

How does your Label bring your Product to the Table? Comparative Analysis of Food Labelling Regulations between Germany and Australia as an investigation of the degree of harmonisation of food safety regulations

Schmelter, Lydia and Healy, Marilyn (2004) How does your Label bring your Product to the Table? Comparative Analysis of Food Labelling Regulations between Germany and Australia as an investigation of the degree of harmonisation of food safety regulations. In *Proceedings ANZIBA Conference: Dynamism and challenges to internationalisation*, Canberra.

ABSTRACT

This paper looks at the degree of harmonisation of food labelling regulations between Germany as a member of the EU and Australia as a member of FSANZ. A qualitative review of secondary data was undertaken to identify similarities and differences between the labelling regulations of these countries from a regulatory perspective. This research found that there are still differences between Germany and Australia in their food labelling regulations but suggests that regulations will become more and more similar between these countries and within the trade blocks due to increasing trade with each other.

Keywords: _labelling, harmonisation, regulations

INTRODUCTION

Who has not checked the label lately to see how much kilojoule this delicious Belgian chocolate ice cream would add to your waist line or how much fat there really is in a BigMac. How bad are these figures and how do they affect the fit of the new pair of jeans you just bought? The fact is, there is increased interest in nutritional labelling and labelling in general. Food-borne diseases, obesity, increasing age and other health risks as well as increased consumption of food outside the home and increased international trade are main reasons for countries to address labelling regulations as a mean of food safety measures (Marks, 1984). There is a trend visible in countries uniting their food safety agencies to develop harmonised food safety regulations that protect consumers and that do not obstruct international trade. The Australian alignment with New Zealand in the Food Standards Australia New Zealand (FSANZ) is one example of such a union. Germany has adapted EU regulations, which assist trade within the EU while ensuring consumers get the quality they pay for (OECD, 1999). Although the trade between these countries is still increasing (Eurostat Europa, 2004), it has been argued that the EU is still further from a stage of harmonisation of regulations than the FSANZ countries (Hooker, 1999). This paper looks at the degree of harmonisation of food regulations between Germany as a member of the EU and Australia as a member of FSANZ. Thus, our research question is: In the light of increased need for harmonisation of food regulations, do the labelling requirements of food products differ between Germany and Australia? If so, how do they differ and what might be the reasons behind such differences?

There has been comprehensive research on the importance of food regulations and their harmonisation as well as their effect on trade. This research has looked at commonalities of regulations within trading blocks (Hooker, 1999), but not at countries within different trading blocks that undertake substantial trade with each other. Further, there has not been any research examining in depth the differences of food labelling regulations between countries.

This article will first define labelling before examining the increased interest in labelling regulations. Afterwards, it will demonstrate the need for common food labelling regulations across nations. The paper then will analyse the existing regulations in Germany and Australia and compare these food labelling regulations followed by a conclusion highlighting the main findings of this research.

1. LABELS

All packages have common elements such as size and shape, materials used, colour, text and brand mark (Rosecky et al., 2003). Labelling is the printed information appearing on or with the package (Armstrong and Kotler, 2000). The purpose of labels is to give the consumer information about the content and quality of pre-packaged food so that an informed choice can be made between available products (Marks, 1984). Thus, labelling has an increased effect on consumers' decision making in a time where consumers are more than ever aware of nutrition and health aspects (Marks, 1984). Product Labelling is one of the factors affecting consumer's demand for certain products (Antle, 1999) as effectiveness in labelling will assist consumer in choosing between numerous identical products (Nancarrow et al., 1998). Thus, labelling regulations play an important role in public health education and in the consumer decision making process.

Several general reasons for the increased interest in food labelling may be identified (Marks, 1984). The first reason is the increase in pre-packaged and processed foods as highlighted by the Financial Times estimates. Second, is the demand for consumer protection. The third reason is the interest in nutrition and health. Fourth, is the increased interest in nutrition and health in conjunction with increased consumer participation in labelling issues. The fifth reason refers to a commonality in standards, more specifically, the 'need for a common framework of standards for the EU countries so that products can be sold competitively throughout the community'(Marks, 1984). A positive effect on international exchanges of foodstuffs would result from a conformity of standards relating to labelling regulations (Marks, 1984).

