the purpose of their model, these numbers are thus used as assumptions.

\textsuperscript{68} Donovan Research, \textit{Food Labelling Issues: Stakeholder Qualitative Research}. Report C01033 (Prepared for Australia New Zealand Food Authority, 2002).

\textsuperscript{69} Centre for International Economics, \textit{Feasibility of extending CoOL: A benefit cost analysis} (Prepared for Food Standards Australia and New Zealand, Australia, 2006).
4.1.2 Familiarisation with legislation
After the need for changing a label has been established, the company has to familiarise itself with the legislation to establish the legal requirements for the new label. Costs related to the familiarisation with legislation occur as: time spent on acquiring, familiarisation and understanding of the regulatory environment; or as fees for external consultants. It can be safely assumed that these costs vary with the specificity of the regulation, the number of sources the regulation is found in and the clarity of the actual regulation. A British administrative burden exercise estimated the costs attributed to familiarisation and understanding the regulation as being 13% of all administrative costs across all the regulation; an administrative measurement exercise conducted in Denmark estimated the costs associated with familiarisation with food labelling legislation to account for 5% of the total administrative burden.\(^{70}\)

4.1.3 Information to be provided on the label
If the information to be provided on the label is not readily available within the company, additional costs are involved to collect this data. Typically, such data includes nutritional values for products, information on the country of origin of ingredients, and full ingredient listings in pre-products delivered by external suppliers.

In the case of nutrition labelling, the most relevant costs involved are the costs of obtaining the nutrition composition of the product. In order to obtain this information, firms use traditional laboratory analysis of recipes (the most costly system), or databases, software and tables of nutrition values from which to derive the composition of a product (these tend to be less costly systems). More information on the specific cost aspects of this activity is provided in Chapter 5 on voluntary versus mandatory nutrition labelling.

4.1.4 Design costs

After the food-business has collected all the necessary information to be presented, the design of the label is the next step. The design costs vary with the extent of the overhaul of the label, with a complete overhaul being the most expensive option. Table 4 gives cost estimates from American research, which reflect the bandwidths of actual costs that can occur in the design stage.

Table 4: Graphic design cost estimates (US)

<table>
<thead>
<tr>
<th>Extent of redesign</th>
<th>One-colour change</th>
<th>Two-colour change</th>
<th>Full redesign</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost estimate</td>
<td>low</td>
<td>medium</td>
<td>high</td>
</tr>
<tr>
<td>Graphic design</td>
<td>$300</td>
<td>$450</td>
<td>$600</td>
</tr>
<tr>
<td></td>
<td>$900</td>
<td>$1,350</td>
<td>$1,800</td>
</tr>
<tr>
<td></td>
<td>$1,500</td>
<td>$2,250</td>
<td>$3,000</td>
</tr>
</tbody>
</table>

SOURCE: Muth et al. (2003), FDA Labeling Cost Model

If only minor changes in the label are required, the design phase may be skipped altogether, and the company may just add the additional information themselves and go straight to the printing phase. The two small companies we interviewed for the research were using computer software that allowed them to easily add and edit the information on the label and could be used to feed the information straight into the printing process.

4.1.5 Printing costs

The costs of the actual printing process vary strongly with the number of labels actually printed, with a small number of labels printed being more expensive due to the considerable effect of fixed costs such as printing plates. Additionally, the number of colours used significantly increases the costs of producing a label. Printing costs are estimated to be 15% higher for a five-colour compared to a three-colour label. If the production of labelling is in-house, label changes might produce sunk costs, as machinery might have to be adapted or even replaced. Table 5 gives an overview of the costs associated with changing the printing plates for different printing methods. The process of preparing a finalised design to be put on the printing plate is known as the pre-press phase; whereas etching and engraving involves the actual process of producing the new printing plates. These two numbers thus have to be summed up to establish the costs of changing the printing plates.

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Table 5: Prepress and etching/engraving cost estimates. Prepress and engraving costs are on an SKU basis and differ by printing method

<table>
<thead>
<tr>
<th></th>
<th>One-Color Change</th>
<th>Two-Color Change</th>
<th>Full Redesign</th>
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<td>Engraving</td>
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<td>$200</td>
<td>$500</td>
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<td>Offset Lithography</td>
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<td>$215</td>
<td>$400</td>
</tr>
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<td>Engraving</td>
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<td>$600</td>
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<td>Rotogravure</td>
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</tr>
<tr>
<td>Prepress</td>
<td>$500</td>
<td>$550</td>
<td>$800</td>
</tr>
<tr>
<td>Engraving</td>
<td>$900</td>
<td>$1,350</td>
<td>$1,800</td>
</tr>
</tbody>
</table>

SOURCE: Muth et al. (2003), FDA Labeling Cost Model

A relevant cost implication of labelling changes is also the writing off of existing stocks of food labels. To reduce costs, companies usually order packages and labels in bulk. A previous impact assessment illustrated the cost differences between different amounts of labels ordered based on information received from label suppliers: if the price of 100,000 adhesive labels is set as 100%, that of 50,000 labels would be 122% and that of 25,000 would be 150%. Labels printed directly onto pack need even larger amounts for them to be an economical alternative, the same study estimates a minimum order amount of a million units.\footnote{EAS (2004).}

Data on the typical stock of labels is available for the UK, where a recent study commissioned by the Food Standards Agency in the UK\footnote{Leatherhead Food International, Evaluating the impact on business chances to nutrition labelling requirements in the UK (Project undertaken for the Food Standards Agency, 2006).} found that 69% of companies use up their labels within 12 months, and only 11% need more than 24 months to use up their labels. However, small companies tend to use up their label stock over a longer period than large companies.\footnote{Ibid.}

Very generally, three types of labels can be distinguished: labels ‘printed on pack’; labels applied to the packed product; and off-product labelling for food sold loose. Labels printed on pack have the longest lead time in label changes, and are the most expensive if stocked labels have to be written off.\footnote{EAS (2004).} Applied labels, such as adhesive labels, shrink sleeves, etc. have shorter lead times and writing off stock is cheaper. Displays at the point of sale for food sold loose are one of a range of options that provide a flexible and easy-to-amend form of labelling.\footnote{See FSA, Regulatory Impact Assessment Fish Labelling Regulation (2006).}
costs however have to be borne by the retailers. In addition, displays at the point of sale require trained staff to keep the information up to date and in accordance with the legislation.  

The size of labels can be an important factor increasing the cost of labelling. If labelling requirements exceed a product-specific threshold, the producer might be forced to increase the size of the package to accommodate the necessary information or increase the number of stock-keeping-units, by for example abstaining from multilingual labelling. One of the interview respondents illustrated this with a chocolate bar, which currently has only one label on one side. Including more information would mean adding another label at the back of the pack, which would in turn require a new machine that could stick adhesive labels to both sides of the final product.

Estimates from previous research suggest the following ranges of total costs of changing a label (see Table 6).

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<thead>
<tr>
<th></th>
<th>Small change</th>
<th>Extensive redesign</th>
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<tr>
<td>Cost range</td>
<td>€2,000-€4,000</td>
<td>€7,000-€9,000</td>
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</table>


4.2 **Administrative burden**

The administrative burden measurements can provide insights on the scale of the costs incurred by industry and in some cases per type of industry. We have found examples of such measurements in Denmark, the Netherlands, Sweden and the UK. These countries, in particular the Netherlands, have been at the forefront of the development of administrative burden measurements. However, it is important to note that these exercises have tried to establish the current costs of compliance to industry. Therefore they are not able to anticipate what the costs to industry arising from revisions in labelling regulations might be; and where (type of industry), specifically, these costs will be incurred. In addition, the data that the measurement exercises generate is not entirely comparable, and therefore making generalisations about the impact across countries is challenging. Some countries such as the UK give an idea of the cost per information request, while other countries such as the Netherlands aggregate data. It is difficult to arrive at average costs or even comparable levels of administrative burdens. In short, these exercises can only give us an indication of the scale of the burden; the scale of the types of burden incurred; the distribution of administrative burden according to type of regulation; and the distribution of costs across the food chain.

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77 Public administration official, interview conducted April 2007.
79 Ibid, p.31.
Table 7: Administrative burdens associated with food legislation and labelling regulations compared between countries

<table>
<thead>
<tr>
<th></th>
<th>Denmark</th>
<th>Netherlands (\textsuperscript{80})</th>
<th>Sweden</th>
<th>UK</th>
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<tr>
<td><strong>Definition of administrative burden used</strong></td>
<td>Administrative activities (e.g. collection of information within the company) to meet data requirements, consisting of internal resources used in the form of the employees’ time consumption and, occasionally, an external resource used in the form of costs to accountants, external experts, etc. In total, these administrative costs constitute the costs that are related to the performance of different administrative activities</td>
<td>The costs to Dutch industry of complying with the information requirements of government regulation. These concern the collection, processing, registering, storage, and provision of information</td>
<td>Administrative costs are defined as costs born by business to gather, store or transmit information which is required in regulation</td>
<td>UK calculates the sum of internal, external and overhead costs to meet an information obligation and adjusts it for the ‘business as usual’ costs (costs that would have been incurred in the normal business process), which gives a net administrative cost</td>
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<tr>
<td><strong>Total amount of administrative burden associated with all food regulations identified</strong></td>
<td>€554.9m (current exchange rate) per year as of 2005 (all regulation within the Danish Veterinary and Food Agency)</td>
<td>€940m per year as of January 2006</td>
<td>€913m (current exchange rate) per year as of 2006</td>
<td>€180m (current exchange rate) as of May 2005 over 53 regulations</td>
</tr>
<tr>
<td><strong>Total amount of administrative burden associated with European regulations</strong></td>
<td></td>
<td>€535m per year</td>
<td>Category A: €900.1m</td>
<td>Category A: 49%</td>
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<td></td>
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<td>Category B: €12.5m</td>
<td>Category B: 49%</td>
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<td>Category C: €0.005m</td>
<td>Category C: 2%</td>
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<tr>
<td><strong>Total amount of administrative burden associated with food labelling</strong></td>
<td>Horizontal labelling: €93.2m per year</td>
<td>€337.5m per year</td>
<td>Horizontal labelling: €62.5m per year</td>
<td>UK assessed the impact of the 1996 Food Labelling Directives, total administrative costs were: 10.2m (current exchange rate) or 6% of total administrative burdens</td>
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<td></td>
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<td>Vertical labelling: €0.842m per year</td>
<td>Net administrative costs adjusted for normal business practices were: €6.87m</td>
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<td>Nutrition labelling €2.8m per year</td>
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<td>Traceability:</td>
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</table>

\textsuperscript{80} The Dutch measurement of administrative burden is compared to a baseline measurement undertaken at the time of the introduction of the overall regulation. Compared to this baseline measurement, administrative burdens in the 2006 report were €111m less. For full details see, P.H. Bex and B.H. Duits, Administratieve Lasten in de VWS Voedselketen (Nieuwegein: SIRA Consulting, 2006); Interdepartmentale Projectdirectie Administratieve Lasten, Meten is Weten: Handleiding voor het Definieren en Meten van Administratieve Lasten voor het Bedrijfsleven (Den Haag, December 2003).

\textsuperscript{81} Category A is the European regulation with no discretion in implementation. Category B is European with domestic discretion, which accounts for 49%. Category C is domestic regulation with full discretion.
Distribution of total
administrative burden
per type of industry

Type of administrative
cost incurred

€37.9 m per year
(current exchange rate)

Not given

Food production: 3.3% of total
administrative burden
Packaging productions: 0.03%
Food and drinks industry: 33.5%
Transport: 0.8%
Wholesale and importing: 15.4%
Retail: 26.5%
Hotels and restaurants: 19.3%

Horizontal labelling only:
- Familiarisation with requirements: 5%
- Collection of information: 5%
- Text description: 30%
- Copying, distribution, archiving: 60%

n.a.

62% of the administrative cost associated
with complying with the Food Labelling
regulations of 1996 was an internal cost.
The remainder (38%) was external. The
main categories of administrative
burdens identified for the total
measurement are:
- Gathering and assessing relevant
  information/figures (28%)
- Familiarisation with requirements (7%)
- Reporting – including written
descriptions, copying, filing, distributing
  or submitting information/reports (5%)

SOURCES:

Denmark: Ervers- og Selskabstyrelsen (2005), AMVAB Ministeriet for Familie og Forbrugeranliggender, conducted by Muusmann Research & Consulting and COWI A/S


4.3 **Company size**

For a variety of reasons, SMEs are likely to face relatively higher costs than large enterprises due to labelling changes. In general, SMEs command far fewer 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, but also to reposition and re-brand products affected by changes in consumer demands as a result of information disclosure. Overall, labelling requirements might lead to higher per unit costs for SMEs and thus reduce their competitiveness. 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 SMEs’ competitiveness. A recent study of the American situation, however, shows that the introduction of mandatory nutrition labelling increased the likelihood of SMEs – compared to large companies – exiting the food market.

4.4 **Voluntary vs. mandatory labelling**

Economic theory suggests that firms will disclose information on their products as long as it increases the revenues from the product, be it either through increased sales or through a higher premium. This might lead to a spread of labelling information on positive food characteristics through the market and increased information for the consumers, the so called “unfolding theory”. Evidence from the US gained prior to and following the introduction of mandatory food labelling, however, suggests that generally “incentives for voluntary disclosure of nutritional content by food processing did not generally result in reliable and consistent quality signals to consumers in the US”. Following this reasoning, any mandatory labelling requirement would have a net cost to the producers.

4.5 **Opportunity costs**

A third source of labelling costs is opportunity costs. If there were to be no labelling requirements, companies would optimise the use of their labels for marketing purposes and this might include providing some information they assume the consumer will value, and result in the customer using their brand, etc. Labelling requirements limit the free use of the label for

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82 Christine Moorman, et al., 263-74.
83 E. Golan et al., 117-84.
85 Christine Moorman, et al., 263-74.
86 E. Golan et al., 117-84.
these purposes, thus reducing a perceived benefit for the company. Evidence about opportunity costs for the industry is rare. However it seems reasonably to assume that opportunity costs increase with the space taken by the mandatory labelling requirements; with the placement of mandatory requirements on the front of the pack; and with the value of the brand marketed.
CHAPTER 5  Voluntary versus mandatory nutrition labelling

### Policy options

1. Maintain current rules – nutrition labelling is mandatory only if a claim is made
2. Introduce mandatory nutrition labelling for all businesses (aim to have all products with nutrition labels within three years)
3. Introduce mandatory nutrition labelling for all businesses, but with exemption for all SMEs (aim to have a significant proportion of products, up to 50%, with nutrition labels within three years)
4. Introduce mandatory nutrition labelling for all businesses, but with exemption for a limited number of SMEs (aim to have the majority of products, up to 95%, with nutrition labels within three years)

### 5.1 Background

The issues of health, nutrition and informed choice for consumers are at the centre of much debate on nutrition labelling for foodstuffs. Effective nutrition labelling legislation has been associated with a possible reduction in the incidence of various NCDs – such as obesity, cardiovascular disease, diabetes and certain types of cancer – by helping consumers improve their diet through increased use of nutrition information provided on labels.\(^{88}\)

The goal of nutrition labelling legislation is to help consumers make better-informed food choices by providing them with clear and accurate information about the nutritional quality of the food products they purchase. The underlying premise is that “more informed food choices lead to healthier diets, reduced risk of disease, fewer cases of disease and premature death, and lower costs to society from treating these diseases and premature death”.\(^{89}\) In the medium- and long-term, improved health could also lead to reduced absenteeism from work – and thus a reduction in the costs associated with absenteeism – and increases in productivity.

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\(^{88}\) S. Crutchfield et al., 185-207.

\(^{89}\) Ibid, p. 186.
In the last two decades, a number of countries have passed legislation to make nutrition labelling mandatory on foodstuffs. In Israel, the first country to implement this policy, the legislation dates from 1993. The United States’ legislation came into effect in 1994. Other countries such as Australia, New Zealand, Canada, Brazil and Malaysia made nutrition labelling mandatory for most products in the last five years. In most other countries around the world, nutrition labelling is voluntary unless a nutrition claim is made, or except for certain foods with special dietary uses. In some countries, most of which are in the developing world, there are no regulations on nutrition labelling.

In countries that now require mandatory nutrition labelling, the estimations of the monetary costs involved relative to the health benefits accrued, have formed a major part of the decision-making process. Cost-benefit analyses have been conducted in at least four countries as part of the process of developing regulations, and have actually been used to support the mandatory approach.\(^90\)

The United States Food and Drug Administration (FDA) examined the costs and benefits of mandatory nutrition labelling, which was instrumental to the development of the Nutrition Labelling Education Act (NLEA). Costs of mandatory labelling were calculated as US$1,500m, including administration, nutrition content determination tests, printing and inventory. Benefits “were estimated at 35,179 fewer cancer cases, 4,024 fewer coronary heart disease cases, and 12,902 fewer premature deaths, all over a 20-year period. These benefits were valued at $4,200m (amount people are willing to pay for reduced death risk valued at $3,600m; reduced medical costs at $600m)”.\(^{91}\)

In Canada, the health ministry estimated that nutrition labels could save $5,300m in 20 years in direct and indirect costs, including the reduced costs of treating certain NCDs such as cardiovascular disease, and the broader economic cost associated with loss of productivity. Set against the $300m costs to industry of implementing mandatory nutrition labelling, the ministry estimated that mandatory labelling could still achieve significant cost savings. A third example is Australia and New Zealand, where a cost-benefit analysis was conducted in preparation for the development of mandatory nutrition labelling regulations. The analysis, which estimated the costs of a one-year delay in implementing mandatory labelling, estimated that from 320-460 deaths would be lost for every year that mandatory labelling was delayed, with costs to the health system of from $47-$67m, and a lowered value of life by $341-$486m.\(^{92}\)

While no similar data exists so far for Europe, cost-benefit analyses conducted elsewhere suggest that there would be a positive net effect of mandatory nutrition information, although the extent of this effect is difficult to determine without such a study.

There are, however, 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


\(^{91}\) Ibid.