Furthermore, the benefits of more detailed labelling are not only health benefits and better informed consumers, but also that labels serve as a way for retailers and manufacturers to increase the public's trust in their brands (Mueller, 1991). The necessity for more detailed labelling has increased and still is increasing as consumer gain higher sophistication through age and education (Mueller, 1991). For example, the primary reason for more detailed labelling and regulated health claims in the EU countries is the rapidly increasing elderly population (Childs, 1998). One non-consumer aspect of labelling is government regulations. This aspect will be discussed next.

2. IMPORTANCE OF REGULATIONS

Governments around the world regulate the food industry not only from the labelling perspective but also from the food safety aspect. Before discussing government regulations regarding food safety it is necessary to define what is actually meant by food safety. The OECD definition of food safety refers to 'the risk of germs, toxins and pathogenic chemical residues to human health and of the spread of diseases or parasites that might affect plant or animal health (OECD, 1999). In turn, food safety regulations can be defined as 'any mandatory control of certain quality attributes of a final product based on the potential effects on human health arising from food handling, preparation or consumption' (Hooker, 1999). Labelling is one of several kinds of food safety policies (Ravenswaay and Hoehn, 1996). Food safety regulations are a necessity to ensure that food products meet acceptable safety standards that do not endanger public health and ensure that consumers get the quality product for which they have paid (OECD, 1999). Thus, the goal of food regulations is to provide the consumer with pertinent and factual information on food content to enable consumers to make healthy dietary choices, to protect consumers from economic fraud resulting from unsubstantiated claims and to provide food safety (Childs, 1998).

The emergence of food safety regulations relates to the change in population behaviour (OECD, 1999). The OECD population has become predominantly urban and has changed its consumption habits to more catering, ready to cook and convenience food (OECD, 1999). These new habits make the population more dependent on regulated food safety. Consumers also become more demanding and are more prepared to pay for regulations that provide higher food safety standards and reduce risk as their income increases (OECD, 1999).

The growing public interest in food safety regulations is not only based on better dietary education and wider selection of food products on the shelves but is also influenced by an increased number of food-borne diseases such as BSE (OECD, 1999). Because of the rise in occurrences of

food-borne diseases authorities have to address potential risk and control existing risks (Henson and Caswell, 1999). The authorities experience pressure from public and politicians to improve regulations to support consumer confidence (Henson and Caswell, 1999). The force of the public pressure has been especially evident within the EU (Henson and Caswell, 1999). In addition, the consumer finds many new products on the shelves due to technological progress, economic growth and increased international trade, which means that not only has the need for international food safety regulations increased (OECD, 1999), but there is also a need for the harmonisation of those food regulations, a point which will be discussed next.

3. HARMONISATION OF REGULATIONS

All developed countries share a minimum of set regulations (Marks, 1984) but there exists still enormous variations in the regulation of nutrition and health messages and in the required information on labels from country to country (Childs, 1998). As traditional barriers to trade have come down, a harmonisation of regulations has become an important trade issue (OECD, 1999). Further, there is an emerging chance that conflicts over food regulations could become more common due to stricter international rules, increased trade in consumer foods and the use of biotechnology (OECD, 1999).

To facilitate the increasing international flow of food products it is necessary to harmonise food regulations (Hooker, 1999). There have been made long-standing commitments to harmonise food safety regulations through international standards such that it is likely that direct regulatory standards will become increasingly global (Henson and Caswell, 1999).

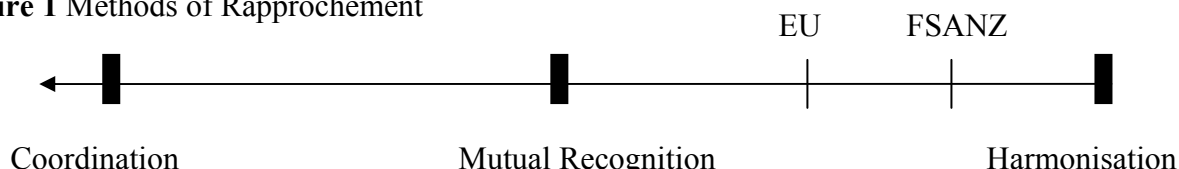
The EU has initiated various food labelling directives to harmonise the regulations for the European food market. Food law, both at national and EU level, establishes the rights of consumers to safe food and to accurate and honest information. The EU food law aims to harmonise existing national requirements in order to ensure the free movement of food in the EU (European Union, 2004a). In the European Union, rules are put in place on the labelling of foodstuffs to enable European consumers to get comprehensive information on the contents and the composition of food products as discussed previously. Labelling helps consumers to make an informed choice while purchasing their foodstuffs (European Union, 2003).