\(^{92}\) Ibid.
estimated that approximately 136m healthy life years were lost, of which 56m were due to major nutritional risk factors.\textsuperscript{93} Data from 2000 in the EU show that nutritional factors, coupled with lack of physical activity, were implicated in:\textsuperscript{94}

- 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 \textit{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.\textsuperscript{95}

It is worth noting, however, that while \textit{ex ante} estimates are crucial for assessing the value-for-money of a policy intervention, it is not always possible to isolate the impact of that policy. In the case of nutrition labelling, estimates of the impact to public health that mandatory nutrition labelling could have are subject to the caveat that it is not possible to fully isolate its impact from that of changes in food consumption and health patterns caused by secular factors. There is also the complexity of reliably assessing the counterfactual, that is, what the public health situation would be in the absence of mandatory nutrition labelling.\textsuperscript{96}

5.2 \textbf{Nutrition labelling, consumer choice, and diet}

While the \textit{ex ante} assessment of potential health improvements in the United States, Canada, and Australia and New Zealand estimated positive outcomes, the actual causal relationship between food labelling and subsequent diet choice is still not well understood and requires further research.\textsuperscript{97}

\textsuperscript{93} World Health Organization (2004).
\textsuperscript{94} Euro Diet (2000).
\textsuperscript{95} Ibid.
\textsuperscript{96} Elise Golan, PhD, Deputy Director for Research, Food Economics Division, Economic Research Service, USDA. Interviewed April 5th, 2007.
\textsuperscript{97} T. Philipson (2004).
There is an expected causal ‘chain of events’ from the implementation of nutrition labels on foodstuffs, to a change in consumers’ behaviour towards more healthful diets (and thus to improved individual and public health). This chain of events is illustrated in Figure 9. Current studies that aim to estimate the impact of food labelling on diet quality test the assumption that the widespread and standardised provision of nutrition information could lead to positive changes in consumer behaviour and increased diet quality.\(^{98}\) However, a weakness of the evidence on the impact of nutrition labelling is that most existing research addresses the question on whether people read and understand labels, rather than focusing on the extent to which nutrition labels affect actual behaviour.\(^ {99} \)\(^ {100} \) The provision of nutrition information to consumers is often seen as an end in itself, and there is research that discusses the monetary ‘value’ of consumer information.\(^ {101} \) But even if the value of information to consumers is not monetised, there is still the argument that information should be provided due to consumers’ inherent “right to know”, which is in addition to any measurable positive impact of nutrition labelling on public health.\(^ {102} \)

\textbf{Figure 9: Causal chain of events following implementation of nutrition labelling}

\begin{figure}
\centering
\includegraphics[width=\textwidth]{figure9}
\end{figure}

\(^{98}\) For example: S. Crutchfield et al. (2001), 185-207.
One of the few studies assessing the impact of nutrition labelling on consumers’ diet choices tracked the changes in market share of one particular type of product – salad dressings – before and after the implementation of the NLEA in the America (when nutrition labelling became mandatory for most foodstuffs). The study, which had a strong methodological design, suggests that mandatory nutrition labelling appears to have had a positive impact on consumers’ diet choices. The research identified a decrease in the sales of the salad dressings with the highest fat/saturated fat content, which was unlikely to have been caused by factors other than the implementation of NLEA. While this study looked only at the effects of mandatory nutrition information in one market, it is likely that the results would hold in other markets, particularly where the nutrition content of products varies significantly (in the salad dressing market, fat content ranges from zero grams per ounce to more than ten grams per ounce). Results might be less strong with categories of food for which nutrition content is less varied.

Other researchers have established that use of nutrition label information is associated with lower consumption of total fat, saturated fat and cholesterol. However, these studies may in fact produce spurious correlations between labelling and diet choice. It is likely that health-conscious consumers, who already had a diet of higher nutritional quality than average, are observed to have healthy diets when using labels. For example, some studies show that label readers are more likely to be health conscious, while others show that “households with a lower level of health awareness (high fat and cholesterol in their diet) are less likely to use food labels as a source of information”. A systematic review of research on consumer understanding of nutrition labelling found that “those with a special interest or positive attitude to diet and health are more likely to report higher levels of label reading,” although the studies examined in this review looked at consumers’ use of nutrition labelling as a source of information rather than as a catalyst for behaviour change.

At the same time, research has shown that people with more years of schooling are more interested in using nutrition labels than other consumers, and more likely to understand the information. There is also evidence that lower-education and lower-income groups

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108 This finding has important implications for health and nutrition awareness and education programmes. If health awareness is improved, the effectiveness of nutrition-labelling policies may also increase, since health awareness is positively correlated to the likelihood that consumers will use food labels to make decisions about their diets.
find nutrition labels difficult to understand, which negatively affects the usefulness of the labels in improving diet. 111 This presents a particular challenge for nutrition labelling legislation since overweight and obesity are more prevalent amongst lower socio-economic groups. Evidence from the United States, for example, shows that “lower-income households tend to select diets high in low-cost meats, inexpensive grains, added sugars and added fats”. 112

A study of the EU-15 found that the prevalence of obesity rises steeply with decreasing education and socio-economic level. 113 In Europe, it was estimated that about 135m citizens of the EU-15 countries, and about 70m in the EU-10 countries, suffer from non-communicable diseases. 114 In many countries, over half the adult population, and an increasing proportion of children, are overweight, and up to 30% are obese. 115 Figures 10 and 11 show the breakdown by country.

Figure 10: Estimated EU-15 prevalence of overweight and obesity

![Graph showing the estimated EU-15 prevalence of overweight and obesity by country.](image)


115 Ibid.
As mentioned above, one of the main objectives of nutrition labelling is to help people make better choices in their diets and thus reduce the prevalence of overweight and obesity. Given the evidence that overweight and obesity are more prevalent amongst those in lower-income and lower-education groups, nutrition labelling should be particularly effective at communicating messages to people in these groups. But as the evidence shows, it is precisely these groups that find it more difficult to understand and therefore to effectively use nutrition labels. In fact, a systematic review of studies of consumer use of nutrition labels stated that, accepting its limitations, the existing evidence base shows that “although reported use of nutrition labels is high, more objective measures suggest that actual use of nutrition labelling during food purchase may be much lower”.

Nevertheless, there is research suggesting that by standardizing nutrition labelling in most foodstuffs, mandatory nutrition labelling in the United States allowed consumers to acquire and comprehend more nutrition information. For example, a study of residents in the American state of Washington found that more consumers read nutrition labels since the NLEA took effect. A systematic review of research into consumer understanding and use of nutrition labels found that according to a large number of studies, “consumers read labels more accurately if they were familiar with the label

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format”. Familiarity with label format is usually facilitated by regulations that standardise, and mandate widespread provision of nutrition labels, such as in America.

Finally, a study amongst African-Americans in the United States found that amongst obese participants nutrition label use was about twice as high as amongst those with normal weights. This finding is encouraging in view of the growing obesity problem in America and also Europe, since “it suggests that the target group most in need of dietary change may be using the government-mandated nutrition label information to improve food choices”. In order to boost its effectiveness, carefully targeted education and awareness campaigns to increase the use of nutrition labels might be required.

Most of the evidence on the impact of nutrition labels on consumers’ behaviour comes from the United States, where mandatory nutrition labelling came into effect in 1994. In the last ten years or so, the importance of diet and nutrition for health and well-being has become increasingly prominent not only for public policy but also for the press and public opinion in general, in Europe and elsewhere. Information about the link between nutrition and health is also increasingly widespread. In addition, it is possible that consumers in the United States, on average, consume a larger proportion of their diet from food-away-from-home establishments (FAFH) than do Europeans. This has negative implications for diet and health because the nutrition content of FAFH tends to be less healthy than foods prepared at home. Moreover, FAFH is not subject to mandatory nutrition labelling legislation. It is therefore possible that the positive impact of mandatory nutrition labelling in Europe in the short- and medium-term would be stronger than it was in the US, as it would take place in an environment in which nutrition and health are high profile public concerns and where FAFH does not constitute such a great proportion of people’s diets.

5.3 Nutrition labelling, producers’ behaviour and the food industry

Economic theory suggests that even without mandatory labelling laws, there are market incentives for producers to disclose certain types of information about their products. The theory of “unravelling” or “unfolding” indicates that “if enough consumers know the value of a product characteristic, if producers have a credible method of labelling their products, and if consumers are skeptical of firms that do not label their products, there is

123 Ibid.
no need to require labelling of hidden products’ characteristics”. 124 This means that mandatory labelling is not necessary for disclosure; the market process of “unravelling” addresses the information asymmetry between firms and consumers by providing an incentive for all but the worst firms to disclose information about their products.

Other models, however, suggest that voluntary disclosure leads only to partial unravelling. Firms do not disclose certain types of information if it is too costly, too difficult to acquire, or too complex to convey to consumers in a reliable manner. 125 In his study of changes in the salad dressings market following the NLEA, for example, Mathios reports that prior to the legislation, voluntary disclosure of nutrition information on salad dressings was only partial. Disclosure of nutrition information was perfect (100% of products disclosed) only in those product with zero to 6 grams of fat per serving. For products with higher levels of fat, disclosure of nutrition information was significantly lower. Figure 12 illustrates this point. As Mathios states, “the introduction of mandatory labeling provides data on the nutrient content of those products which did not voluntarily disclose”, addressing information asymmetry by filling information gaps. 126

**Figure 12: Voluntary nutrition labelling by fat per serving**

![Figure 12: Voluntary nutrition labelling by fat per serving](image)


Mathios’ study highlights the fact that, if left to the firms’ discretion, unravelling of information is likely to be less than perfect particularly for attributes that range significantly in value (such as grams of fat per serving in salad dressings). It is likely, moreover, that there could be even less – or no – disclosure of information in types of products that all share a negative attribute, such as high levels of fat or sugar. 127 In these cases, mandatory labelling could ensure that consumers are provided with information about the nutrition content of these products.

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124 A.D. Mathios, 652.
125 Ibid.
126 Ibid, 659.
While research shows that unravelling of information through voluntary nutrition labelling can be less than perfect, there are other incentives for firms to disclose information about their products. When certain types of information provision are voluntary, such as nutrition information in the EU, firms might choose to use labels to disclose hidden attributes of their products as a “strategy to enhance unit profits by promoting product differentiation in the marketplace”. Nevertheless, as with “unravelling”, products with negative attributes, such as high levels of fat or calories, are unlikely to provide this information to differentiate their product in the marketplace.

Following the work of Akerlof in the 1970s, economists agree that markets for typical products are impaired by information asymmetries, whereby “higher quality products cannot be recognised as such by consumers with higher willingness to pay, and thus high-quality producers cannot have appropriate incentives”. The introduction of regulation to enable high-quality producers to differentiate their products and consumers to exercise informed choice can lead to unambiguous gains for these producers, it is arguably the case that it may also leave producers of low-quality products worse off. While there is some – very limited – evidence that mandatory nutrition labelling can reduce the market share of the lowest quality products of certain product ranges (e.g. salad dressings), evidence also shows that the potential public health gains are likely to outweigh the costs to firms and result in net welfare gains. Unlike other types of quality markers – for example those related to production technology or origin, which relate to consumers’ preferences – nutrition information can impact on consumers’ health. While the asymmetry of information on the former can result in inefficiencies in the market for a particular category of food, information asymmetry regarding the nutrition content of foods can have a wider social and economic impact.

While it is clear that mandatory nutrition labelling could make an important contribution to full information disclosure, researchers and policy makers held that mandatory nutrition labelling could also elicit another positive response from food producers. Prior to the NLEA in America, it was expected that, in view of the requirement to fully disclose nutrition information, the law would encourage firms to reformulate some of their products to improve their nutritional quality. This assumption derived in part from studies that showed that after the American Federal Trade Commission imposed mandatory disclosure of tar and nicotine levels on cigarettes pack labels, firms responded by providing an increased number of low tar and nicotine offerings in the market place.133

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132 C. Moorman et al. (2005).

This suggested that increased levels of information in the marketplace can lead to an increase in product quality.

Following this, economists hypothesised that mandatory nutrition labelling was likely to improve the nutritional quality of base brands (i.e., brands not positioned with regards to nutrition) by "reducing the negative attributes (e.g., fat) or increasing positive attributes (e.g., vitamins)." This, therefore, is a response to mandatory nutrition labelling requirements that aim to improve competitiveness in a new regulatory environment.

Very few studies have been conducted in either America or elsewhere to examine the impact of mandatory nutrition labelling on product reformulation. One of them, a longitudinal study looking at the nutritional quality of a number of products in America before and after the NLEA, indicates some benefits, but these are more limited in scope than previously theorised. This study shows that the base brands tracked "significantly increased the levels of positive nutrients but did not reduce the level of negative nutrients." At the same time, firms appeared to have introduced new "healthy brand extensions" to cater for the more health-conscious consumers who would be willing to sacrifice some of the taste for improved nutritional quality. The study results show that as the number of healthy brand extensions increased, the unit sales for base brands decreased. Product reformulation in base brands, then, did not significantly affect unit sales.

A similar finding emerged from Mathios' study of the salad dressing market. His research found that while product reformulation was not pronounced, those products with the highest levels of fat experienced a significant decline in market share. Mathios also found that there was an increase in the number of product offerings of greater nutritional quality (i.e., lower fat levels).

The findings from these studies suggest that, while one of the key industry responses to the introduction of mandatory nutrition labelling – namely product reformulation – was less pronounced than expected, firms did in some cases introduce healthy brand extensions with products of higher nutritional quality. This has two important implications. On the one hand, it shows that mandatory nutrition labelling can increase the number of healthy offerings in the marketplace. This is a positive result of a mandatory nutrition labelling policy. On the other hand, it is evidence that, while modest, mandatory disclosure of nutrition information does have an effect on consumer choice.

5.3.1 The cost of nutrition labelling to industry: small, medium-sized and large firms
Standardised mandatory information can impact firms in different ways, depending on their market share size. Firstly, "regulations involving standardised information often

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134 Ibid, 84.
135 Ibid, 93.
136 Ibid.
require firms to test brands and to communicate information on labels or advertising.”

In order to do this, firms must have the resources either to do these activities “in-house” or to outsource them. Secondly, larger firms are more likely to enjoy economies of scale, which lower the cost-per-unit of complying with regulations. Small-share firms have to devote a larger proportion of their financial resources to responding to regulations relative to larger firms. As American researchers observed:

Large share firms own or have access to more financial resources, relevant firm capabilities, brand equity, absorptive capacity and market-based knowledge assets, and category planner positions. As a result, large-share firms have a greater probability of having an effective and timely response to standardized information. This response capability increases the probability of their survival in current categories.

While it had been hypothesised in America that the NLEA could favour industry leaders, there is limited research about the differential impact of the regulation on small- versus large-share firms.

It is clear that the introduction of new labelling and information provision requirements impose costs on all food manufacturers. However, the extent of these costs depends on the timeframe given to firms to adjust and respond; it costs less for firms to have to comply over the medium term than if they had to comply immediately, because there is a natural cycle in product lines and labels into which changes to labels can be incorporated. Public administration officials and food manufacturers interviewed in the course of this research also stated that a period of transition from voluntary to mandatory nutrition labelling, which would take into account labelling cycles, would significantly reduce the costs of complying with the regulation.

Manufacturers in countries that introduced mandatory nutrition labelling had a time-frame of a few years to respond to the new regulation on nutrition labelling. The aim of this extended time-frame (in America it was up to four years) was twofold: to give firms time to adjust to the new requirement and devote resources to compliance as efficiently as possible, and to enable the changes to be incorporated in the natural cycle of product lines and labels. The latter is particularly important in reducing the costs of meeting the requirements. A labelling cost model developed for the American FDA, for example, states that “the cost of administrative, redesign, prepress and engraving or etching activities are 10% higher under the 6- to 12-month compliance period than under the 24- or 36-month compliance period”. It is less costly for firms to adjust their labels at an appropriate stage in their natural cycle than if they had to comply in a short time-frame. Research from America estimated that the cost to industry of responding to the new requirements following the NLEA was between US$1.4 billion and US$2.3 billion to change 250,000

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140 Ibid, 266.

141 Centre for International Economics (2002).

142 M. Muth et al. (2003).
food labels, the equivalent of approximately US$7,400 per label (for each production unit). A survey conducted in the United Kingdom to assess the potential impact on business of changes to nutritional labelling requirements found that “if group 2 nutrition labelling were to become mandatory it is estimated that the one-off cost to the UK industry would be approximately £185m, with an additional estimated on-going cost on an annual basis of nearly £38m”. The study then goes on to state that “to put these figures into context the UK food and drink manufacturing industry is worth around £70 billion per annum”. Group 2 nutrients include energy, protein, carbohydrates, sugars, fat, saturated fat, fibre and sodium.

Mandatory nutrition information could also have a significant impact on companies that market their products in many countries. This is because, for a product that currently provides mandatory information in three languages for example, adding mandatory nutrition labelling requirements – especially of seven or eight elements – would have knock-on effects on the number of stock-keeping units, warehousing, and distribution operations. These costs, however, are unlikely to apply to micro, small and even some medium-sized enterprises that do not market their products internationally. One study shows that 74% of companies with a turnover in excess of €50m use multilingual labelling. This figure drops to 14% for companies with a turnover below €50 million.

Data from the survey conducted as part of this project suggests that large firms (those of 250 employees and above) are more likely than SMEs to produce multilingual labels. Figure 13 shows the distribution of multilingual labels across micro, small, medium-sized and large manufacturers.

143 C. Moorman et al. (2005).
144 Leatherheads Food International (2006).
145 EICN (2006), SME Panel, data collection on possible impacts of labelling changes. (Belgium: Euro Info Centre Network).
146 It is worth noting, however, that only 105 out of 211 respondents to the survey answered provided data on multilingual label production. While the country distribution of this sample is relatively wide (firms from 25 countries responded to the survey) a larger survey of food retailers and manufacturers across Europe would be necessary to adequately ascertain the percentage of firms that produce multilingual labels.
5.4 Nutrition labelling and public administrations

Governments play a significant role in regulating food labelling. Common tasks of public administrations include, amongst others: development of labelling policies; enforcement; surveillance and monitoring of compliance with standards and regulations; and dealing with problems arising from the regulation. Nonetheless, there is very limited research about how voluntary versus mandatory nutrition labelling regimes affect public administrations. This is probably because government systems regulating labelling policy are “broad, complex and involve some duplication at all levels of government”.\textsuperscript{147} It is likely that in implementing these types of policy, or changing from one regulatory framework to another – such as from voluntary to mandatory nutrition labelling – government departments shift resources between areas based on existing and emerging needs. This makes the costs of different regulatory frameworks to public administrations very difficult to quantify.

This hypothesis is supported by reports from public administration officials interviewed in the context of this research. In Europe, nutrition labelling is voluntary unless a nutrition claim is made. In addition, there are a number of other labelling requirements for foodstuffs. Most countries count on a public infrastructure to enforce and monitor compliance with the various regulations. As a result, a number of interviewees from different countries agreed that the introduction of mandatory labelling is unlikely to lead to a significant increase in the administrative burden to governments, as it could be

\textsuperscript{147} Centre for International Economics, 7.
incorporated into existing systems of control. In fact, a number suggested that standardisation might be helpful in that it would make monitoring simpler. Nonetheless, it is worth noting that the costs of compliance to public administrations will vary across Member States, and will likely be higher in those countries where there is a low prevalence of nutrition labelling in the pre-packed food industry.

A similar finding is reported by a study conducted for DG SDANCO in 2004. The study interviewed officials from relevant public bodies in four countries in the EU (Italy, Slovakia, Sweden and the UK). The interviews indicated that “it was not expected that resources for controls on nutrition labeling would be increased with the introduction of mandatory nutrition labeling.” In fact, interviewees stated that existing resources would be redistributed, and there was little concern that a move towards mandatory nutrition labelling would increase the administrative burden for public administrations.

5.5 Nutrition labelling and international trade

The EU is not only a large exporter of food products, it is also a significant importer of food from non-EU countries. Data from Eurostat shows that the United States, Brazil, Argentina and China are the four top trading partners of the EU in terms of imports into the region. Both imports and exports have been growing in the last few years. Imports from most emerging and developing countries, such as Argentina, Brazil, China, Indonesia, Thailand, and India, have also increased over the last five years. Some of the top imports into the EU include soya bean, fish filets and wine. While imports from non-EU countries into the region are significant, it is worth noting that “intra-EU exports account for 60% to 85% of total in each of the 25 Member States”.

For many governments, food exports are an important source of foreign exchange. However, trade restrictions can emerge from increasing “variations in the procedures of national food control systems involving monitoring and sampling, detection and analytical methods, application of standards and food safety requirements.” Food labelling

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148 Interviewees from: UK, Czech Republic, Sweden and Spain.


150 Ibid.

151 Ibid., 7.

152 Confederation of Food and Drink Industries of the EU, Data and trends of the European Food and Drink Industry (Belgium: CIAA, 2006).

153 Ibid.

154 Ibid. 16.


156 Ibid.
regulations often act as non-tariff barriers to trade (BTT) in several ways. According to a World Health Organization study, this can happen most notably by:

- making it more difficult to import food into a country
- creating issues of ‘transparency’ (clarity of information) if the labelling requirements are detailed in content and format
- differentiating between domestic and imported products.

A large number of countries around the world follow the guidelines of the Codex, briefly described in Chapter 2, which is the main instrument to assist countries in the harmonisation of their food standards. The Codex, for example, has been a reference point for most countries in establishing their own nutrition labelling regulations; that is, making nutrition labelling voluntary unless a nutrition claim is made. The Technical Barriers to Trade Agreement (TBTA) was established in the context of the World Trade Organization (WTO) setting parameters for the adoption of certain standards in areas such as quality, nutritional requirements, labelling.

In spite of the broadly accepted guidelines of the Codex, some differences still exist between the food regulations of individual countries or regions. For example, different labelling requirements may require exporters to change their labels according to the countries with which they wish to trade, thus “creating a cost burden for small, relative to large, food manufacturers”. One such difference in food labelling regulations involves the establishment of mandatory nutrition labelling.

The United States introduced mandatory nutrition labelling regulation in 1990, which exceeded the Codex standards. This change, which could be considered a non-tariff trade barrier, led to some tension between the United States and its trade partners such as Canada and the EU, but no action was ever taken to the WTO against America. Since then, many other countries have introduced mandatory nutrition labelling, including New Zealand and Australia, Canada, Brazil and others. These countries notify their trading partners of the new regulations via the WTO’s enquiry points. So far, no complaints were registered against any of these countries. It has been suggested that the reasons for this lack of controversy include an understanding that:

- the US has set a precedent by introducing mandatory labelling over 10 years ago
- regulations can be scientifically justified on the basis of public health concerns
- public information is a legitimate objective of labelling, recognised by the TBTA
- labels are relatively easy to add to packages, so the costs of this are likely to be lower than the cost of a trade dispute.

158 Ibid, 53.
159 Ibid.
160 Ibid.
There is limited available research on the actual impact on trade of labelling regulations, particularly mandatory nutrition labelling. However, it is known that while formal disputes have not arisen as a result of the introduction of mandatory nutrition labelling, the regulation has been used as a basis to reject imported food products. In the US, violation of labelling rules was cited as a cause for rejection or detention of imports 611 times in the period July–December 1996 (of a total number of detentions of 6,210); and 524 times in the period January–June 1997 (of a total of 5,268).161 Conversely, food labels, both mandatory and voluntary, have also in effect constituted a marketing tool through which manufacturers can differentiate their products from others of similar types. This may in fact entail “an economic benefit to the growers, processors and exporters, by creating the potential for price premiums”.162

The impact of food labelling regulations on SMEs that export is an issue of concern. Even though SMEs constitute a large proportion of local and regional business, only a small minority are involved in international trade.163 SMEs are often at a disadvantage in terms of finance, technology, human resource development and networking. As a result, they are particularly susceptible to certain non-tariff barriers such as quality requirements, conformity assessments, packaging and labelling. However, the harmonisation and simplification of regulations across the EU might be advantageous for SMEs in third countries, for which negotiating the different regulation often poses significant challenges.164

Nonetheless, it is still unclear to what extent labelling regulations have affected, or could affect, international trade. Of particular interest would be an assessment of the impact of introducing mandatory nutrition labelling on imports from emerging or developing countries that are heavily dependent on food exports for revenues.

5.6 Assessing the policy options

On the basis of the evidence presented above, it is possible to assess some of the potential impacts of the policy options proposed by the European Commission to address the issue of voluntary versus mandatory nutrition labelling.

1) Maintain current rules – nutrition labelling is mandatory only if a claim is made

The evidence discussed above suggests that there are two key situations that develop in the absence of mandatory nutrition labelling. Firstly, while the number of firms providing nutrition information on their products is increasing, it is unlikely that all firms will provide comprehensive nutrition information on all their products. Even though there are

163 UN/ECE, SMEs: Their role in foreign trade, background paper prepared for the BSEC Workshop, 13-14 November 1997, Ukraine (1997).
164 Ibid.
currently no reliable estimates of the extent of nutrition labelling in the EU, a study conducted for DG SANCO found that in four Member States (Germany, Spain, Poland and the UK) an average of 56% of food products include nutrition labels. But this is not evenly distributed across these four countries; while in the UK nutrition labelling appears in over 75% of food products, in Poland this is around 41%. Another study conducted by DG SANCO suggests that across Europe, only around 56% of SMEs provide some nutrition information, although data on the distribution of this across the EU is not available. [Add data from SME Panel – 56% of companies across 19 MS providing nutrition information with varying in the companies surveyed from 33% in Luxembourg to 95% in Denmark.]

Data from the food producers and retailers survey conducted in the context of this project suggests that across the EU, 41% of manufacturers provide some nutrition information on their products, and 59% provide none. Table 8 below shows the analysis of nutrition information provision by company size.

Table 8: Distribution of provision of nutrition information by company size

<table>
<thead>
<tr>
<th>Company Size</th>
<th>Yes</th>
<th>No</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Micro company (1-9 employees)</td>
<td>3</td>
<td>16</td>
<td>19</td>
</tr>
<tr>
<td>Small company (10-49 employees)</td>
<td>8</td>
<td>19</td>
<td>27</td>
</tr>
<tr>
<td>Medium-sized company (50-249 employees)</td>
<td>5</td>
<td>13</td>
<td>18</td>
</tr>
<tr>
<td>Large company (250+ employees)</td>
<td>26</td>
<td>8</td>
<td>34</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>42</td>
<td>56</td>
<td>98</td>
</tr>
</tbody>
</table>

Figure 14: Distribution of provision of nutrition information by company size

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165 European Advisory Services (2004).

166 Only 108 respondents provided information on whether they include nutrition information on their products’ labels, out of the 211 total respondents to the survey. Of those, only 98 provided information on the size of their companies. The data in table 8, therefore, reflects the responses of these 98 firms.
This analysis indicates that large firms – of 250 employees and above – are more likely to provide nutrition information than SMEs of any size. Interestingly, however, there do not appear to be significant differences between the extent to which micro, small and medium-sized enterprises provide nutrition information. However, a more in-depth study with a larger and representative sample of SMEs should be conducted to adequately ascertain this.

While not conclusive, this data suggests that in the EU, less than half of all food products currently provide nutrition information on their labels. It also suggests that while in certain countries such as the United Kingdom a large proportion of foodstuffs provide nutrition information, in other countries such as Poland the extent of nutrition information in the food market is much lower. It is unclear whether and at what rate firms across Europe would continue the trend towards including nutrition information on their products’ labels, in the absence of legislation to make it mandatory.

Secondly, even in countries where nutrition information is widely available, such as the United Kingdom, the lack of standardisation means consumers are often unable to understand, and therefore use, nutrition labels. The fact that nutrition labelling is voluntary prevents comparability across products and renders consumers unable to make optimal informed decisions in their food choices. The difficulties with comparability are due both to the fact that not all products provide nutrition information, and to the fact that those that do tend to provide it in different formats.

Evidence from Europe and elsewhere indicates that the profusion of different types of nutrition label is not helpful for consumers’ decision-making. As data discussed in this chapter shows, by standardizing nutrition labelling in most foodstuffs, mandatory nutrition labelling in America allowed consumers to acquire and comprehend more nutrition information. For example, a study of residents in the American state of Washington found that more consumers read nutrition labels since the NLEA took effect. Moreover, surveys conducted in Europe indicate that consumers are not satisfied with current labelling practices, which are diverse and not always user-friendly. According to a study conducted for DG SANCO, consumers are often confused or ambivalent about the information provided in products’ labels, including food labels. This suggests that a lack of standardisation hinders the usefulness of nutrition labels.

So even though the current regulations provide some specifications on format (e.g. information has to be provided on either Group 1 – four specified nutrition elements; or Group 2 – eight specified nutrition elements) nutrition labelling is broadly left to the discretion of the manufacturer and this has not been shown to lead to a voluntary, self-regulated standardisation of the labels.

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2) Introduce mandatory nutrition labelling for all businesses – aim to have all products with nutrition labels within three years

The evidence presented in this chapter suggests that, as part of a wider education and awareness strategy to improve diet and nutrition, mandatory nutrition labelling is likely to have significant benefits for consumers and ultimately for public health. The provision of nutrition information on all food products would undoubtedly be beneficial for consumers, who would be able to compare different products on the basis of their nutritional quality, and to make better-informed choices about all the pre-packaged food they purchase. In addition, the widespread availability of comparable nutrition labels could lead to consumers becoming familiar with them, which has been found to be an important factor in label understanding and use.\(^{170}\)

However, the evidence also suggests that a move towards mandatory nutrition labelling could present particular challenges for some food manufacturers, particularly micro and small enterprises. This is because larger firms enjoy economies of scale, which lowers the cost-per-unit of complying with regulations. Smaller firms would have to devote a larger proportion of their financial resources to responding to regulations relative to larger firms. In addition, this could constitute a barrier to entry into the food market for small firms, thus conflicting with the Lisbon Agenda’s aim to create an environment conducive to starting up and developing businesses, particularly SMEs.\(^{171}\)

As a result, extending mandatory nutrition labelling requirements to all firms regardless of market share or size is likely to impose disproportionate costs on the smaller firms, and compromise their competitiveness in the food industry.\(^{172}\)

Finally, while the exact impact of mandatory nutrition labelling on international food producers is not well understood, it is possible that this policy option would impact on some producers’ ability to import into the EU. Depending on the degree of flexibility and nature of the label, mandatory nutrition labelling might be a greater barrier to trade for countries where nutrition labelling is not mandatory (such as China) than for countries where it is (such as Brazil and the United States). Nonetheless, due to the long-standing precedent set by America, which introduced mandatory nutrition labelling in 1990, it is unlikely that any third country would bring a formal dispute to the WTO regarding this policy. In addition, countries are likely to be able to respond to the new requirements given a suitable time-frame. Finally, because the policy option would apply to pre-packaged foods sold directly to individual consumers, many food importers into the EU would be exempt from the requirements (for example, importers of agricultural products such as soya bean or fruit). It is worth noting, however, that any small or specialised manufacturers that import pre-packaged products to the EU might face serious challenges in compliance, in the same way as EU-based small manufacturers would.

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\(^{172}\) Data obtained through our own survey on costs of nutrition labelling to SMEs is not reliable due to inconsistent responses.
3) Introduce mandatory nutrition labelling for all businesses, but with exemption for all SMEs – aim to have a significant proportion of products, up to 50%, with nutrition labels within three years

SMEs in Europe constitute a large proportion of the food industry. They range from firms of less than 10 employees and €2m in annual turnover (micro enterprises) to medium-sized firms of up to 250 employees and €50m in annual turnover. As a result of these differences, it is likely that not all SMEs will face the same challenges in complying with new labelling regulations.

In spite of the differences in size and resources, there is a growing range of resources available to firms for the inexpensive calculation of the nutrition quality of their products. Evidence presented in this chapter suggests that even for small firms, the availability of special software, for example, means that nutrition information is no longer so costly and time-consuming to obtain. For example in Australia and New Zealand, where nutrition information is also mandatory, a nutrition panel calculator was developed by the Food Standards Australia and New Zealand (FSANZ) agency as an on-line application to assist food manufacturers derive average nutrient quantities for the purpose of calculating a nutrition information panel. It can be used by manufacturers free of charge on the FSANZ website. The provision of nutrition labels on their food products should not present a disproportionate challenge for many firms categorised as SMEs.

Other cost-reducing mechanisms can be put in place that would enable many SMEs to comply with the new labelling regulations. One such mechanism is allowing firms a suitable amount of time to respond to the regulation; it costs less for firms to have to comply over the medium term than if they had to comply immediately, because there is a natural cycle in product lines and labels, into which changes to labels can be incorporated.173 Also, as mentioned earlier in this chapter, public administration officials and food manufacturers interviewed in the course of this research stated that a period of transition from voluntary to mandatory nutrition labelling, which would take into account labelling cycles, would significantly reduce the costs of complying with the regulation.

It is therefore likely that, while for some of the smallest firms the introduction of mandatory labelling would present serious challenges, for many SMEs the new regulation would not impose significant costs. In countries that introduced mandatory nutrition labelling for foodstuffs, certain mechanisms to support most firms in responding to the new regulation were put in place, such as the nutrition panel calculator of the FSANZ. Exemptions for some micro and small firms were also allowed, to ensure these firms’ survival and competitiveness in the new regulatory environment.

In terms of the impact to consumers, aiming to have 50% of food products with nutrition labels might not make a significant difference from the status quo. Even though there is limited data for the whole of Europe, the evidence discussed above suggests that in many countries in the EU the level of nutrition labelling is already above 50% (for example in the United Kingdom), and in other countries it is approaching it (such as Poland). And in spite of a growing trend towards nutrition labelling, it is unlikely that all firms will

eventually disclose the nutrition information of all their products, which hampers the effectiveness of nutrition labelling as a public health and information strategy.\textsuperscript{174}

In addition, while there is limited evidence to support this hypothesis, it is possible that the distribution of food produced by large firms and by SMEs is not even across Europe. As a result, consumers in areas in which the majority of the products in the market are manufactured by SMEs would have much more limited access to nutrition information than people elsewhere. This could lead to more pronounced health inequalities in the EU.

Finally, extending exemptions for small SMEs to third country manufacturers is likely to reduce the negative impact of new labelling regulations on importers. However, the exact impact of mandatory nutrition labelling on international food producers is not well understood, and it is possible that this policy option would impact larger producers’ ability to import into the EU. Still, as mentioned above, due to the long-standing precedent set by the US, which introduced mandatory nutrition labelling in 1990, it is unlikely that any third country would bring a formal dispute to the WTO regarding this policy.

4) Introduce mandatory nutrition labelling for all businesses, but with exemption for a limited number of SMEs – aim to have the majority of products, up to 95%, with nutrition labels within three years

SMEs in the European food industry include manufacturers of a relatively wide range of sizes; from ‘micro’ firms (of less than 10 employees) to medium-sized firms of up to 250 employees. While they are all categorised as SMEs, it is likely that there are substantial differences between the firms’ ability to respond to new labelling regulations.

In countries where nutrition labelling is mandatory, the legislation includes exemptions for very small firms. For example, in America, firms with fewer than 100 full-time-equivalent employees and which sell fewer than 100,000 units of a product a year in the United States, are exempt from providing nutrition information on their products. In addition, firms with annual gross sales of less than US$500,000, or with annual gross sales of food to consumers of less than US$50,000, are also exempted. For these exemptions, a notice must be filed annually with the Food and Drug Administration (FDA). If the firm has fewer than 10 employees, it does not have to provide a notice to the FDA for products with annual sales of fewer than 10,000 total units a year. These exemptions do not apply if a label contains a nutrition claim (e.g. ‘sugar free’), and if the firm employs more than 100 full-time-equivalent employees, regardless of the number of units sold a year.

Manufacturers in these countries also had a time-frame of a few years to respond to the new regulation on nutrition labelling. The aim of this extended timeframe (in America it was up to four years) was twofold: to give firms time to adjust to the new requirement and devote resources to compliance as efficiently as possible, and to enable the changes to be incorporated in the natural cycle of product lines and labels. The latter is particularly important in reducing the costs of meeting the requirements. A labelling cost model developed for the FDA, for example, states that “the cost of administrative, redesign, prepress and engraving or etching activities are 10% higher under the 6- to 12-month

\textsuperscript{174} A. D. Mathios, (2000).
compliance period than under the 24- or 36-month compliance period".\textsuperscript{175} It is less costly for firms to adjust their labels at an appropriate stage in their natural cycle than if they had to comply in a short time-frame.

Medium-sized and large companies hold the lion’s share of the food market in Europe; large companies (of more than 250 employees) generate over 50% of the sector’s turnover, and medium-sized firms (of between 50 and 249 employees) provide approximately 25% of the sector’s turnover.\textsuperscript{176} Exemptions targeted only those firms that would have the greatest difficulty complying so as to still yield the expected result; i.e. to ensure that the majority of food products in Europe have nutrition information.

This policy option also presents a scenario that is advantageous to consumers. Ensuring that most of the pre-packaged food products provide nutrition information could facilitate comparability and better decision-making at the point of purchase.

Finally, as mentioned above, the exact impact of mandatory nutrition labelling on international food producers is not well understood. However, it is possible that this policy option would impact some producers’ ability to import into the EU. Mandatory nutrition labelling might be a greater barrier to trade for countries where nutrition labelling is not mandatory (such as China) than for countries where it is (such as Brazil and the United States) depending on the degree of flexibility and nature of the label. The long-standing precedent set by America, which introduced mandatory nutrition labelling in 1990, means it is unlikely that a third country would bring a formal dispute to the WTO regarding this policy. In addition, countries are likely to be able to respond to the new requirements given a suitable time-frame.

Importantly, small or specialised manufacturers who import pre-packaged products to the EU might face serious challenges in compliance, in the same way as EU-based small firms would. Extending nutrition labelling exemptions to third country small manufacturers might go some way to removing, to a certain extent, the barrier to trade that mandatory nutrition labelling could imply for them. Finally, because the policy option would apply to pre-packaged foods sold directly to individual consumers, many food importers into the EU would be exempt from the requirements (for example, importers of agricultural products such as soya bean or fruit).