Although the EU has put in place comprehensive directives for food labelling regulations and most EU members have adopted the EU food labelling regulations the enforcement of these regulations still depends on the interests and resources of the country (Childs, 1998). European industries have collaborated with the European Parliament in initiating a program “Community action on health promotion information and training” to assist consumers in making informed choices (Childs, 1998).

4. GERMANY/AUSTRALIA

Rapprochement is the establishment or renewal of a close, friendly relationship between countries (Times-Chambers, 1995). There are different degrees to which countries can establish or re-new their trading relationship on the base of regulations such as food labelling regulations. Such degrees of rapprochement determine the effortlessness in which the countries can trade food products with each other. The model of methods of rapprochement presents three categories of rapprochement: harmonisation; mutual recognition; and, coordination (Hooker, 1999). The strongest strategy is harmonisation, which would represent standardisation of all food safety regulations. It is the strongest strategy because it is based on the most strenuous effort to reach a state of common regulations and allows for effortless trade of food products between countries. Mutual recognition is a method which accepts that regulatory diversity can still meet common goals. The weakest effort to reach common regulations is coordination, which aims at narrowing down any significant differences between nations’ food regulations (Hooker, 1999). This model can be applied to countries and trade unions. The model of rapprochement strategies demonstrates that the EU and FSANZ have used different methods of rapprochement as depicted in figure 1 (Hooker, 1999).

Figure 1 Methods of Rapprochement



Source: (Hooker, 1999)

In previous research the EU has been assessed as having achieved a ‘workable’ stage of harmonisation of food safety regulations (Hooker, 1999). This means that the EU was assessed to have reached a rapprochement stage between mutual recognition and harmonisation. This stage would allow the EU countries to trade comparatively effortless with each other by still upholding regulatory differences within nations. However, FSANZ has achieved the strongest rapprochement effort to date by being the only supra-national food standards agency that has reached a state of harmonisation through its bilateral agreement between Australia and New Zealand (Hooker, 1999). This harmonisation is the basis for effortless trading of food products between Australia and New Zealand. However, it should be noted that Hooker’s research focussed on the effect of regulatory aspects on international trade which provides a contextual framework in which to place this current research, but which is not the focus of this paper. That is, the focus of this paper is to explore the harmonisation of food labelling regulations in finer detail. Additionally, Hooker’s research was conducted in 1999; this paper will examine if Germany as one member of the EU has moved closer towards the stage of harmonisation and aligned its regulations with countries that have long reached this stage of common regulations such as Australia in the FSANZ. From this regulatory and theoretical background the research question was proposed, that is, ‘in the light of increased need for harmonisation of food regulations, do the labelling requirements of consumer products differ between Germany and Australia? If so, how do they differ and what might be the reasons behind such differences?’

5. METHOD AND ANALYSIS

A qualitative review of secondary data was undertaken to identify similarities and differences between the labelling regulations between Australia and Germany from a regulatory perspective. These two countries were chosen as examples of two major trade unions, namely the EU and FSANZ. The increasing trade between these two trade blocs offer a good example for the amplified need for common food regulations. Furthermore, this research has been conducted in Australia but in cooperation with a university in Germany. Because of the above mentioned reasons and local knowledge advantages Germany and Australia were chosen as subjects of this research. As a starting point a comparison was done of the basic labelling requirements of both countries in terms of the contents of each label and whether the disclosure of these contents were mandatory, voluntary or were not covered by regulatory directives. A summary of this analysis is shown in table 1. Before addressing each of these content variables in detail an overview of basic regulations required by each country will be provided. It should be noted that although many of these variables are mandatory requirements in both countries, there are differences regarding what is required to be declared.

Table 1 Comparison of Germany and Australia’s labelling requirements

Variable	Country	Mandatory	Voluntary	Not reg'd
1. Name	D	X		
	AU	X		
2. Producer/Origin	D	X		
	AU	X		
3.0. Ingredients	D	X		
	AU	X		
3.0.1. Additives	D	X		
	AU	X		

<u>3.0.2. Aromas</u>	D	X		
	AU	X		
<u>3.1. Quantities and Percentages of Ingredients</u>	D	X		
	AU	X		
<u>4. Nutrition Labelling</u>	D	X		
	AU		X	
<u>4.1. Advertisement of Nutrients</u>	D		X	
	AU		X	
<u>4.1.1. Additions from the ANZFA Code of practise</u>	D			X
	AU	X		
<u>5.0. 'Best before' date</u>	D	X		
	AU	X		
<u>5.1. 'Use by' date</u>	D	X		
	AU	X		
<u>6. Quantity/weight/volume</u>	D	X		
	AU	X		
<u>7. Tips for storage and preparation</u>	D	X		
	AU	X		
<u>8. Lot number</u>	D	X		
	AU	X		
<u>9. Unit price</u>	D	X		
	AU			X
<u>10. Alcohol content</u>	D	X		
	AU	X		
<u>11. Caffeine content</u>	D	X		
	AU	X		
<u>12. The Green Dot in Germany</u>	D		X	
	AU			X

Source: developed for this research

Indeed, there is a considerable amount of detailed requirements to some of these regulations. This paper highlights the most important points for each labelling requirement, but will not cover every detailed aspect of the regulation requirements.

6. BASIC LABEL REGULATIONS

Both the Germany and Australia have basic regulations that state in detail whether a product needs to carry a label and describes the basic requirements for a label (Bund für Lebensmittelrecht und Lebensmittelkunde e.V., 2004, Bundesministerium für Verbraucherschutz, 2004, Lebensmittelrecht Online, 2004, European Union, 2000). We will not describe these regulations in depth. The most prominent difference is that the requirements for labelling are far more comprehensive in Australia than in Germany. Each of the factors required on the label as listed in Table 1 will be discussed briefly.

6.1. Product name

In Germany, the product name has to be distinguishable from other products with which it might get confused. A sales name for marketing, for example a brand or company name, is permitted but it must be accompanied by descriptive information which clearly identifies what the product is in proximity of the sales name. The product name should be accompanied by particulars to the physical condition of the product or specific treatment, for example powdered, dried, deep-frozen and so on. It is not permitted to claim attributes that a product does not possess or to claim special characteristics when all similar foodstuff possesses such characteristics. In Australia, the name of the food as described in Food Standards Code has to be used or if it is not prescribed the name has to reflect the description of food to indicate the true nature of the food (FSANZ, 2002). The requirements for the product name are more simplified in Australia than in Germany.

6.2. Producer/country of origin

The country of origin can influence the perception consumers have about the quality of a product (Czinkota and Ronkainen, 2004). Germany only requires the name of the producing company or distributor be displayed as proof of the origin of the goods (Bundesministerium für Verbraucherschutz, 2004). In contrast, Australia has far more comprehensive regulations in regards to the country of origin. FSANZ requires the name and address of the supplier to be provided, be it the packing company, the manufacturer, vendor or importer. For packaged food and some un-packaged food the label has to state in which country the food was made or processed. In addition, if any ingredients do not originate from the country of origin a statement has to be included emphasizing that the food is made neither from imported ingredients nor from local and imported ingredients. There are special requirements for some products like fish, vegetables, nuts and fruits that do not originate from Australia or New Zealand. If these products are displayed for retail sale other than in a package there must be a display of a label of at least nine millimetres indicating the country of origin or a statement stressing that the product is imported. In addition, there are detailed regulations in regards to fruit ingredients, orange juice, fruit drinks and spirits, which will not be described in detail. For a product to qualify to bear the label 'Product of Australia' it must be entirely made in Australia from Australian ingredients. For a product to bear the description 'Made in Australia' it has to be made in Australia but a significant of its ingredients can be imported (FSANZ, 2002).

6.3. Ingredients

The ingredients of a product are basic information consumers require to evaluate the product. The basic regulations for ingredients are similar for Germany and Australia. Both countries require all ingredients to be listed in descending order by weight. There are however minor differences in regards to which ingredients have to be listed and in which way. One of the main differences is the declaration of compound ingredients. In Australia compound ingredients have to be listed if they constitute five percent or more of the final food product. Previously, this minimum percentage was 25 percent of the food product. In comparison, this value is two percent in Germany, so the shift in the Australian regulations brings the standards more in line with those in Germany.

6.3.1. Additives. Most countries require the listing of all additives as such ingredients might affect consumer's health. Both Australia and Germany require the listing of all additives. However, there remain differences in the stringency of these regulations.

6.3.2. Aromas. Aromas are usually classified as an extra class neither being food nor additives. Germany has quite specific regulations in regards to aromas, whereas the Australian regulations are far less comprehensive.