\textsuperscript{175} M. Muth et al., (2003).

\textsuperscript{176} Confederation of the Food and Drinks Industry of the EU (2006).
CHAPTER 6  

**Content of nutrition labels**

### Policy options

1. Maintain current rules – labels have four (Group 1) or eight (Group 2) nutrition elements, each of which is given per 100g/ml, additional information can be provided voluntarily

2. Restrict nutrition labels, front or back, to five key nutrients – calories, fat, saturated fat, salt and sugar

3. Specify the five key elements that must appear on the front or back of pack, but allow additional elements from a positive list to be added to them later

4. Specify nine 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 five elements for front-of-pack labelling – calories, fat, saturated fat, salt and sugar.

### 6.1 Background

There is widespread debate about whether the information provided in nutrition labels is helpful, sufficient and clear. One of the key aspects of this debate is the number of nutrition elements provided on the label. In the United States, for example, the Nutrition Labelling and Education Act (NLEA) mandates that nutrition labels contain information on the following elements: calories, fat, saturated fat, trans fatty acids, cholesterol, sodium, carbohydrate, dietary fibre, sugars, protein, and certain vitamins and minerals. There are also a number of elements that can be included on a voluntary basis, such as polyunsaturated and monounsaturated fat, and soluble fibre.

Currently in the EU, nutrition labels used on either a voluntary or mandatory basis, such as if a nutrition claim is made, must list a minimum of four nutrition elements (the “Big 4”): calories, protein, carbohydrates and fat. These four are the elements that the current Codex Alimentarius guidelines recommend for food labels. This list increases to eight elements if a claim is made about any of the additional elements: sugars, saturated fat, fibre and sodium. According to European Directives, this information must be provided in relation to 100g/ml of product, and can also be provided per portion/serving. Increasingly,

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firms have voluntarily begun to provide information with reference to guideline daily amounts.

6.2 Implications for consumers

The benefit of listing a large number (eight or more) of nutrition elements on the label is that by disclosing these elements, a message is being conveyed to consumers that these are important aspects of nutrition to consider. However, research conducted in Europe suggests that consumers often feel “overwhelmed by the wealth of information provided on labels”, which reduces the effectiveness of the labels as a tool of communication. A qualitative study from the UK found that consumers frequently feel overwhelmed by the amount of information on food labels; “food labelling often leaves them bamboozled, bombarded, confused and worried”. While these studies looked at labels in their entirety, the findings apply also to the nutrition information on a label in particular.

Information overload is a significant risk for nutrition labels. A “large list of detailed product information may cause many consumers to disregard the label completely”. This compromises the effectiveness of nutrition labels as information tools to enable consumers to choose more healthful diets. Determining which nutrition elements should go on a label requires careful consideration of the information overload issue, while at the same time taking into account nutrients about which, from a public health perspective, consumers should have information. For example, if average vitamin consumption is at adequate levels, there might be an argument for developing a label format that presents a hierarchy of information – with vitamins at the bottom of the list, in smaller font, or below a line – or for excluding vitamins from a nutrition label altogether.

On the other hand, there is probably a strong case for including those nutrition elements that are currently below or above optimal average consumption, for example fat, saturated fat, sodium and sugars (above optimal average consumption) and fibre (below optimal average consumption). As mentioned in section 4.2, diet is a major contributor to various non-communicable diseases (NCDs) affecting increasing numbers of people in Europe. These NCDs include cancer, cardio-vascular disease (CVD), and diabetes. Overweight and

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182 E. Golan et al., 139.

183 Alan Mathios, Professor, Human Ecology, Cornell University. Interviewed 2 April 2007. Personal Communication

obesity, which are risk factors for these NCDs, are considered diseases in themselves. Diabetes, cancer and CVD have been associated with obesity, sedentary lifestyles and diets high in fat, saturated fatty acids, salt and sugar.\(^{185}\) Research has also shown that a diet rich in soluble fibre has a protective effect against certain types of cancer (including colorectal cancer).\(^{186}\) This data supports a comprehensive – yet not overloaded – list of elements in nutrition labels.

Finally, a certain degree of flexibility should be allowed in relation to the content of nutrition labels, to allow for future changes that respond to emerging public health priorities and scientific research. In the US, for example, inclusion of information on trans fatty acids became mandatory for almost all foods only in 2006. When the NLEA was passed, over a decade earlier, trans fatty acids were not a public health priority nor was there widespread public demand for information on its presence in pre-packed foods.\(^{187}\)

### 6.3 Cost to firms of obtaining and placing nutrition information

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.\(^{188}\) The report then adds that if fibre was included with the other seven elements, costs would increase by an additional €80 to €135.

A survey of over 800 European SMEs’ labelling practices revealed that of the 56% that provide nutrition information on their products, nearly 70% list the Big 4, around 25% listed eight elements (the Big 4 plus sugars, saturated fat, fibre and sodium) and the rest provided information on other nutrients.\(^{189}\) In addition, the survey showed that while around 65% of manufacturers obtain nutrition information from product analysis, the rest either calculated information from the known or actual average values of the product’s ingredients, or used established and reliable databases.\(^{190}\)

Evidence collected in the course of this research suggests that obtaining nutrition information is becoming an increasingly simple procedure which does not significantly add

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\(^{188}\) European Advisory Services (2004).

\(^{189}\) EICN (2006).

\(^{190}\) Ibid.
to the production costs of even small food manufacturers. Small manufacturers appear to effectively use databases and software to calculate the nutrition value of their products; the cost of obtaining information for each product line was quoted as being as low as approximately €10.\textsuperscript{191} For those who use laboratory analysis, experts interviewed in the course of this research stated that the analysis of macro-nutrients (carbohydrates, fat, proteins and macro minerals) is inexpensive, and that of micro-nutrients (vitamins and trace minerals) is relatively more costly. A labelling cost model prepared for the American Food and Drug Administration (FDA) estimates that the costs of laboratory tests to produce an NLEA nutrition panel range from US$485 to US$650 for each formula.\textsuperscript{192} This includes labour and shipping costs.

In the US, many food manufacturers use nutrition labelling databases compiled by individual manufacturers, organisations or trade associations.\textsuperscript{193} These databases can be submitted, on a voluntary basis, to the FDA for review. Another popular source of nutrition information for manufacturers is commercially available software. The information obtained through these means is understood to be both reliable and inexpensive, even for SMEs that are not exempted from providing nutrition labels.\textsuperscript{194} In Australia and New Zealand, where nutrition information is also mandatory, the ‘nutrition panel calculator’ is an on-line application, developed by the Food Standards Australia and New Zealand agency (FSANZ), to assist food manufacturers derive average nutrient quantities for the purpose of calculating a nutrition information panel. It can be used by manufacturers free of charge on the FSANZ website.

The other issue involved with nutrition labelling concerns the size of the package. In countries in which nutrition labelling is mandatory, the regulations include exemptions for small packages. For example, in America, the rules governing nutrition labelling in small packages is comprehensive. Food packages with a surface area of 40 sq. inches or less available for labelling are provided with a number of alternative formats for the label (such as linear labels or the use of certain abbreviations), in order that nutrition information may still be provided. If the packages are 12 sq. inches or less, the format allows for the printing of a telephone number or an address to obtain nutrition information. This exemption (using a telephone number or address in place of the “Nutrition Facts” label) is permitted “only if there are no nutrient content claims or other nutrition information on the product label”.\textsuperscript{195} These exemptions are beneficial to both consumers and producers, by ensuring that consumers obtain nutrition information for as many products as possible, and that firms do not need, for example, to enlarge the packages of their products to fit the

\textsuperscript{191} Small food producers, United Kingdom, Interviewed on May, 2007.

\textsuperscript{192} M. Muth et al., (2003).


\textsuperscript{194} Elise Golan, PhD, Deputy Director for Research, Food Economics Division, Economic Research Service, USDA. Interviewed April 5th, 2007.

nutrition labels. This would not only incur substantial costs to producers, it would also have important environmental implications.

Finally, as discussed in section 4.2.3, a requirement for additional nutrition elements in food labels could have knock-on effects on the number of stock-keeping units, warehousing, and distribution operations.196 These costs, however, are unlikely to apply to those micro, small and even some medium-sized enterprises that do not market their products internationally.

6.4 Assessing the policy options

1) Maintain current rules – labels have four (Group 1) or eight (Group 2) nutrition elements, each of which is given per 100g/ml, additional information can be provided voluntarily

As mentioned above, determining which nutrition elements should go on a label requires careful consideration of the information overload issue, while at the same time taking into account nutrients about which, from a public health perspective, consumers should have information.

While research shows that consumers often feel confused by the wealth of information on food labels, it is also clear that limiting nutrition information to 'the Big 4' (Group 1) only might significantly reduce the labels’ effectiveness in informing consumers’ diet choices. This is because knowledge of elements which are not in 'the Big 4', such as saturated fat, fibre and sugar, can help consumers make better-informed choices and reduce the risk of NCDs such as diabetes, cancer and CVD. Giving manufacturers the choice of providing information on four or eight nutrition elements can therefore reduce consumer welfare.

According to a survey of over 800 European SMEs’ labelling practices, the current situation in Europe is that of the 56% that provide nutrition information on their products, nearly 70% list the Big 4, around 25% list eight elements (the Big 4 plus sugars, saturated fat, fibre and sodium) and the rest provide information on other nutrients.197 198

Maintaining current rules would not impose any new costs on manufacturers, as long as nutrition labelling is voluntary. If it becomes mandatory, it is likely that firms would incur some costs in complying with the regulation. As discussed in this chapter, an impact assessment of the introduction of mandatory nutrition labelling in the EU, undertaken for DG SANCO, indicated 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 (sugars, saturated fats, and sodium) raises costs significantly, from a mean of €57 to a mean of €256.199 On the basis of this data, it is possible to predict that

198 Due to low response rates, the data obtained in our own survey on Group 1 and Group 2 labelling practices is not reliable.
199 European Advisory Services (2004).
many firms will choose to provide information on Group 1 nutrients, as this will impose lower costs than the alternative.

2) Restrict nutrition labels, front or back, to five key nutrients – calories, fat, saturated fat, salt and sugar

AND

3) Specify the five key elements that must appear on the front or back of the pack, but allow additional elements from a positive list to be added to the latter

It is clear that information overload is a risk with nutrition labelling. However, from a public health perspective, it is also paramount that nutrition information is provided on the key aspects of consumers’ diets that should be improved. The exclusion of fibre, for example, from a list of nutrient elements, may reduce the label’s effectiveness in helping consumers improve their diets, since research shows that fibre consumption is a protective factor against certain types of cancers and CVD.

Even allowing firms to include information on additional elements from a positive list on the back-of-pack label, it is unclear whether many manufacturers would do so; data from a study conducted for DG SANCO indicates that of those firms that provide any nutrition information, only about 13% include information on nutrients in addition to the “Big 4” or “Big 8”.

As discussed in the previous chapter, when certain types of information provision are voluntary, firms might choose to use labels to disclose hidden attributes of their products as a “strategy to enhance unit profits by promoting product differentiation in the marketplace”. Nevertheless, products with negative attributes, such as low levels of fibre and protein or high levels of trans fatty acids, are unlikely to provide this information to differentiate their product in the marketplace. This indicates that the presence of a voluntary list of nutrition elements might not lead to increased information unfolding and consumer benefit.

4) Specify nine 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 five elements for front-of-pack labelling – calories, fat, saturated fat, salt and sugar

The nine elements proposed in this policy option for back-of-pack labelling are likely to provide consumers with more comprehensive information and thus help them make better diet choices. This list more accurately reflects a science-based public health perspective on the nutrition elements consumers should balance adequately in their diets. While information overload is a risk with long lists of nutrition elements, comprehensive information about these important elements could make a significant contribution to improved consumer decision-making, especially as part of wider health and nutrition education strategies.


The inclusion of trans fatty acids information responds to increasing evidence that shows a link between this type of nutrition element and CVD; unlike other fats, which increase LDL (“bad”) cholesterol levels, trans fatty acids also lower HDL (“good”) cholesterol levels in the blood. Our own survey data shows that, of the 44% of respondents who provide nutrition information on their packages, only 6% include information on trans fatty acids.

Figure 15: Percentage of firms disclosing information on trans fatty acids

Including information on nine nutrition elements in the back-of-pack labels might impose costs to producers. However, the evidence discussed in this chapter suggests that there are a number of cost-reducing mechanisms that would enable most firms to respond to the new labelling requirements efficiently and without compromising their competitive position. These mechanisms include an extended time-frame for firms to comply with requirements; resources, such as publicly available software for nutrition calculations; and exemptions for some micro and small firms, and for food products in small packages.

As mentioned above, European research indicates that the costs of obtaining information on ‘the Big 4’ (energy, protein, carbohydrate and fat) is relatively modest, while increasing the number of nutrients to seven (to include sugars, saturated fats, and salt) raises costs significantly, from a mean of €57 to a mean of €256. Nonetheless, it is worth noting that, according to data collected in the course of this research, small manufacturers are using databases and software effectively to calculate the nutrition value of their products;

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203 European Advisory Services (2004).
the cost of obtaining information for each product line was quoted as being as low as approximately €10.\textsuperscript{204} For those who use laboratory analysis, experts interviewed in the course of this research stated that the analysis of macro-nutrients (carbohydrates, fat, proteins and macro minerals) is inexpensive, compared to the analysis of micro-nutrients (vitamins and trace minerals).

This policy option also proposes front-of-pack (FOP) labels with information on five nutrition elements, in addition to the back-of-pack (BOP) labels with nine elements. Most observers agree that FOP labelling should be simple and concise, so as to provide an at-a-glance indication to consumers of the nutritional quality of the product. Consumers can then turn to BOP labels for more comprehensive nutrition information. Because of time constraints and the complexity of a comprehensive nutrition label for the average consumer, many stakeholders argue for the introduction of mandatory FOP nutrition labelling to ‘signpost’ the overall nutritional quality of a product. Providing FOP information on as many as five nutrition elements might have little or no impact on consumers’ use of nutrition labels, as it faces consumers with the same challenges as BOP labelling.

Another issue with FOP labelling of five nutrition elements is that it duplicates information that would be provided in the BOP nutrition panel, according to this policy option. This is likely to be an inefficient system that adds costs to manufacturers (for example of redesigning the label, reducing the amount of space available for ‘marketing’ information, and so forth) without necessarily being of significant value to consumers. The particular challenges of FOP nutrition labelling are further discussed in Chapter 8.

\textsuperscript{204} Small food producers, United Kingdom, Interviewed May, 2007.
CHAPTER 7  Ensuring information is legible

Policy options

1. Maintain current rules – broad requirement for the food label to be legible and some prescription on format

2. Introduce a minimum text size for information on nutrition labels, other presentation issues left open, although further measures could be introduced via comitology

3. Introduce clear rules for presentation covering all relevant issues (text size, font, colour, format, etc.)

7.1 Legibility and consumer understanding of nutrition information

The legibility of nutrition information on food labels is of major concern to stakeholders. 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”. 205

A review of various European studies of label usage amongst consumers found that one of the main causes of consumer dissatisfaction with nutrition labels is that the size of print is often too small. 206 A later review of available evidence on food labelling reported that research suggests that an 8 point font is the “smallest desired size for general information”. However, no similar statement is made regarding nutrition information specifically.

While this is important information in assessing the need for regulations on the legibility of labelling information, including nutrition, there is little available research on the impact that such a regulation would have on producers or even consumers. How would manufacturers deal with, for example, a minimum font size? Would it impose a significant cost on them? Would consumers be more inclined to read and use labelling information if the font size was larger? These are relevant questions for which there are not many evidence-based answers.

205 E. Golan et al., 139.
The experience with mandatory nutrition labelling in the United States could prove illuminating. In America, nutrition labelling became mandatory for almost all packaged foods in 1990, when the Nutrition Labelling 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. For example, vertical tabular layouts are usually the norm for nutrition information, although other layouts are allowed if there are fewer than 258 sq. cm of label space. Other features specified by the regulation include the use of bold text, font size of 8 to 11 points, and use of a sans serif font. These specifications were developed on the basis of studies on improved readability of warning labels. But as researchers point out, “little is known, however, about whether these and other features are additive or interactive in their impact on label usability”.

Other countries where nutrition labelling is mandatory have different legibility requirements. The Australia Food Code, for example, does not at present specify a minimum font size for nutrition panels. Rather, it requires that “[u]nless otherwise expressly permitted by this Code, each word, statement, expression or design prescribed to be contained, written, or set out in a label must, wherever occurring, be so contained, written or set out legibly and prominently such as to afford a distinct contrast to the background”. It then adds that “[t]he requirements of this Standard will also not be met where prescribed information is printed in a small font so the statement cannot be read easily”. In Canada, legibility requirements specify three different formats for nutrition panels. The standard format is the preferred one, to be used whenever there is sufficient space. There are three versions of this format: the standard format, the narrow standard format, and the bilingual standard format. These formats specify that nutrient information must be provided in 6 to 8 point type; manufacturers must always ascertain, before selecting the appropriate format, that a larger version of the nutrition table could not be fitted in any orientation on the product’s package. Other alternatives are provided by the regulation for example for packages containing separately packaged ingredients or an assortment of foods. In Europe, the current directive does not provide specific details that nutrition labels must comply with. Rather, its remit is limited to setting a broad

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208 Ibid, 425.
209 This Standard is due to be revised in the coming months. Australia New Zealand Food Standards Code: Standard 1.2.9 Legibility Requirements (Accessed April 2007: http://www.foodstandards.gov.au/_srcfiles/FSC_amend_Standard_1_2_9_Legibility_v89.pdf)
guideline to provide information that is clear and understandable, and printed in legible characters.

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. Comparing various types of nutrition labels and using the mandated version as the control, these studies found that the latter were preferred by consumers, and provided the best performance for identification of nutrients and understanding of values.211 As one of the studies states212:

Well-designed nutrition labels can aid the rapid and accurate assessment of presented information in a time-limited, distracting, point-of-purchase environment. Therefore, establishing factors that facilitate rapid, efficient label search strategies is an important step towards optimizing label usefulness.

7.2 Legibility requirements and costs to food manufacturers

Research on the impact of the standardised format mandated by the NLEA on food manufacturers is not widely available. However, anecdotal evidence 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.213 It is even possible that detailed legibility and format requirements might reduce costs to most manufacturers as there is no need to design a bespoke nutrition label.