6.3.3. Quantities and percentages of ingredients. Both Australia and Germany have introduced regulations for the listing of percentages of ingredients. In Germany, these regulations have been in place since 2001. Both countries require ingredients to be listed in percentages that characterise the product.

6.4. Nutrition labelling

Nutritional labelling has gained increased consumer awareness because of the consumers' increased interest in healthy dietary choices. Consumers are no longer only concerned about availability of food but are increasingly interested in the quality of food products including attributes such as taste, nutritional content and safety (Antle, 1999). The link between dietary choices and long-term health influence the consumer decisions towards more nutritious food and therefore has important implications for consumer welfare (Burton and Andrews, 1996). It is especially important for the increasing older population to enhance nutrition awareness and knowledge (Burton and Andrews, 1996). Reference values such a recommended daily amount or percentage of recommended daily consumption appear capable of affecting consumers' nutrition evaluations of food products (Burton and Andrews, 1996). The goal of nutrition labelling regulations is the education of the population to make more informed decisions in the selection of food products. Part of this education is the

inclusion of 'negative' nutrients like cholesterol and saturated fat on the labels (Burton and Andrews, 1996).

Both Australia and Germany have recognised the increased demand for nutritional labelling, which is reflected in detailed regulations that are not described in this paper. The regulatory requirements for nutritional labelling are one of the main differences in the food labelling regulations between these countries though. Whereas the nutritional labelling in Germany is based on voluntary inclusion it is mandatory for most packaged food in Australia.

6.4.1. Advertisement of nutrients.

Nutritional claims can influence consumers' purchase decisions. Marketers have long recognised the power of nutritional claims as a tool to differentiate their products from their competitors' products. One of the most powerful selling points in the food industry is nutritional claims (Mueller, 1991). The nutritional or health claim can become a vital factor in product differentiation for a consumer and an influential marketing variable (Childs, 1998). Consumers who are aware of the effect of healthy dietary choices and who consider nutritional information as important are more likely to pay attention to nutritional claims made and would react negatively if a product does not possess the qualities that the claim has addressed (Davies and Wright, 1994). To protect consumers from false nutritional claims and to ensure fair advertising governments have recognised the need for the regulation of nutritional claims.

In a response to the need for regulated nutritional advertisement, both Australia and Germany have set up regulations to protect consumers and fair competition. There are however differences in what ingredients can be advertised. In Germany, companies can only advertise the nutritional value of ingredients such as energy, proteins, carbohydrates, fat, sugar or salt. The label has to display details of the advertised nutritional ingredient and can additionally display factors such as alcohol content, cholesterol, fats etc. It is not permitted to advertise that food is slimming, supporting weight loss or reduces weight. This is not valid for foodstuff under diet regulation, which is designed as day rations. There are detailed rules for the amount of kilojoules or calorie content of a product to be advertised as low in energy (Bund für Lebensmittelrecht und Lebensmittelkunde e.V., 2004, Bundesministerium für Verbraucherschutz, 2004, Lebensmittelrecht Online, 2004, European Union, 2000)).

In Australia, nutritional claims are not limited to the 'big 4' ingredients. As in Germany, if a nutrition claim has been made in an advertisement, the label must include a nutrition label. Australia has detailed regulations for when and how nutritional claims can be made in relation to various ingredients, such as fatty acids, lactose, gluten, sodium and omega. In addition, Australian regulations include that a claim that food is low joule food must not be made unless the average energy content of the food is no more than 80kJ per 100ml of beverages or liquid foods or 170kJ per 100g of solid or semi-solid foods. Where food has to be prepared as directed on the label, the average energy content must be calculated for the food as it is prepared (FSANZ, 2002).

Moreover, in Australia, The Code of Practice supplements existing regulations but does not override them. The Code of Practice regulates the use of comparison statements. Furthermore, claims in respect to nutrients that are naturally high or low in a food have to be made clearly expressing that the claim is valid for the entire food group and not that particular brand. The reference food has to be either a weighted average or a regular product produced for a long time by the same manufacturer or food whose composition is determined by reference to published food composition tables and of same type as the food it is compared with. The Code of Practice further outlines detailed conditions under which nutritional claims may be made in Australia for various ingredients (FSANZ, 1995).

6.5. Date Labelling

6.5.1. 'Best before' date. Both Germany and Australia require the display of either a 'best before' or 'use by' date. The 'best before' date is the date until which goods are at least consumable. After the 'best before' date the food might still be safe to eat, but it might have lost quality or nutritional

value. Both countries have similar regulations for the display of a 'best before' date but there are still some differences in their regulations. One of the main differences is that products with a shelf life of more than two years are not required to bear a date in Australia whereas all products have to carry a date in Germany regardless of their years of shelf life.

6.5.2. 'Use by' date. In contrast to the 'best before' date, the 'use by' date indicates the date after which the product should not be consumed for health and safety reasons. Both Australia and Germany require food products that easily go bad and would be a health hazard to be labelled with a 'use by' date instead of a 'best before' date and additional storage instructions. The 'use by' display should be accompanied by a date or a reference to where the date is given. Furthermore, food must not be sold after 'use by' date. There are no differences between the regulations of both countries (Bund für Lebensmittelrecht und Lebensmittelkunde e.V., 2004, Bundesministerium für Verbraucherschutz, 2004, Lebensmittelrecht Online, 2004, European Union, 2000); (FSANZ, 2002).

6.6. Quantity/weight/volume

The requirements for the labelling of food products' weight, quantity or volume are far more comprehensive in Germany than in Australia. Germany requires all foodstuffs to carry its weight, quantity or volume. The volume for liquids has to be displayed in litre or millilitre and weights have to be listed in grams or kilograms. In Germany, customers can find a little 'e' in close proximity to the weight or quantity display, which means that the weight or quantity lies within set tolerance limits and guarantees that the foodstuff got weighed on calibrated scales. There are numerous regulations for various foodstuffs in place, which we will not describe in detail.

The regulations in Australia are far more limited to stating that the minimum weights and measures have to be accurate and that, in contrast to Germany, the listing of number of servings per pack is mandatory (FSANZ, 2002).

6.7. Tips for storage and preparation

The regulations for the storage and preparation of food products are very similar in Germany and Australia. These regulations state that all non-durable foodstuffs that require specific storage conditions to remain safe until their 'use by' or 'best before' date have to include storage instructions on their label (Bund für Lebensmittelrecht und Lebensmittelkunde e.V., 2004, Bundesministerium für Verbraucherschutz, 2004, Lebensmittelrecht Online, 2004, European Union, 2000, FSANZ, 2002).

6.8. Lot number

To aid recall, if a product does not satisfy food safety requirements, all foodstuffs have to be labelled with a lot number both in Germany and in Australia. The regulations for the lot number are very similar between the two countries (Bund für Lebensmittelrecht und Lebensmittelkunde e.V., 2004, Bundesministerium für Verbraucherschutz, 2004, Lebensmittelrecht Online, 2004, European Union, 2000);(FSANZ, 2002).

6.9. Unit price

In contrast to Germany, Australia does not have any regulations in regards to the inclusion of the unit price on food products. In Germany, since 2000 the unit price of goods has to be listed additional to the end price for prepacked goods, which means the price has to be displayed for one kilogram or one litre of that product. This allows for better price transparency and makes it easier for consumers to compare prices. The unit price needs to be displayed if goods are sold by weight, volume, length, area or advertised with a price. Germany has very detailed regulations in regards to the end price and unit price of products, which we will not discuss in depth (European Union, 1998).

6.10. Alcohol content

The regulations and requirements for the labelling of products' alcohol content are far more comprehensive in Australia than in Germany. The most prominent difference is the requirement for the inclusion of the number of standard drinks in Australia. The regulations in Germany are limited to the requirement that beverages with more than 1.2% alcohol have to display the percentage of their alcohol content (Bund für Lebensmittelrecht und Lebensmittelkunde e.V., 2004, Bundesministerium für Verbraucherschutz, 2004, Lebensmittelrecht Online, 2004, European Union, 2000).

In Australia however, in addition to percentage alcohol by volume, the regulations also require that all containers of alcoholic beverages have to be labelled with the number of standard drinks they contain. Exceptions are alcoholic beverages that are sold for on-premise consumption in containers such as glasses, jugs or carafes and alcoholic beverages that are sold in large volumes or bulk containers which are used exclusively for trade purposes and are not available to the public.

There are detailed regulations for the format of the display of the alcohol content in place as well as regulations for the alcohol content in food, which we will not study in detail (FSANZ, 2002).