The labelling cost model prepared for the American FDA states that if firms are able to coordinate a label change required by a new regulation with a scheduled labelling change, the incremental cost of making the required change would be less than if they made the changes separately.214 In fact, according to the report, incremental costs might be zero. The report also indicates that it is likely that the costs of redesigning a label are similar for large and small firms. “Although larger companies may be able to obtain volume discounts, they are also likely to have more elaborate or sophisticated labeling that would cost more to design than labeling for products produced by smaller companies”.215 The implication of this is that if new rules on food label legibility are introduced which require changes to food labels, allowing an adequate time-frame for compliance can significantly reduce the costs of redesigning food labels.216

211 Ibid.
212 Ibid. 427.
214 M. Muth et al. (2003).
216 Due to low response rates and inconsistent data provided, the data on costs of nutrition labelling derived from our own survey is not reliable.
7.3 Assessing the policy options

1) Maintain current rules – broad requirement for the label to be legible and some prescription on format

As discussed in this chapter, European studies suggest that consumers are dissatisfied with existing nutrition labels. One of the reasons for this is the small font size used. The current broad requirement for the label to be legible is apparently not sufficient to ensure that firms provide nutrition information in a format that maximises consumer understanding.

In addition, as mentioned in earlier chapters, studies show that consumers are more likely to understand nutrition labels if they are familiar with the format in which it is provided. When manufacturers have discretion about the format of nutrition labels they will use, they are unlikely to be homogeneous, as is the case currently in Europe. This lack of homogeneity hinders consumers’ becoming familiar with the labels and therefore their understanding of nutrition labels. Even though maintaining current rules would not incur any costs to producers – who would not be forced to change their labels to adjust to new requirements – it does not effectively address the problem of consumers’ dissatisfaction with labels.

2) Introduce a minimum text size for information on nutrition labels, other presentation issues left open, although further measures could be introduced via comitology

In the United States and Canada, where minimum font size requirements apply, information is lacking about how this affected firms, if at all. However, it is likely that the costs of minimum font size were considered prior to its introduction in these countries, as exemptions were put in place in the regulations. For example, in America, small packages (less than 12 sq. inches total surface area available to bear labelling) may use type sizes no smaller than 6 point – as opposed to 8 point for larger packages – for all required nutrition information.\(^\text{217}\)

The evidence presented in this chapter suggests that a minimum font size could have a positive impact by helping consumers read and understand nutrition information. However, further research would be needed to ascertain what this minimum text size and other legibility specifications should be. Legible labels are fundamental to ensure that consumers are able to make better-informed food choices in their diets, which is the central aim of nutrition labelling. In America, for example, the specifications on label format – including the minimum text size for every element in the nutrition panel – aimed to improve their legibility and usefulness to consumers. These specifications were developed in consultation with consumers, manufacturers and health professionals, as well as on the basis of studies on improved readability of warning labels. As discussed earlier in this chapter, some American studies that compared various types of nutrition labels while using the mandated version as the control found that the latter were preferred by consumers, and provided the best performance for identification of nutrients and understanding of

values.\textsuperscript{218} This suggests that careful development of format specifications for food labels might help consumers better understand the information provided.

Finally, respondents to the food manufacturers survey conducted for this research reported that increasing font sizes could lead both to the need for larger packages, and to an increase in costs for redesigning labels. Exemptions for small packages would avoid the negative environmental impact of the need for larger packages. If no such exemptions are put in place, it is likely that firms producing foods packed in small packages will have to increase the size of the packages to respond to the new requirements regarding text size. This would lead to increases in use of material resources and energy, and waste. In addition, as with other changes in labelling regulations, it is important to allow for a suitable time-frame to respond to the new requirements in order to minimise the costs of label changes.

3\textsuperscript{rd} Introduce clear rules for presentation covering all relevant issues (text size, font, colour, format, etc.)

It is clear from available evidence that some aspects of the format of nutrition labels – such as the font size, and whether the information is provided in a tabular or linear format – affect consumers’ understanding of the information. As discussed earlier in this chapter, some American studies, where nutrition labels are standardised with a high degree of specification, indicate that the format mandated by the NLEA regulations led consumers to the best performance for identification of nutrients and understanding of values.\textsuperscript{219} This suggests that label formats developed in consultation with consumers, manufacturers and health professionals – as was the case in America – are likely to optimise nutrition label usefulness to consumers.

Nonetheless, it is important to also consider the costs that a format that is too prescriptive may impose on food manufacturers. Little is known about the impact of these regulations on costs to manufacturers. However, countries which introduced clear rules for nutrition labelling covering a number of issues (font size, colour, and so forth) also put in place exemptions for those products for which the specifications were inadequate, such as small packages.

In addition, as for the previous policy option, exemptions for small packages are necessary to avoid a negative environmental impact. If no such exemptions are put in place, it is likely that firms producing foods in small packages will have to increase the size of the packages to respond to the new requirements. This would lead to an increase in use of material resources and energy, and waste.

Finally, as with other changes in labelling regulations, it is important to allow for a suitable time-frame for responding to the new requirements in order to minimise the costs of label changes.

\textsuperscript{218} J. Goldberg, et al. (1999).

\textsuperscript{219} Ibid.
CHAPTER 8  Presentation of label: front or back of pack

Policy options
1. Maintain current rules – placement of nutrition label left to discretion of the manufacturer, no mention of front-of-pack systems
2. Clearly differentiate between the two types of nutrition labelling – back and front of pack – with clear rules for each

8.1 Front- or back-of-pack nutrition information, and implications for consumers

Even though this is not specified in current European legislation, 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 their disregarding 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. This is echoed by research on health claims, which suggests that “combining short health claims on the front of a package with full health claim on the back of a package leads consumers to more fully process” the claim. Similar outcomes can reasonably be expected with nutrition information.

Because of time constraints and the complexity of a comprehensive nutrition label for the average consumer, many stakeholders argue for the introduction of mandatory FOP nutrition labelling. Many food manufacturers and retailers (such as Tesco and Sainsbury’s in the UK, and Unilever internationally) are progressively introducing voluntary FOP

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Assessing the impact of revisions to the EU nutrition labelling legislation

RAND Europe

labels or ‘signposts’ in a bid to help consumers make more healthful food choices. Organisations such as the National Heart Forum of the UK, which has made important contributions to national and international debates on food labelling, and the European Heart Network, advocate mandatory FOP nutrition labelling, which can be supported by more detailed BOP labelling.222

There are a number of possible alternatives for 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 the EUFIC). In New Zealand, the Pick the Tick programme was established in 1991 by the National Heart Foundation as a voluntary FOP ‘signposting’ system that indicates to consumers which foods are lower in total fat, saturated fat, sugar and sodium than comparable foods, and sometimes higher in total fibre too. Manufacturers whose products comply with the strict nutritional criteria set by the programme are able to place the ‘signpost’ (a white tick in a red circle) in the front of their products’ packs. Other systems in place include the Green Logo Keyhole in Sweden, the Heart Symbol in Finland, and the Health Check in Canada.223

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.224 For example, some observers argue that the ‘traffic lights’ system of FOP labelling could have adverse effects. One such effect is that consumers might be confused when trying to compare within categories, since in many cases they do not weigh up having a pizza for dinner versus an apple: they choose between pizzas, which under this system would all be graded in a similar way. This would not promote the small changes that dieters encourage for losing weight and improving health in a realistic and sustainable way.225 Therefore, this type of label could, some argue, distort consumers’ perceptions of balanced diets.226

There is agreement, though, that the presence of diverse FOP labelling systems can generate confusion amongst consumers, preventing them from becoming familiarised with...


224 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 (2002):1).

225 Notes of a briefing given by dieters to Sense About Science (www.senseaboutscience.org), Sense About Science, unpublished document.

one type of labelling system, and creating an obstacle to comparability.\textsuperscript{227} This, as discussed
in previous chapters, is also true of non-standardised traditional BOP nutrition labels.

Some research suggests that consumers favour FOP systems, because they like the simplification of nutrition information that a FOP system entails, because “in a real shopping situation they have limited time and possibility to look at back of pack labels”.\textsuperscript{228}

In spite of this common perception, the opinions of consumers differ significantly when it comes to assessing the usefulness or appropriateness of concrete FOP systems.\textsuperscript{229}

Nevertheless, there is limited understanding of the actual effect of FOP labelling on consumers’ diets. One study from Canada, however, found a strong association between awareness and use of the Health Check logo, and that “[s]hoppers purchasing a Health Check product had a lower fat intake than those who did not.”\textsuperscript{230}

What most observers agree on, however, is that FOP labelling should be simple and concise, so as to provide an at-a-glance indication to consumers of the nutritional quality of the product. Consumers can then turn to BOP labels for more comprehensive nutrition information.

\section*{8.2 Firms’ behaviour regarding front- and back-of-pack nutrition labelling}

According to data from the survey conducted in the context of this research, most firms in Europe that provide nutrition labels do not use a FOP system. Of those who responded to the question on front and back of pack labelling, about 43\% reported they provide some kind of FOP nutrition label, while 57\% reported they use BOP labels only. It is worth noting that the total number of respondents to this question was low (32); while it is not necessarily representative of the situation across Europe, it does indicate that most nutrition labelling is on the back of the pack.

The survey also shows that large firms are more likely than SMEs to have some kind of FOP labelling on their products. The figure below shows the distribution of respondents to the survey who provide some kind of FOP labelling by size of firm.

\textsuperscript{227} Ibid.

\textsuperscript{228} Gruner, K. G. and Wills, “A review of European research on consumer response to nutrition information on food labels”, \textit{Journal of Public Health} (forthcoming).

\textsuperscript{229} Ibid.

It is difficult to assess the costs to producers of introducing regulations regarding FOP and BOP labelling. Much depends on whether the regulations set a voluntary or a mandatory framework for use of BOP and FOP labelling. Voluntary FOP labelling that meets specific requirements can not only be beneficial for consumers, but can also provide an additional opportunity for manufacturers to highlight ‘hidden’ positive attributes of their products. This scenario is likely to lead to a net benefit to producers. A mandatory FOP labelling system, on the other hand, would probably incur costs to some producers. However, based on research from New Zealand,\textsuperscript{231} it is possible that a mandatory FOP labelling system could act as an incentive for manufacturers to reformulate their products by decreasing its negative attributes, or increasing its positive ones.

### 8.3 Assessing the policy options

1) **Maintain current rules – placement of nutrition label left to discretion of the manufacturer, no mention of front-of-pack systems**

It is difficult to assess the impact that maintaining current rules would have. If nutrition labelling becomes mandatory, and a standardised format is established, it is likely that, unless otherwise specified, most manufacturers will continue to place nutrition panels in the back of their food packages.

\textsuperscript{231} 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).
However, while nutrition panels have traditionally been placed in the BOP, trends in countries such as the UK suggest that manufacturers might increasingly incorporate some kind of FOP nutrition information on a voluntary basis. In the absence of specific rules regarding FOP and BOP labelling, it is possible that different FOP labels will be developed, which might hinder their usefulness to consumers. As discussed in this chapter, the presence of diverse FOP labelling systems can generate confusion amongst consumers, preventing them from becoming familiarised with one type of labelling system, and creating an obstacle to comparability. This is also true of non-standardised BOP nutrition panels.

In addition, certain types of signposting can be misleading for consumers. For example, as mentioned above, some observers argue that the ‘traffic lights’ system does not necessarily help consumers make better-informed decisions about their diets. In the absence of regulations about FOP labelling, it is possible – as is already occurring – that some manufacturers will implement FOP systems that are unhelpful for consumers.

Maintaining current rules regarding the placement of nutrition labels would not incur significant costs to manufacturers, but it might eventually lead to a profusion of different types of FOP labels which would hinder consumers’ ability to make comparisons between foods and better choices in their diets.

2) Clearly differentiate between the two types of nutrition labelling – back and front of pack – with clear rules for each

An adequate assessment of the costs and benefits of this policy option is not possible without further details on what the rules for FOP and BOP labelling would be under this regulation. Nonetheless, if certain specifications are put in place, for example on format and content, this policy option could ensure that FOP and BOP labelling maximise rather than hinder consumer understanding of nutrition information.

In addition, there is evidence that the Pick the Tick FOP signposting programme in New Zealand 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. This indicates that certain types of FOP signposting systems can not only be a tool for consumer information but also an incentive for manufacturers to improve the nutritional value of their products.

The impact of FOP and BOP labelling systems will also vary depending on whether the systems are mandatory or voluntary. While BOP labelling is mandatory in a number of countries around the world – as discussed in Chapter 5 – no evidence of mandatory FOP labelling has been found during this research. As a result, it is difficult to adequately assess what the impact of a mandatory FOP nutrition label would be. However, following on from evidence presented in this report, it is likely that a mandatory FOP labelling system could be highly beneficial to consumers, as long as the system provides some specification on format and content of the label. This could not only contribute to a standardisation of the labels – which helps consumers become familiar with and understand the labels – it

232 Ibid.

233 L. Young and B. Swinburn (2002).
could also ensure that the right type of labels are used in the front of packs. The latter is important because, as discussed previously, the presence of different types of labels is confusing, and some types are also in themselves misleading to consumers.

Even if FOP labelling remained voluntary, as is the case in New Zealand, guidance or rules on content and format might ensure that, when in place, FOP labelling is clear and useful for consumers. A science-based, clear, understandable and concise FOP labelling scheme developed in consultation not only with consumers but also with health professionals and manufacturers, could have positive effects in helping consumers make better-informed food choices.

In terms of costs to producers, again, it is difficult to assess what these would be without further specifications on the type of rules for FOP and BOP labelling that this policy option would entail. For example, if a voluntary FOP labelling rule was introduced that specified the format and content of this label, this would incur no costs to manufacturers. In fact, manufacturers might choose to use the labels as a marketing device, a means to promote the nutrition quality of their products. If, on the other hand, a specific FOP label became mandatory, it is likely that certain exemptions would have to be put in place for products and firms that would otherwise be placed at a competitive disadvantage in the market (for example, exemptions for small packages or for products manufactured by micro and small firms). The implications for industry of a traditional BOP labelling system were discussed in more details in Chapter 5.
9.1 A framework for comparison: scoring the policy options

The policy options presented above are discussed along a number of potential impacts for each policy option. As discussed in the introductory chapter, these impact categories are based on the tender documents for this research project and reflect the impact assessment guidelines of the European Commission. They cut across the main stakeholder groups and cover the economic, social and environmental impacts. In addition, the impacts on international trade are considered, where relevant evidence could be retrieved. The six impact categories used to structure the discussion policy options were:

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

Certain characteristics of the policy options discussed here complicate the direct comparison of the impacts of the different policy options against each other. First, the large number of policy options does not allow for a direct comparison of each policy option against another. Comparing each policy options against all other options would easily lead to an unmanageable number of possible combinations. Second, due to the range of specific questions they address, the policy options are not mutually exclusive. That means that a number of policy options could be combined in different “legislative scenarios”. Finally, the difficulties in quantifying the impacts across the six impact categories require a more qualitative approach to comparison than originally envisaged.

To overcome these difficulties we decided to employ a framework for comparison, which combines a basic multi-criteria analysis along the impact categories we identified before with a scoring mechanism. This approach allows us to compare the policy options by using

235 A multi-criteria analysis compares the positive and negative impacts of different policy options expressed in a mixture of qualitative, quantitative and monetary terms, and is one of the options proposed by the European Commission in summarising the evidence of impacts assessments (ibid.).
at least some kind of “standard measure”, without, however, loosing the richness of the qualitative assessment. The framework summarises the evidence, discussed in the previous chapters, of the likely impact of each policy option and attributes a certain assessment of the impacts to each policy options. We used the following scoring system:

++ Evidence of substantial increase in benefit/reduction of costs in a particular area (e.g. for consumers, individual producers or market competitiveness) compared to the status quo.

+ Evidence of some increase in benefit/reduction of costs in a particular area compared with the status quo.

≈ Evidence of no change in a particular area compared to the status quo; no net benefits/costs expected.

- Evidence of some reduction of benefits/increases in costs in a particular area compared to the status quo.

-- Evidence of substantial reduction of benefits/increases in costs in a particular area compared to the status quo.

? There is no available evidence to indicate change in costs or benefits in a particular area compared to the status quo.

This scoring method assesses each option according to its impact in comparison to the current policy regime, which is used as the baseline of our assessment. Thus, a policy option which maintains the status quo will be scored as no change in benefits or costs. In addition, this scoring system allows us to rank the policy options across the impact categories. All policy options have been scored jointly by the RAND Europe study team to ensure consistency and to counter individual points of view and biases.

The evidence gathered during this research is summarised and organised in one table per policy issue and then scored, allowing for a clear link between the information and the scoring exercise. The tables can be found in the following sections.
### Table 9: Voluntary versus mandatory nutrition labelling

<table>
<thead>
<tr>
<th>Impact category</th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
<th>Option 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Consumers</strong></td>
<td>Maintain current rules</td>
<td>Introduce mandatory nutrition labelling for all businesses</td>
<td>Introduce mandatory labelling for all businesses, with exemptions for all SMEs</td>
<td>Introduce mandatory labelling for all businesses with exemptions for a limited number of SMEs</td>
</tr>
<tr>
<td></td>
<td>• Uneven access to nutrition information – unlikely to reduce information asymmetry and lead to full nutrition information disclosure</td>
<td>• Likely to significantly help consumers make better-informed decisions about their diets</td>
<td>• Not clear that this would increase nutrition labelling across the EU → consumers not better off than at present</td>
<td>• Most products would have nutrition information; facilitates comparability and better decision-making at the point of purchase for consumers</td>
</tr>
<tr>
<td></td>
<td>• Little standardisation; leads to confusion</td>
<td>• Aids comparability and leads to consumers becoming familiar with labels – therefore increasing their usefulness</td>
<td>• Still uneven access to nutrition information; some, but probably not significant, reduction of information asymmetry</td>
<td>• Nearly full nutrition information disclosure – significant reduction of information asymmetry</td>
</tr>
<tr>
<td></td>
<td>• Product reformulation unlikely</td>
<td>• Could lead to some product reformulation or increased offer of healthier options in food market</td>
<td>• Full nutrition information disclosure – reduction of information asymmetry</td>
<td>• Could lead to some product reformulation or increased offer of healthier options in food market</td>
</tr>
<tr>
<td><strong>Industry</strong></td>
<td>• No additional costs to industry – no need to respond to new legal requirements</td>
<td>• Might reduce competitiveness by placing SMEs at a disadvantage</td>
<td>• Across the EU, large firms which do not currently provide nutrition information would incur some costs of compliance</td>
<td>• Would impose some costs on industry</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Not likely to significantly affect their competitive position</td>
<td>• With adequate time-frame for compliance, most firms could adjust efficiently</td>
</tr>
<tr>
<td><strong>SMEs</strong></td>
<td>• No additional costs</td>
<td>• Would compromise competitiveness of some SMEs for which compliance with regulations puts them at considerable disadvantage</td>
<td>• No new costs for SMEs</td>
<td>• Exemptions for some SMEs to ensure survival and competitiveness of some of the most vulnerable firms</td>
</tr>
<tr>
<td></td>
<td>• Remain less likely to provide nutrition information than larger firms</td>
<td>• Might place barriers to entry into food markets for small firms</td>
<td></td>
<td>• Some small firms which are not exempt might face difficulties in complying with the regulation</td>
</tr>
<tr>
<td><strong>International trade</strong></td>
<td>• No change in international trade situation</td>
<td>• Third-country producers might face challenges responding to new requirement, which would effectively constitute a non-tariff barrier to trade</td>
<td>• Same as for policy option 2, unless exemptions extended to third-country SMEs</td>
<td>• Same as for policy option 2, unless exemptions extended to some SMEs</td>
</tr>
</tbody>
</table>
### Impact category

#### Option 1
Maintain current rules

- countries' ability to meet requirements, especially SMEs from these countries
  - However, unlikely that formal disputes brought about due to US long-standing precedent with introduction of mandatory nutrition labelling

#### Option 2
Introduce mandatory nutrition labelling for all businesses

- No additional costs for enforcement
- Policy does not significantly contribute to public health campaigns on diet and diet-related diseases

#### Option 3
Introduce mandatory labelling for all businesses, with exemptions for all SMEs

- No evidence that this would lead to a significant increase in the administrative/enforcement burden for public administrations
- In fact it might make enforcement easier, due to standardisation
- Could make important contribution to public health strategy on diet and nutrition

#### Option 4
Introduce mandatory labelling for all businesses with exemptions for a limited number of SMEs

- No evidence that this would lead to a significant increase in the administrative/enforcement burden for public administrations
- In fact it might make enforcement easier, due to standardisation
- Could make important contribution to public health strategy on diet and nutrition

### Member States

- No evidence on impact

### Environment

- No evidence on impact

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**SOURCE:** RAND
### Table 10: Ensuring information is legible

<table>
<thead>
<tr>
<th>Impact category</th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Consumers</strong></td>
<td>Maintain current rules</td>
<td>Introduce a minimum text size for information on nutrition labels, other presentation issues left open, although further measures could be introduced via comitology</td>
<td>Introduce clear rules for presentation covering all relevant issues (text size, font, colour, format, etc.)</td>
</tr>
<tr>
<td>Consumers</td>
<td>• Consumers not satisfied with current label – no standardisation leads to confusion, also information not always presented in clearest possible way for consumer ease of use</td>
<td>≈</td>
<td>+</td>
</tr>
<tr>
<td>Industry</td>
<td>• No change in costs to producers</td>
<td>≈</td>
<td>No evidence of impact on industry</td>
</tr>
<tr>
<td>SMEs</td>
<td>• No change in costs or competitive position of SMEs</td>
<td>≈</td>
<td>No evidence of impact on SMEs being different to that on large firms, particularly if adequate time-frame allowed for compliance, and exemptions in place for small packages</td>
</tr>
<tr>
<td>Member States</td>
<td>• No evidence on impact</td>
<td>• No evidence on impact</td>
<td>• No evidence on impact</td>
</tr>
<tr>
<td>Environment</td>
<td>• No evidence on impact</td>
<td>• If no exemptions for small packages, firms might be forced to increase package size to comply with minimum text size $\Rightarrow$ negative environmental impact through increase in use of resources, energy and waste</td>
<td>• If no exemptions for small packages, firms might be forced to increase package size to comply with minimum text size $\Rightarrow$ negative environmental impact through increase in use of resources, energy and waste</td>
</tr>
<tr>
<td></td>
<td>≈</td>
<td>• If exemptions for small packages, no likely environmental impact</td>
<td>≈</td>
</tr>
</tbody>
</table>
Table 11: Best place to put information on the label

<table>
<thead>
<tr>
<th>Impact category</th>
<th>Maintain current rules</th>
<th>Option 1</th>
<th>Option 2</th>
<th>Clearly differentiate between the two types of nutrition labels – back and front of pack – with clear rules for each</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>● Most nutrition information likely to be provided in back of pack</td>
<td></td>
<td>● If mandatory BOP labelling could help ensure that BOP nutrition labelling maximises usefulness of labels through standardisation and therefore comparability</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● Lack of standardisation of both back- and front-of-pack labels contributes to consumer dissatisfaction with nutrition labels</td>
<td></td>
<td>● contribution to better consumer decision-making</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>● Front-of-pack labelling, whether voluntary or mandatory, could help consumers use nutrition information by providing at-a-glance information on nutrition → helpful for consumers with little time or inclination to study more detailed nutrition panels</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>● However, if no rules regarding content and format, FOP labelling likely to lead to profusion of systems and therefore consumer confusion</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>● Additionally, some FOP systems can be misleading → might hinder consumer use of labels, and even decrease welfare</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>● Some FOP labelling systems, whether voluntary or mandatory, could contribute to some product reformulation or increased healthier offers in the food market, as shown by evidence from New Zealand FOP ‘signposting’ system</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>↓</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>● No change in utility for consumers</td>
</tr>
<tr>
<td>Industry</td>
<td></td>
<td>● No change in costs to industry</td>
<td></td>
<td>● Voluntary back- and/or front-of-pack labelling incurs no new costs to industry</td>
</tr>
<tr>
<td></td>
<td></td>
<td>● If nutrition labelling mandatory, most firms likely to use tradition back-of-pack system</td>
<td></td>
<td>● Mandatory back- and/or front-of-pack labelling likely to incur some costs to industry, although these might be small if industry allowed adequate time-frame for compliance, and adequate and necessary exemptions in place</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>● Some FOP ‘signposting’ systems could benefit some producers by providing additional opportunity to showcase hidden positive attributes of their products</td>
</tr>
<tr>
<td>SMEs</td>
<td></td>
<td>● No change in costs to SMEs</td>
<td></td>
<td>● If mandatory systems put in place for back- and/or front-of-pack labelling, some costs to SMEs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>● These might be ameliorated by introduction of exemptions for some SMEs</td>
</tr>
<tr>
<td>Member States</td>
<td>● No change in costs of enforcement and control</td>
<td></td>
<td></td>
<td>● No changes in costs of enforcement and control</td>
</tr>
<tr>
<td></td>
<td>● No contribution to public health strategy on diet and nutrition</td>
<td></td>
<td></td>
<td>● Adequate front- and/or back-of-pack labelling systems could contribute to public health strategy on improving diet and nutrition</td>
</tr>
<tr>
<td>Environment</td>
<td>● No evidence of impact</td>
<td></td>
<td></td>
<td>● If mandatory front- and/or back-of-pack labelling with no exemptions for small packages could have negative environmental impact due to need to increase package sizes → increased resource and energy use, and waste</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>● If mandatory front- or back-of-pack labelling with exemptions for small packages, no likely environmental impact</td>
</tr>
</tbody>
</table>
## Table 12: Information to be included as part of nutrition labelling

<table>
<thead>
<tr>
<th>Impact category</th>
<th>Option 1: Maintain current rules</th>
<th>Option 2: Restrict nutrition labels, front or back, to 5 key nutrients – calories, fat, saturated fat, salt and sugar</th>
<th>Option 3: Specify 5 key elements that must appear on the front and pack of pack, but allow additional elements to be added to the latter</th>
<th>Option 4: 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 – calories, fat, saturated fat, salt and sugar</th>
</tr>
</thead>
</table>
| **Consumers**   | • Most firms provide only information on ‘Big 4’ → consumers do not have comprehensive information on other elements important to their diets, such as salt and sugar | • Based on scientific research on nutrition and health (e.g. importance of increasing amount of fibre in diet), restricting nutrition information to 5 elements might be inadequate to inform consumers  
• If restricted to 5 elements, those firms which are already providing information on ‘Big 8’ would have to reduce amount of information provided → this is likely to be detrimental to consumers, who might have been using this information to inform their decision-making  
• Even allowing for additional elements to be added on a voluntary basis, it is unclear whether manufacturers would do so → currently, even though information can be provided on more than the ‘Big 4’, only around 30% do so  
• Firms with products with negative attributes, such as high levels of carbohydrates and low levels of fibre, have no incentive to disclose this information under this regulation | • Provides consumers with more comprehensive information on nutrition quality of food products → helps more informed decision-making  
• Closely reflects science-based public policy perspective on the nutrition elements consumers should balance in their diet  
• Inclusion of trans fatty acids responds to increasing evidence showing link between trans fat and CVD → currently only about 6% of firms providing nutrition information include trans fat in the list, according to our own survey  
• Risk of information overload, but could be effective as part of wider health and nutrition education and awareness campaigns | ≈• Provides consumers with more comprehensive information on nutrition quality of food products → helps more informed decision-making  
• Closely reflects science-based public policy perspective on the nutrition elements consumers should balance in their diet  
• Inclusion of trans fatty acids responds to increasing evidence showing link between trans fat and CVD → currently only about 6% of firms providing nutrition information include trans fat in the list, according to our own survey  
• Risk of information overload, but could be effective as part of wider health and nutrition education and awareness campaigns ≈• Provides consumers with more comprehensive information on nutrition quality of food products → helps more informed decision-making  
• Closely reflects science-based public policy perspective on the nutrition elements consumers should balance in their diet  
• Inclusion of trans fatty acids responds to increasing evidence showing link between trans fat and CVD → currently only about 6% of firms providing nutrition information include trans fat in the list, according to our own survey  
• Risk of information overload, but could be effective as part of wider health and nutrition education and awareness campaigns ≈• Provides consumers with more comprehensive information on nutrition quality of food products → helps more informed decision-making  
• Closely reflects science-based public policy perspective on the nutrition elements consumers should balance in their diet  
• Inclusion of trans fatty acids responds to increasing evidence showing link between trans fat and CVD → currently only about 6% of firms providing nutrition information include trans fat in the list, according to our own survey  
• Risk of information overload, but could be effective as part of wider health and nutrition education and awareness campaigns |
| **Industry**    | • No change in costs to industry in general | • Overall, this policy option is not likely to lead to significant increases in costs to producers  
• Some producers, who provide information on ‘Big 8’, might experience reduction on costs due to need to label fewer elements, especially if adequate time-frame allowed for changes | • Incurs cost to producers, especially if it becomes mandatory to provide this information  
• Even for those who provide nutrition information, there might be some costs → e.g. increasing number of nutrients from ‘Big 4’ to seven elements shown to increase costs significantly  
• However, accessible databases and software can be effective cost-reducing mechanisms | ≈• Incurs cost to producers, especially if it becomes mandatory to provide this information  
• Even for those who provide nutrition information, there might be some costs → e.g. increasing number of nutrients from ‘Big 4’ to seven elements shown to increase costs significantly  
• However, accessible databases and software can be effective cost-reducing mechanisms ≈• Incurs cost to producers, especially if it becomes mandatory to provide this information  
• Even for those who provide nutrition information, there might be some costs → e.g. increasing number of nutrients from ‘Big 4’ to seven elements shown to increase costs significantly  
• However, accessible databases and software can be effective cost-reducing mechanisms |
| **SMEs**        | • No change in costs to SMEs | • Some costs to SMEs which do not provide any nutrition information, should this policy option make listing 5 elements a mandatory requirement  
• These costs could be low if cost-cutting mechanisms in place, | • Could incur costs to SMEs, which may have less resources to obtain this information efficiently  
• In countries where nutrition | ≈• Could incur costs to SMEs, which may have less resources to obtain this information efficiently  
• In countries where nutrition ≈• Could incur costs to SMEs, which may have less resources to obtain this information efficiently  
• In countries where nutrition ≈• Could incur costs to SMEs, which may have less resources to obtain this information efficiently  
• In countries where nutrition |

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RAND Europe, Comparing the policy options.
<table>
<thead>
<tr>
<th>Impact category</th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
<th>Option 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maintain current rules</td>
<td>Restrict nutrition labels, front or back, to 5 key nutrients – calories, fat, saturated fat, salt and sugar</td>
<td>Specify 5 key elements that must appear on the front and pack of pack, but allow additional elements to be added to the latter</td>
<td>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 – calories, fat, saturated fat, salt and sugar</td>
</tr>
<tr>
<td>Member States</td>
<td>• No change in costs of enforcement and control</td>
<td>• No change in costs of enforcement and control</td>
<td>• No change in costs of enforcement and control</td>
<td>• No change in costs of enforcement and control</td>
</tr>
<tr>
<td></td>
<td>• No change in contribution to public health strategy on health and nutrition</td>
<td>• No change in contribution to public health strategy on health and nutrition</td>
<td>• No change in contribution to public health strategy on health and nutrition</td>
<td>• Could require some investment in development of appropriate tables or databases for nutrition calculation for use by manufacturers, such as nutrition panel calculator of Australia and New Zealand Food Authority</td>
</tr>
<tr>
<td></td>
<td>≈</td>
<td>≈</td>
<td>≈</td>
<td>+</td>
</tr>
<tr>
<td>Environment</td>
<td>• No evidence of impact</td>
<td>• If mandatory, with no exemptions for small packages could have negative environmental impact due to need to increase package sizes → increased resource and energy use, and waste</td>
<td>• If mandatory with exemptions for small packages, no likely environmental impact</td>
<td>• If mandatory, with no exemptions for small packages could have negative environmental impact due to need to increase package sizes → increased resource and energy use, and waste</td>
</tr>
<tr>
<td></td>
<td>≈</td>
<td>≈</td>
<td>≈</td>
<td>≈</td>
</tr>
</tbody>
</table>

**SOURCE:** RAND
CHAPTER 10 Monitoring and evaluation

10.1 Introduction

This chapter outlines how the European Commission may wish to plan for the monitoring and evaluation of the proposed labelling regulations. The EC Impact Assessment Guidelines (SEC (2005) 8 June 2005) state that an effective monitoring regime should "set measurable indicators to cover both the quality of outcomes and the implementation process, and define plans for evaluation." However, there are many challenges to effective monitoring and evaluation of policy in both general and nutrition labelling areas. Some of the important ones are as follows.

- Many impacts are not easily quantifiable.
- Many of the costs vary with the type of industry and the size of the industry (costs therefore can be particular and unique, rather than generalisable).
- It is difficult to break down any specific cost or benefit by policy option (i.e. disaggregate impacts to the specific policy options).
- There may be significant time lags between the intervention and benefits (e.g. health outcomes).
- There are issues around attributing outcomes, such as wider health benefits, to specific policy options.

At the same time, evaluation of EU activities is essential and a legal requirement. An effective labelling policy needs clear objectives and targets, and the attainment of, or progress towards, targets should be monitored and evaluated at EU and national levels. Monitoring and evaluation serve to give feedback to political decision makers, administrators, and everyone who is responsible for the implementation of the related policies. Monitoring indicators are also useful for international comparison and evaluation.

10.2 Monitoring

The OECD has defined monitoring as "a continuous function that uses the systematic collection of data on specified indicators to provide management and the main stakeholders of an ongoing development intervention with indicators of the extent of
progress in the use of allocated funds.” 236 In the case of general and nutritional labelling, there are three main objectives identified in the task specifications for these impact assessments.

- Both nutrition and general labelling revisions have as their objective to make information (nutrition and general) more widely available and more easily understandable to the consumer.
- General labelling revisions aim to modernise and simplify current rules, taking into account experience of previous directives as well as the general goals in the European Commission around simplification and better regulation.
- New legislation will also need to meet the needs of industry; be proportionate in terms of burdens placed upon industry; allow for flexibility and innovation by industry in labelling; and protect the single market.

For monitoring to be effective, the number of indicators needs to be manageable and the indicators need to be measurable over a period of time. A small number of indicators would increase the likelihood that indicators will be measured. There are resource implications to monitoring and the European Commission often relies on Member States to gather monitoring data. Member States are less likely to be able to provide information on a long list of indicators over time. In addition, indicators need to be measurable over time. This observation might seem obvious. However, as stated earlier, it is difficult to quantify many of the impacts linked to these labelling revisions and hence one has to assume that the development of indicators could have similar problems. Monitoring of indicators will have to take into account the problems of attribution; the challenge of measuring indicators over time (especially in cases where there is a time-lag between the intervention and the outcome); and the difficulties in assessing the counterfactual (baseline without the labelling revisions). In some cases, one might have to accept the limitations of attribution and use less specific and more aggregate indicators to monitor the impact of labelling regulations. These indicators might reflect on the impacts of a number of programmes and initiatives; and labelling and its impact might have to be seen as part of a portfolio of interventions.

Indicators are likely to be identified from the following sources:

- monitoring indicators in countries such as Australia and the United States that have relatively extensive mandatory labelling regimes
- general household surveys that show whether consumers understand labelling information and how consumers are likely to use labelling information
- health statistics that give obesity rates, cancer rates, and rates for other assorted diseases in the general European population
- monitoring of Healthy Life Year Indicators and other aggregate public health indicators

administrative burden measurement exercises across Europe that establish the additional burden of regulations

- industry surveys that aim to establish the views of industry on the complexity of legislation to be implemented

- statistics on the complaints received by national government on the difficulties of enforcement of legislation by its agencies

- price statistics to chart the development of the absolute and relative price of food

- enterprise statistics and market analyses to measure food production and turnover, wholesale and retail sales, company turnover, and other microeconomic developments

- statistics on international trade outside and inside the EU.

Academic literature and other research may provide some monitoring data. However, these sources are unlikely to provide reliable and comparable data over time. Table 13 gives an overview of monitoring indicators based on economic indicators that could be considered in monitoring the objectives of the European Commission as set out in the task specifications for general and nutritional labelling. In terms of the burden placed on industry, particular attention should be paid to monitoring the impact on specific types and sizes of industry.