6.11. Caffeine content

There are similar regulations for the display of caffeine content both in Germany and in Australia. In Germany, the requirement for the display of the caffeine content does not apply to coffee or tea based products where the product name contains 'coffee' or 'tea'. The display of the caffeine content has to be followed with caffeine content in milligram per one hundred millilitres in brackets. In addition, beverages containing caffeine in excess of one hundred and fifty milligrams per litre must be labelled 'High caffeine content' (European Union, 2002). Similar regulations apply to Australia. Also in Australia only beverages where caffeine has been added have to display their caffeine content, eg cola type soft drinks or energy drinks (FSANZ, 2002).

6.12. The green dot in Germany

In contrast to other countries like Australia, the EU has very strict policies on packaging waste with Germany being the country with the most stringent requirements for manufacturers, retailers and distributors (Czinkota and Ronkainen, 2004). Germany requires all packaging to be reusable or recyclable and packaging must be kept to a minimum. To help enforce these requirements, a system of licensing based on the use of The Green Dot has been implemented. The EU has adopted this system in most of its member states and has incorporated this system in its directives, which set targets for the member states in the reduction of packaging waste. Companies planning to sell their products in the EU have to be aware of these packaging regulations (Duales System Deutschland AG, 2004).

7. DISCUSSION

Australia and Germany have common basic labelling requirements. Both countries require the display of the name of the product, the country of origin, a list of ingredients and additives, a 'best before' or 'use by' date, the quantity, weight or volume of the product, the lot number, any special storage conditions and instructions for use where appropriate. Although Germany and Australia share the basic labelling requirements for food stuff, there are still some differences in these regulations. The table belows highlights which regulations are more comprehensive in Australia and which in Germany.

Table 2 Comparison of comprehensiveness of regulations

More comprehensive regulations in Australia	More comprehensive regulations in Germany
-font, size	-product name
-country of origin	-aromas
-food for catering	

Source: developed for this research

One difference in the countries' regulations is the requirements for compound ingredients to be listed as ingredients. Compound ingredients do not have to be listed if they constitute less than five percent in Australia but two percent in Germany. There also remain differences in the toughness of the regulations for additives. One of the main differences in the regulations between the two countries is the requirement for mandatory nutritional labelling in Australia versus voluntary nutritional labelling in Germany. There are also differences in the permission of nutritional claims. In Germany nutritional claims are limited to the nutritional values of energy, proteins, carbohydrates, fat, sugar or salt, whereas these regulations do not apply to Australia.

An additional difference is that in Australia there is no 'best before date' required for products with a shelf life of more than two years, whereas in Germany all products have to carry a 'use by' or 'best before' date no matter how long their shelf life is. Also in Australia it is mandatory to display the number of servings per pack, which is not the case for Germany, but the labelling of weights and quantities on a label are far more regulated in Germany. Furthermore, the display of a unit price is required in Germany. In Australia, the regulations for a product's alcohol content are more comprehensive than the German regulations and also require the display of number of standard drinks on packages, which does not apply to Germany. The system of the Green Dot in Germany has been adopted by the EU, but to date is not a known system in Australia.

But why do these differences in labelling exist? There are a number of reasons. One reason is the postponement in the globalisation of food labelling regulations. The lengthy process of establishment and implementation of common food labelling regulations within the EU indicates the time-consuming process of establishing common regulations. In addition, there are different preferences in Australia and Germany for quality attributes of products (OECD, 1999). Furthermore, the differences in regulations are dependent on factors such as the degree of consumer concerns (Antle, 1999), the country's involvement in international trade (Antle, 1999; Hooker, 1999), the government's emphasis on food safety issues (Childs, 1998) and its urgency to address food-borne risks eg BSE (Henson and Caswell, 1999).

Australia and Germany belong to blocks of countries that have achieved similar stages of food safety regulation harmonisation; Australia belonging to the Food Standards Australia New Zealand and Germany belonging to the EU. This research suggests that Germany as a member of the EU has moved much closer to the same stage of harmonisation Australia has as a member of FSANZ in the Methods of Rapprochement model (Hooker, 1999). Although FSANZ has previously reached a higher degree of standardisation of food safety regulation than the EU (Hooker, 1999), an increased harmonisation seems to emerge also within the EU. This can be concluded from current consideration of further development of common regulations and new directives in discussion in the EU, such as the mandatory display of nutritional content in the EU as is already required in Australia. We have also found that the food labelling regulations within the EU have reached such a stage where the regulations put forward by the EU apply to all member states and are complimented only by a few national regulations (European Union, 2004b).