Table 13: Monitoring indicators for European Union labelling regulations

<table>
<thead>
<tr>
<th>Specific objective</th>
<th>Monitoring indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>To make information more widely available</td>
<td>- Long-term health outcomes</td>
</tr>
<tr>
<td></td>
<td>- Measurement of disease rates and Healthy Life Year indicators</td>
</tr>
<tr>
<td>To make information easier for the consumer to understand</td>
<td>- Weekly or monthly household expenditure on specific subtypes of food (fruit and vegetables, high-fat foods, etc.)</td>
</tr>
<tr>
<td></td>
<td>- Value of lives lost to poor diets</td>
</tr>
<tr>
<td></td>
<td>- Expenditure by the EU and Member States on information provision on benefits of healthy food to consumers</td>
</tr>
<tr>
<td>To simplify current rules and regulations</td>
<td>- The measurement of administrative burdens in several Member States to understand the impact of specific regulations over time</td>
</tr>
<tr>
<td></td>
<td>- Total cost of compliance with food labelling regulations</td>
</tr>
</tbody>
</table>
To meet the needs of industry

- The total cost and relative cost to industry of changing labels.\(^{237}\)
- The relative and absolute price of labelled and packaged food over time
- The cost to industry of a potential increase in the size of the label required
- The cost to industry of displacement of information on labels

To avoid unnecessary burdens on industry

- The measurement of administrative burdens in several Member States to understand the impact of regulation over time
- Administrative burden broken down per type of industry and per type of food production
- Total cost of compliance of industry with food labelling regulations

To allow for innovation in labelling practice

- The cost to industry of, and investment by industry in, providing additional food information beyond compliance with existing regulations

To protect the single market

- The relative and absolute price of labelled and packaged food over time
- The relative and absolute cost of marketing labelled and packaged food in and across the EU

10.3 Evaluation

This section serves to inform on how successful evaluations of the proposed policy options could take place. An evaluation is a “judgement of intervention according to their results, impacts and the needs they aim to satisfy.”\(^{238}\) The European Commission has an obligation to perform regular evaluations of its activities centred on the responsibilities of operational Directorate Generals and Services covering their main expenditure programmes. Most

\(^{237}\) We propose that the European Commission could develop a cost model to understand the costs of changing labels based on a number of parameters involved in printing and packaging, see Muth et al. (2003). Parameters include: affected product category; affected parts of labelling; type of analytical testing; type of market testing; period of compliance. This systematic measurement could provide a uniform benchmark across the European Union.

\(^{238}\) Definition used in the glossary annexed to the White Paper on Reform and The Communication on Evaluation (SEC(2000) 1051).
evaluations consist of four phases. Each of the four phases of evaluation should be carried out with the same attention to internal logic and external validity. These phases are:

1. the structuring phase to establish the logic of the intervention and identify the evaluation questions, the data needs, and appropriate methodologies
2. data collection (and in this case the need for speed will mean exploiting existing data sources as far as practicable)
3. data analysis using such tools as qualitative analysis, modelling, etc.
4. arriving at conclusions and judgements including techniques such as impact assessments, cost-consequence or cost-benefit analysis, stakeholder assessment and balanced score-cards.

In most evaluations, it is useful to identify the evaluation question and break it down into its constituent, researchable parts. This can be done by developing a logic model of the intervention. These models allow the evaluators to derive the key evaluation domains.

The domains are as follows.

1. **Relevance** – this focuses on the relationship between policy needs and objectives.
2. **Process evaluation** and implementation log – this examines the relationship between throughput and outputs.
3. **Efficiency** – this concerns the link between inputs (resources and time) and outputs, allowing us to identify how well resources are being used in producing the outputs that are expected and required.
4. **Effectiveness** – this is defined as the relationship between objectives and outcomes. This measures the ability of the project to deliver the appropriate outcomes derived from its vision.
5. **Utility** – this focuses on the link between policy needs and outcomes, identifying how successful the project has been in producing appropriate results with respect to its aims.
6. **Sustainability and social acceptance** – this concerns the relationship between interests, outcomes and externalities. This includes assessing the impact of the project in terms of wider social acceptance and also in terms of financial and partnership sustainability.

The evaluation of policy interventions is multi-dimensional, involving different levels (European, national and local levels) and stages (input-process-output). A logic model can help understand input-process-output relationships. Figure 17 provides an overview of the different stages and levels in the development and implementation of a policy. The boxes identify the evaluation criteria. Each measure can have a distinct information demand. Assessment of effectiveness, for instance, involves a comparison of the outcomes and the initial aims of the policy (i.e. the design phase). For the establishment of an evaluation framework, this requires delineation of indicators measuring inputs and outcomes.

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239 W.K. Kellogg Foundation (http://www.wkkf.org/Programming/ResourceOverview.aspx)
Evaluation criteria are defined specific to the policy intervention that will be evaluated. These criteria can be quantitative or qualitative. Success is the crucial measure of evaluation. However, the measurement of success depends upon the viewpoint taken. Different stakeholders may have different viewpoints. First, there may be differences in opinion as to how the policy should perform with respect to a single criterion. Second, stakeholders may focus on different criteria for success. With respect to these different criteria, the evaluation should examine the extent to which the effects match the goals, needs and interests, the relevance of the policy objectives, and the quality and efficiency of the process. Figure 17 also distinguishes between the different levels related to policy development and implementation: from the wide socio-economic context to the specific policy-making context. In evaluating the impact of a policy, the activities at a lower level will have to be logically correlated to goals or desires at a higher level. Conversely, in order to understand the impact at higher levels, knowledge of activities at lower levels is required to attribute success to policy interventions.

Figure 17: Logic models in policy evaluation
CHAPTER 11 Conclusion

This *ex ante* impact assessment of new or revised regulations attempted to address the following three main questions:

- Which positive and negative effects may occur as a result of the new regulations, and what is the likelihood that they will?
- Who are the primary stakeholders that will be affected or involved in the process?
- How high are the costs and benefits going to be?

The first two questions involved a balanced, objective analysis of the possible impacts of the policy options, and the distribution of these impacts among stakeholders. The third question regards the quantification of the impacts, which can be highly problematic. As discussed throughout the report, evidence is often scarce and, where available, it can be contradictory. In order to be comprehensive and exhaustive, this impact assessment would have necessitated evidence that does not yet exist, so attribution and causality are consequently difficult to prove.

Nonetheless, this study collected relevant data and conducted a qualitative analysis that, to the extent possible, aimed to shed light on the potential social and economic impacts of the Commissions’ proposed policy options. The study supports DG SANCO in its own regulatory impact assessment exercise, which evaluates the impacts of the revision of the food labelling legislation. This report referred to a wide range of sources, including peer-reviewed research from Europe and elsewhere, studies conducted by and for the European Commission, a survey of food producers, and 12 key-informant interviews.

This report then synthesises and analyses relevant evidence on the possible impact of the different policy options on different stakeholders, primarily focusing on consumers; industry as a whole and SMEs in particular; and Member State public administrations. While this report provides a framework to compare the possible costs and benefits of each policy option against the others, it does not make recommendations in terms of which policy option should be pursued, if any.

In addition, it was beyond the scope of this research to assess the extent to which the various policy options under the different headings cohere into a neat, sound body of policy instruments. Nonetheless, this discussion is of the outmost importance if Europe is to have a coherent, practicable, relevant and appropriate nutrition labelling policy.
This report therefore acknowledges that further evaluation and discussion will be necessary, not only within the European Commission and relevant Directorate Generals, but also between the Commission and the different stakeholders, including Member State administrations, producers, consumers and health professionals.

Finally, it is important to note that in many areas relevant to nutrition labelling policy, there is insufficient data and evidence to inform decision-making. For example, comprehensive, detailed and reliable data is lacking on:

- the cost impacts on food manufacturers of different requirements
- the extent of consumer behavioural changes as a result of nutrition labelling
- the difference, between food prepared at home as opposed to that in away-from-home establishments, for public health
- how to maximise the positive impact of nutrition labelling on consumer behaviour – e.g. through parallel development of public health education and awareness strategies.

To conclude, this chapter provides a summary of the key messages that emerge from research under each policy heading, which are relevant to future decision-making on nutrition policy for Europe.

### 11.1 Main findings for each policy heading

#### 11.1.1 Voluntary versus mandatory nutrition labelling

Mandatory labelling was introduced in a number of countries with the aim of helping consumers make better-informed decisions about their diets, and thus to lead to public health improvements through the reduction of nutrition-related diseases such as obesity, diabetes and certain types of cancer. Evidence from these countries shows that harmonised mandatory nutrition labelling helped some consumers to better understand the nutrition information provided. This is to some extent due to the fact that they become familiar with the format and content of 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 indicate 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, nonetheless, that nutrition labels are not a panacea for improved nutrition and public health, but that they should be an important element within a wider, comprehensive public health strategy on nutrition and health.

It is clear that mandatory labelling imposes costs on 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. There is little evidence that the introduction of mandatory labelling had a significant negative impact on firms' survival and competitiveness.
11.1.2 **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. 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 of micro-nutrients. In addition, increasingly, companies can rely on a wealth of inexpensive resources such as nutrition 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.

11.1.3 **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”.

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 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.

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240 European Advisory Services (2004).

241 E. Golan, et al., 139.

242 Ibid.
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. It is even possible that detailed legibility and format requirements might reduce costs to most manufacturers as there is no need to design a bespoke nutrition label.

11.1.4 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 in France, UK, Germany and the Netherlands, suggests that consumers’ lack of time while shopping often leads 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.

There are a number of possible alternatives for FOP signposting or labelling, whether voluntary or mandatory, such as the ‘traffic lights’ system (as approved by the British Food Standards Agency) and the ‘energy-based’ flag (supported by the 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. In addition, certain types of signposting can be misleading for consumers.

It is difficult to assess what costs to consumers 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.

As shown throughout this report, there is a vast literature dealing with the different aspects of nutrition labelling, particularly the issue of voluntary versus mandatory nutrition

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245 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, 2002).
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:

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 requirement, 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 the presentation of nutrition information, covering all relevant issues (text size, font, colour, etc) can make a 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.

11.2 The evidence base needs to be developed

To conclude this impact assessment some thoughts about the evidence base available to the researchers are in place. In analysing the policy options proposed by DG SANCO, RAND Europe encountered considerable difficulties in finding relevant data and evidence to assess the impact of the proposed policy options. Although this can be partly attributed to the specificity of the policy options at hand, there is indeed a need for further research into two distinct issues of food labelling.

First, methodologically robust research is needed to establish consumers’ perception and understanding of nutrition labels in real world situations. This would enable policy-makers to develop nutrition labelling requirements –for example on legibility- that would maximise consumer perception and understanding. In addition, research is alarmingly limited on the effects of nutrition labels on individual buying decisions and overall diet and nutrition. This type of research would necessitate the use of different approaches and careful management of the complexities it presents. For example, a robust study could assess whether nutrition labels affect dietary patterns, or whether specific pre-existing biases and interest in diet and nutrition affect use of nutrition labels.

Secondly, the information on the costs of food labelling to food producers needs to be further developed. Information so far is patchy, and mostly derived from survey data which has some inherent biases, such as incentives for companies to systematically over-report costs and underestimating benefits to the company. In particular, there are no studies available that look at the impact of food labelling on SMEs, the group of food businesses to be thought most vulnerable to changes in labelling regulation. While there exists a detailed cost model which allows cost estimates for changing food labelling regulation on an economy wide basis for the U.S., no such information is available for the European Union. Constructing such a model for the European Union would be of great value to assess the impacts of changes in food labelling regulation.

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Department of Environment, Food and Rural Affairs, UK (http://statistics.defra.gov.uk/eso/statnot/fsstatnot.pdf)


European Commission approach to measuring administrative costs and reducing administrative burdens (http://ec.europa.eu/governance/better_regulation/admin_costs_en.htm)


Eurostat (ec.europa.eu/eurostat)

Health Canada: Compendium of Templates for “Nutrition Facts” Table (http://www.hc-sc.gc.ca/fn-an/label-etiquet/nutrition/reg/compend_nut_fact-repertoire_etiquetage_nut_e.html)


Sense About Science (www.senseaboutscience.org)


W.K. Kellogg Foundation (http://www.wkkf.org/Programming/ResourceOverview.aspx)
APPENDICES
Appendix A: List of interviewees

**International experts**

Alan Mathios, Professor, Human Ecology, Cornell University, US

Elise Golan, PhD, Deputy Director for Research, Food Economics Division, Economic Research Service, USDA

**EU Member State Public Administration officials**

Birgitta Lund, Food Standards Department, National Food Administration, Sweden

Claire Boville, Head of Promotions, Nutrition Labelling and Dietetic Foods Branch at the Food Standards Agency, UK

Jan-Willem van den Brink, Ministry of Health, Welfare and Sports, Department of Nutrition and Health Protection, The Netherlands

Petr Cejka, Lawyer, Legal and Foreign Affairs Unit, Czech Agriculture and Food Inspection Authority, Czech Republic

Dr Theresa Ekong, Labelling, Standards and Allergy Division Food Standards Agency, UK

Almudena Rollán, Agencia Española de Seguridad Alimentaria y Nutrición, Spain

**Food Producer Organization representatives**

Noëlle Vonthron, Adviser on Food Policy and Consumers, EuroCommerce, Belgium

Sabine Nafziger, Director, Consumer Information, Diet & Health, Confederation of the Food and Drink Industries of the EU, Belgium

**Food producers**

Bean Thinking Ltd – UK.

The Wicked Cake Company – UK
Appendix B: Survey results

Survey Results Summary

During March to April 2007, RAND Europe undertook a stakeholder survey to assess the potential economic, social and environmental impacts of different policy options in food labelling. The 40-question-long survey was posted online on a designated website, www.foodlabelsurvey.eu. A total of 211 companies participated in 25 countries (EU 27, except Luxembourg and Lithuania) participated the survey. Results of the survey are summarised in the following.

Responses to the open questions are given in *italics* and have not been edited.

I. General information

Are you a food: a) manufacturer, b) wholesaler, c) retailer, d) importer, e) other?

![Pie chart showing the distribution of responses: 151 (65%) manufacturers, 32 (14%) wholesalers, 17 (7%) retailers, 14 (6%) importers, 17 (7%) others.](image)

- manufacturer: 151 (65%)
- wholesaler: 32 (14%)
- retailer: 17 (7%)
- importer: 14 (6%)
- other: 17 (7%)
In which country is your company or factory based?

Which sector of the food production industry do you belong to?
Approximately, how many staff does your company have?

- 30 (15%)
- 41 (21%)
- 25 (13%)
- 57 (29%)

What is your annual turnover (in millions EUR)

- 83 (48%)
- 26 (15%)
- 22 (13%)
- 14 (8%)
- 13 (8%)
- 15 (9%)

- 0-9
- 10-24
- 25-49
- 50-99
- 100-250
- 250+
How many stock-keeping units do you have? (i.e. the total number of products and the different packaging sizes or types)

Do you produce pre-packaged food or beverages? YES/NO
Do you distribute your products in more than one Member State? YES/No

Yes
104
49%

No
107
51%

If you answered YES in question 4: Please tick the European Union countries in which your products are distributed:
Do you produce different labels for the different countries in which your products are distributed? YES/NO

- Yes: 75 (72%)
- No: 29 (28%)

If you answered YES to the previous question does it add to the cost of labelling? YES/NO

- Yes: 55 (53%)
- No: 49 (47%)
If YES how does it add to the cost of labelling?

43 responses:

- extra development; more types of labels; more work to put them on
- MORE STOCKAGE
- It depends on the situation
- we must maintain stocks of more than one label per product
- extra programming
- Translation costs, multiple variants of labels because labels are too small to cover all European languages
- due to space limitations on label, many labels are normally needed which makes production and distribution less efficient and more costly.
- Different physical labels when do not use multi-lingual / Logistic complexity to produce smaller quantities for different countries / Regulatory affairs costs for new Member States
- 8%
- more 25% then the normal labels
- For the identical product we need 5 different packaging in order to cover all regulations in the different countries. Extra artwork, extra stock of packaging material, extra stock for each version.
- Translation costs, Cost due to specific packaging
- MARKETING AND LANGUAGES
- Different stocks of cans
- 10-15%
- more labels need a bigger warehouse, and more fix cost for new labels
- Different art work and translation
- To change the labels adds 25% to the cost of labelling.
- Cost with label design + Printers Cost to produce small runs of labels + extra cost in storing different labels + extra bottling costs due to small bottling runs
- it depends about the contract
- we need to print a label especially for the country we send our product
- normally it is small quantities so they are more expensive.
- some labelling are specific, mainly for “third countries”
- Different types of labelling need to be separated on stock
- article is related to labelling; this means that we stocks of the same article for each label
- direct price of product
- More types, less quantity / each, higher unit prices
- more work of translating
- more work of translating
- 0,08 EUR
- development of different labels, translation costs
- It multiplies the cost every time an amendment needs to be done on the labels. In addition to the cost of the translations.
- It multiplies the cost of the labels and the printing. Plus the cost of the translations
- Increased labelling creation costs and an increased number of different labels that need to be produced.
- redesign of the label and packaging, production of the printing plate
- We have to have different backlabels on the products and thus different SKUs for different countries
- Stock holding of labels, artwork & associated reproduction costs, management time
- We need a new design of the label for every country, plus new films and we have to stock a big amount of labels for every market.
- Costs of production: from Human resources: estimation of 24h man work (at a rate of 45€8364; in average). Difficult to give a precise answer, because depends of the category of the product, differs from one other.
- translation and production of the label
- Translation into local language. Several references for the different countries and additional inventory cost.
- Bulk buying discounts are reduced.
- Increases complexity of the manufacturing and logistics process to include so many very small volume stock keeping units
If you answered YES to question 4.ii are labels different because of: (please rank in order of importance (1 = most important reason 4 = least important reason)

- Marketing / commercial reasons
- Different regulatory requirements in the different countries
- Different languages
- Other (please specify)

Total number of respondents ranked the reason as the most important:
Do you produce multi-lingual labels? YES/NO

Yes 105 (50%)
No 106 (50%)

If yes, what is the maximum number of languages on one product label?
I.2 Changes in labels

We would like to understand how often you change the label of a product and the main reasons for the changes.

On average how often do you change the labels of your stock-keeping units?

Those who answered “Other” provided the following comments:

- when required to by legislation
- as required by supplies of raw material
- Diary
- none
- weekly
- or when legislation change
- stocks only some month
- No rules, it depend of regulation and recipe modifications
- Not regular / More than 3 years
- when needed
- don’t
- often : 2 times a year
- when required
- as required
• every 4th month
• We have been using the same label for 250 years. Whenever there is a change in regulation we need to change the label
• never
• 06-Jul
• depending on customer’s demand and regulations
• It’s depends from the specification may be 1 year or 2 year or six months
• ONLY WHEN NECESSARY
• more often
• when necessary e.g. new law, new marketing idea
• real time
• Once every month
• steeds als er iets aan de ingrediënten veranderd
• Only when necessary
• more often
• 2 or 3 times a year, to be assured of the completeness of the label
• 2 x per jar
• 5 times in a year
• when the recipe changes
• As required
• when we discover an omission
• We change the label content every batch produced, because we print different labels for different products and different batches
• or in order to comply with any updated legislative requirements
• different
• This varies from category to category
Please rank, in order of frequency the reasons why the labels are changed (1=most frequent reason for change; 5=least frequent reason for change):

- Change in regulations
- Change in ingredients
- Change in clients’ requirements
- Marketing reasons
- Other (please specify)

No. of respondents ranked the option as the most important:

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1.3 Costs of food labelling

We would like to understand the costs associated with making a label and the activity that is associated with the costs.

What is the per-unit average cost of production in euro across your range of stock-keeping units?

- Due to severe problems with the quality of the responses, we are unable to summarise the results of this question.
What is the average cost of labelling per stock-keeping unit (i.e. designing and applying the label)
- in Euros and
- as a percentage of the average total production costs of a stock-keeping unit?

<table>
<thead>
<tr>
<th></th>
<th>min</th>
<th>max</th>
<th>mode</th>
<th>sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>micro company (1-9 employees)</td>
<td>1%</td>
<td>25%</td>
<td>3%</td>
<td>12</td>
</tr>
<tr>
<td>small company (10-49 employees)</td>
<td>&lt;1%</td>
<td>30%</td>
<td>10%</td>
<td>15</td>
</tr>
<tr>
<td>medium company (50-249 employees)</td>
<td>&lt;1%</td>
<td>50%</td>
<td>n/a</td>
<td>9</td>
</tr>
<tr>
<td>large company (250+ employees)</td>
<td>1%</td>
<td>20%</td>
<td>n/a</td>
<td>8</td>
</tr>
</tbody>
</table>

- Note: the above table shows the costs of food labelling a percentage of the average total production costs. A total of 48 respondents answered this question, but only 44 provided corresponding company size data.

When you produce a new label, what is the average cost (direct and indirect), associated with the following tasks (outsourced or not)? Please estimate this cost as a percentage of the total cost of the production of the label.

- Identification of the information legally required on the label (identifying and understanding the regulations that apply; obtaining relevant information to comply with labelling regulations; obtaining data for the label through analysis, etc.)
- Translation for labelling in different languages
- Redesign of the label and packaging
- Production of the printing plate
- Printing of the label
- Audit and inspection associated with compliance with the labelling regulations
- Other (please specify)

- Due to severe problems with the quality of the responses, we are unable to summarise the results of this question.
How many times in the last 10 years have you changed labels, solely as a result of a change in labelling regulations?

What was the average cost per stock-keeping unit of changing the labels specifically due to a past change in the labelling legislation?

- no costs specifically due to changes in legislation
- average cost in euros, and
- as a percentage of the average total cost of a stock-keeping unit.

- Answer ranges from 0% to 56%.
I.4 Administrative costs of labelling

How much time (in man-hours, including work of external consultants) on average per year do you estimate your company spends on the following tasks?

- Determination of the information legally required on the label (identifying and understanding the regulations that apply; obtaining relevant information to comply with labelling regulations; obtaining data for the label through analysis, etc.)
- Translation for labelling in different languages
- Redesign of the label and packaging
- Production of the printing plate
- Printing of the label
- Audit and inspection associated with compliance
- Submitting information to the regulator
- Other (please specify)
- Total

Due to severe problems with the quality of the responses, we are unable to summarise the results of this question.

What is the average cost per hour of staff (across grades) working on these tasks (as above)?

Due to severe problems with the quality of the responses, we are unable to summarise the results of this question.
What is the main reason for the amount of time spent on these tasks (please rank them: 1: main reason; 5=least important reason)?

- Part of the usual labelling cycle (launch of new products, normal changes of labels)
- It takes time to familiarise ourselves with the relevant regulations
- There is a large number of regulations to comply with
- Adapting to changes in the regulations
- Other (please specify)

No. of Respondents ranked the reason as the most important:

- Many respondents struggled with the on cost questions in the above, and decided to give up on answering the questionnaire. The total number of respondents dropped to 121 from this point on.
II. Questions related to the revision of Directive 2000/13/EC relating to the labelling, presentation and advertising of foodstuffs

II.1 Costs associated with origin labelling

We would like to know whether there are any specific costs associated with providing information on the country of origin of products. These questions do not pertain to Protected Designation of Origin labelling and Protected Geographical Indication labelling, which fall outside of the scope of regulatory changes.

Do you include country of origin labelling on your products? YES/NO

- Yes: 59 (49%)
- No: 62 (51%)
If YES to question 18: what are the reasons for indicating origin labelling

![Bar chart showing reasons for indicating origin labelling](image)

- Marketing reasons
- National regulations
- Its omission would be misleading for the consumer (Community legislation)
- Other

Note: Number of respondents = 59
Number of responses = 91
(due to multiple responses from respondents)

i.

If you answered YES to question 18; what are the specific tasks and consequences associated with origin labelling? (i.e. those tasks that only apply to specifying country of origin for your stock-keeping units, so excluding printing, general administrative tasks, etc.).

- Due to severe problems with the quality of the responses, we are unable to summarise the results of this question.

Do you label fresh meat other than beef? YES/NO

- If YES, can you estimate the costs that would be associated with including country of origin on the label in terms of:
  - average cost in Euros per stock keeping unit, and
  - as a percentage of the average total costs of producing a stock-keeping unit?

- 18 out of 121 respondents answered yes, and only 5 of which provided cost data. The costs reported range from 0 EUR to 1400 EUR (i.e. 0% to 28%).
Do you produce processed single ingredient food products, (such as tomato concentrate)? YES/NO

- If YES, can you estimate the costs that would be associated with including country of origin on the label in terms of:
  - average cost in Euros per stock keeping unit, and
  - as a percentage of the average total costs of producing a stock-keeping unit?

- 21 out of 121 respondents answered yes, and only 7 of them provided cost data. The costs reported range from 0 EUR to 25000 EUR (i.e. 0% to 15%).

Do you produce dairy products? YES/NO

- If YES, can you estimate the costs that would be associated with including country of origin on the label in terms of:
  - average cost in euros per stock keeping unit, and
  - as a percentage of the average total costs of producing a stock-keeping unit?

- No respondents produced dairy products.

Do you produce multi-ingredient processed products? YES/NO

- If YES, for each of the following options can you estimate the costs that would be associated with including country of origin on the label:
  - indicating the place of last transformation of the product average cost in euros per stock keeping unit, and as a percentage of the average total costs of producing a stock-keeping unit?
  - specifying the provenance of the main ingredient(s) average cost in euros per stock keeping unit, and as a percentage of the average total costs of producing a stock-keeping unit?
  - specifying the provenance of all individual ingredients average cost in euros per stock keeping unit, and as a percentage of the average total costs of producing a stock-keeping unit?

- 58 out of 121 respondents answered yes. 12 of them provided cost data. The reported costs associated with indicating the place of last transformation of the products range from 0 to 5000 (in percentage term the range is between 0% and 20%). The reported
costs associated with indicating the provenance of the main ingredient(s) range from 0 to 5000 (in percentage terms the range is between 0% and 45%). The reported costs associated with specifying the provenance of all individual ingredients range from 0 to 5000 (in percentage term the range is between 0% and 60%).

Costs associated with labelling alcoholic beverages

Do you produce/label alcoholic beverages, defined as those containing more than 1.2% by volume of alcohol? YES/NO

- Only 118 respondents answered this question, of which only 24 produced alcoholic beverages.

  If NO, proceed to question 27 (internal)

  If YES, we would like to know the costs specifically associated with providing information on the ingredients of your products on the label.

Do you provide ingredient listings on the label of your alcoholic beverages? YES/NO

- Only 11 of them provided ingredient listings on the label of their products.

Please specify the type of products:
  - Wine
  - Beer
  - Spirits
  - Mixed drinks (e.g. alcopops)
  - Other (please specify)

- Due to severe problems with the quality of the responses, we are unable to summarise the results of this question.

If you answered YES to question 25; what are the specific tasks associated with including ingredients list on your label? (i.e. those tasks that only apply to including ingredients list, so excluding printing, general administrative tasks, etc.).

Please specify these tasks:

- Due to severe problems with the quality of the responses, we are unable to summarise the results of this question.

- Can you estimate the costs of these tasks associated with including ingredients list on the label of the alcoholic beverages in terms of:
- per stock keeping unit average cost in euro and
- as a percentage of the average total costs of producing a stock-keeping unit?

Two respondents reported on the costs associated with including ingredients lists on the label of the alcoholic beverages. One reported 0 EUR; the other reported 1400 EUR.

Costs associated with providing information on food sold loose or not pre-packed

Do you produce food sold loose? YES/NO

<table>
<thead>
<tr>
<th>Yes</th>
<th>32 (27%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>85 (73%)</td>
</tr>
</tbody>
</table>

For food sold loose do you provide any information that is usually included on labels (e.g. best before date, allergens, country of origin, nutrition information, etc.)? YES/NO

If YES, please specify the type of information, how the information is provided, the tasks associated with providing this information (please specify), and the estimated cost per stock-keeping unit of providing this information.

<table>
<thead>
<tr>
<th>Type of information</th>
<th>Tick if its provided</th>
<th>How it is provided</th>
<th>Specify tasks associated with providing</th>
<th>Average cost of tasks per stock-keeping unit of providing</th>
</tr>
</thead>
</table>
- Due to poor quality of the responses, we are only able to summarise the results of this question in term of types of information provided:
If NO:

- Imagine that certain food labelling requirements (such as ingredients listing, allergen declaration) was extended to food sold loose. Please could you estimate the average cost per stock-keeping unit in euro with providing the information indicated below on food sold loose:

<table>
<thead>
<tr>
<th>Type of information</th>
<th>How information might be provided</th>
<th>Average cost per SKU of providing this type of information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full ingredient listing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main ingredient listing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allergens without other ingredients</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Additives without other ingredients</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nutritional composition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Country of origin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Best before date or similar</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other similar</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Due to severe problems with the quality of the responses, we are unable to summarise the results of this question.

Do you provide any nutrition information (such as the amount of energy or nutrients per 100g or per portion) on your labels? YES/NO

Further analysis of the data by size of company:

<table>
<thead>
<tr>
<th>Size of Company</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>micro company (1-9 employees)</td>
<td>3</td>
<td>16</td>
</tr>
<tr>
<td>small company (10-49 employees)</td>
<td>8</td>
<td>19</td>
</tr>
<tr>
<td>medium company (50-249 employees)</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td>large company (250+ employees)</td>
<td>26</td>
<td>8</td>
</tr>
</tbody>
</table>
If Yes, in terms of percentage of stock-keeping units, where on the label is the nutrition information presented?

<table>
<thead>
<tr>
<th>Place of information</th>
<th>Percentage of SKU with this format</th>
</tr>
</thead>
<tbody>
<tr>
<td>No nutrition information included on the label</td>
<td></td>
</tr>
<tr>
<td>Front of pack or main display panel</td>
<td></td>
</tr>
<tr>
<td>Back of pack</td>
<td></td>
</tr>
<tr>
<td>Both front of pack and back of pack</td>
<td></td>
</tr>
</tbody>
</table>

- Due to severe problems with the quality of the responses, we are unable to summarise the results of this question.

If yes, among those products that include nutrition information, what is the percentage of the stock-keeping units that present such information in tabular form or linear form?

<table>
<thead>
<tr>
<th>Format</th>
<th>Percentage of SKU with this format</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tabular form</td>
<td></td>
</tr>
<tr>
<td>Linear form</td>
<td></td>
</tr>
</tbody>
</table>

- Due to severe problems with the quality of the responses, we are unable to summarise the results of this question.

If you currently use linear form for nutrition information, what is the main reason why the information is provided in this format on the label? Please tick:

- Space constraints due to including the information in several languages
- Space constraints due to design of the label
- Space constraint due to a legal limit on permitted size of packaging
- Other (please specify)

- Due to severe problems with the quality of the responses, we are unable to summarise the results of this question.
Which items of nutrition information are specified on your labels (for example carbohydrates, calories, fat, sugar, etc.)? Please complete the table below:

<table>
<thead>
<tr>
<th>Nutrients</th>
<th>Percentage of products with this information on the front of the pack</th>
<th>Percentage of products with this information on the back of the pack</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy (calories/joules)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protein</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saturated fats</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polyunsaturated fats</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mono-unsaturated fats</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbohydrate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sugars</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fibre</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium/salt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vitamins</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minerals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (please specify)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Due to severe problems with the quality of the responses, we are unable to summarise the results of this question.
Do you provide information on trans fatty acids (TFA) on your products? YES/NO

<table>
<thead>
<tr>
<th>Answer</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>102</td>
<td>94%</td>
</tr>
<tr>
<td>Yes</td>
<td>6</td>
<td>6%</td>
</tr>
</tbody>
</table>

What are the specific tasks associated with including nutrition information on the label? (i.e. those tasks that only apply to changing the nutrition information on a label, so excluding printing, general administrative tasks, etc.).

- Please specify these tasks:
- Due to severe problems with the quality of the responses, we are unable to summarise the results of this question.

Can you estimate the costs of these tasks associated with including nutrition information on the label in terms of:

- per stock keeping unit average cost in euro and
- as a percentage of the average total costs of producing a stock-keeping unit?

- Due to severe problems with the quality of the responses, we are unable to summarise the results of this question.
IV. Questions related to legibility of labels

Would there be an impact on your company if a minimum font size for all mandatory information on your labels was established (please indicate yes or no and the percentage of stock-keeping units (SKUs) affected)?

i. 1.25mm yes/no % of Stock-keeping units

ii. 1.5mm yes/no % of Stock-keeping units

iii. 1.75mm yes/no % of Stock-keeping units

iv. 2mm yes/no % of Stock-keeping units

v. 2.25mm yes/no % of Stock-keeping units

vi. 2.5mm yes/no % of Stock-keeping units

vii. 2.75mm yes/no % of Stock-keeping units

viii. 3mm yes/no % of Stock-keeping units

- Due to severe problems with the quality of the responses, we are unable to summarise the results of this question.
If yes – what would be the impact?

- Reduce the information that is included on a voluntary basis on the label
- Reduce the number of languages that can be included on the label
- other – please specify

For those who answered “Other”, some of them provided comments:

- Would not be able to include all mandatory info on smaller tub labels
- masking provenance
- costs to change all the labels
- make label bigger
- If mandatory, we would be obliged to have multiplicity of labels per language, that we do not have to day.
- marketing reasans
- Cost of label changes
- content can be misunderstood
- Move to peel and read label. Packaging Regs issues
- label would be too small
- lack of space!
- Have to start over again with the hole process of labelling.
- te grote etiketten en slordige verakkingen
- The appearance of the product. For example: It’s not possible to put a 10x5 sticker (if the text fits on it!) on a little box of 2 bonbons. The label should not be too prominent on the product.
- All of above
- the label has to fit to the package! 
- The font size used on packs varies, usually depending on the size of pack. We operate to best practice standards provided by the UK IGD
- design changes
- Proliferation of labels/withdrawal from small markets
- Might result in creation of new pack size to accommodate all the mandatory information.
- A lot of mandatory requirements for our products. Cannot increase font type.
- Label redesign required
V. Closing questions

In your view, the existing body of regulations around general and nutrition labelling of foodstuffs is

- Clear and easy to understand
- Somewhat unclear, but not more so than other regulations affecting our business
- Obscure; it is difficult to understand the requirements of the regulations
- Other

For those who answered “Other”, they had the following comments:

- the EU regulations are clear, it is the national interpretations and exceptions that constitute the problems.
- it is a nightmare to find the applicable rules amid horizontal and vertical legislation
- clear but gives too many information to the consumer
- for a lot of product there is a surplus of information
- especially for complexe products, with multi-ingredients (the ingredients list is very difficult to understand for the people)
- Legislation related to labelling is often very complex, with different texts having been adopted over decades. It is difficult to cope with the diverging
interpretations of Member States, even between different regions of a same MS. Regulations and maximum harmonisation with regards to mandatory labelling would be more straightforward for operators.

Are there any issues that impact on the cost of labelling that this questionnaire has not taken into account?

15 respondents responded to this question:

- Not so much cost, more space/size issues. Very difficult to fit all information required on small tubs.

- Obligatory nutritional labelling would be too costly for my business, and would possibly not serve the purposes required at this time. Changes in our understanding of nutritional requirements are on-going, what may seem appropriate this year may prove to be different at a future date. Each consumer has such varying requirements, does it make sense to try to address all the variations in dietary needs for each individual?

- the requests from health agents about the ingredients that we not produce but are included in the mixture, they are mandatory

- imposed use of colour: obligatory blue line for beef with ‘safe marrow’ could be solved in a cheaper way

- The costs (money and hours) for labelling are ever increasing. The national regulations on labelling are vast and inconsistent. The reviews and controls made by the authorities seem to be arbitrary. Thorough label reviews by labelling consultants in each of the country have to be done and they are quite expensive. The results of these review shows that national interpretations of the EU regulations sometimes are contradictory and do not simplify trade, on the opposite.

- The proportion between cost of labelling and 500 million consumers real interests and understanding, to be checked through street-surveys and tests

- How to reach a one single EU regulation? Same rules for everybody

- To summarize, the costs impact is very important for our company (10% of the results. It is difficult to express it in % of cost average - SKU-because of the very different products of our ranges). It could be reduced by coordinating the applications of the regulation in the time and also by increasing the delay (more than 3 years)

- The ban on rewriting labels that are non sufficiently readable is making the import business difficult.

- We are a very small company, the pressure and costs of labelling is out of proportions comparing to the large companies.

- Changing the regulations at set intervals every 2/3 years - rather than continuously

- The cost of software and service
The questionnaire had quite a difficult approach to the different tasks and costs because for example the country specific languages are not separated as a cost per label but rather cause a different SKU which is a larger question due to logistical problems and production runs – label changes in the lines and so on.

Timing of changes, both in terms of time allowed for compliance and date for compliance. With adequate notice, mandatory changes could be incorporated in normal label renovation process at small added cost. Increasing amount of information risks impacting legibility as there is very limited additional space available on a beer bottle to “grow” the label (would also be a capital cost to change label handling equipment).

NO.

1) The questionnaire has not mentioned the issue of multi-languages, which is sometimes a regulatory requirements (i.e. in Multi-lingual countries), and often a commercial requisite (cf. massification of production in order to reduce costs and benefits from economies of scale). 2) Also, in view of the increasing awareness of global warming, necessary energy savings, the issue of the reduction of the size and weight of packaging, in order to improve logistics and transport efficiencies, as well as waste reduction, need to be taken into account. The revision of labelling requirements will have clear impacts on the packaging policy. These reviews must go hand in hand, and should not come in contradiction with the EU global environmental agenda. In this perspective, other means of consumer information, besides labelling, might be worth considering as well. 3) To end with, this survey seems to overlook some specificities linked to particular products. For instance, food sold loose, which is aimed at being sold and consumed locally (cf. very short shelf life) should be dealt with at local level. There subsidiary should apply in order to take into account local and national prerequisites (For instance, in France, distinction between bakery and pastry...).

Our products are niche products (metabolic and dietary products). If we cannot have multilingual labelling because of the font size, costs will be too high and the reference will disappear.

Development cost of specification systems

Label write-off is a large one-off cost which occurs when deadlines for compliance with new legislation are short and restricted to a finite date that products should not be on the market rather than not manufactured.