In conclusion, although there are still some differences in the regulations between Australia and Germany, there are a dominant number of similarities. These existing similarities and current discussions in the EU towards further introduction of common rules, which already are in use in Australia, lead to the suggestions that the food labelling regulation might become more and more similar between these countries in future years. The adaptation of the EU directives by most member countries also leads to the conclusion that food safety regulations might become increasingly standardised.

Future research

The OECD (OECD, 1999) highlights that food safety regulations can facilitate trade but may also reduce international competition, distort trade and prevent firms from entering the market (OECD, 1999). The impact of stricter food safety regulations and quality measures on international trade

should be examined with the newest regulations in place as well as resulting conflicts (OECD, 1999). There has been comprehensive literature covering the effects on trade, but most of this literature has been written before new regulations have been set in place. Future research could examine the influence of increasing harmonisation on trade between countries within trade blocks and on trade with countries outside their trade block.

Germany is the country with the strictest requirements for the reusability or recycling of packaging. The EU has very strict policies on the amount of package waste (Czinkota and Ronkainen, 2004). An area of future research could be an analysis of how these packaging requirements affect exporters and what costs they create.

References:

- Antle, J. M. (1999), "Benefits and costs of food safety regulation", *Food Policy*, vol. 24, no. 6, pp. 605-623.
- Armstrong, G. and Kotler, P. (2000) *Marketing: An Introduction*, 5th edition, Prentice Hall, Upper Saddle River, New Jersey
- Bund für Lebensmittelrecht und Lebensmittelkunde e.V. (22.04.2004 -last update), "Schwerpunktthema Kennzeichnung", Available: <http://www.bll.de/> (Accessed: 22.04.2004)
- Bundesministerium für Verbraucherschutz, E. u. L. (22.02.2004 -last update), "Lebensmittelkennzeichnung", Available: <http://www3.verbraucherministerium.de/index-BAA32858CF8C4EA19581BD4924A80913.html> (Accessed: 22.02.2004)
- Burton, S. and Andrews, C. J. (1996), "Age, product nutrition, and label format effects on consumer perceptions and product evaluations", *The Journal of Consumer Affairs*, vol. 30, no. 1, pp. 68-90.
- Childs, N. M. (1998), "Public policy approaches to establishing health claims for food labels: an international comparison", *British Food Journal*, vol. 100, no. 4, pp. 191-200.
- Czinkota, M. R. and Ronkainen, I. A. (2004) *International Marketing*, 7th edition, Thomson Learning, Ohio, United States
- Davies, M. A. P. and Wright, L. T. (1994), "The importance of labelling examined in food marketing", *European Journal of Marketing*, vol. 28, no. 2, pp. 57-68.
- Duales System Deutschland AG (20.04.2004 -last update), "Der Grüne Punkt", Available: <http://www.gruener-punkt.de> (Accessed: 20.04.2004)
- European Union (24.02.2004 -last update), "Directive 98/6/EC of the European Parliament and of the council of 16 February 1998 on consumer protection in the indication of the prices of products offered to consumers", Official Journal of the European Communities, EU, Available: http://europa.eu.int/comm/food/food/labellingnutrition/foodlabelling/price_en.htm (Accessed: 24.02.2004)
- European Union (24.02.2004 -last update), "Directive 2000/13/EC of the European Parliament and of the council of 20 March 2000 on the approximation of the laws of the Member States relating to the labelling, presentation and advertising of foodstuff", Official Journal of the European Communities, EU, Available: http://europa.eu.int/comm/food/food/labellingnutrition/foodlabelling/comm_legisl_en.htm (Accessed: 24.02.2004)
- European Union (24.02.2004 -last update), "Commission Directive 2002/67/EC of 18 July 2002 on the labelling of foodstuffs containing quinine, and of foodstuffs containing caffeine", Official Journal of the European Communities, EU, Available: http://europa.eu.int/comm/food/food/labellingnutrition/foodlabelling/quinine_caffeine_en.htm (Accessed: 24.02.2004)
- European Union (24.02.2004 -last update), "Food and Feed Safety-Food Labelling Introduction", EU, Available: http://europa.eu.int/comm/food/food/labellingnutrition/foodlabelling/index_en.htm (Accessed: 24.02.2004)
- European Union (24.02.2004 -last update), "Food and Feed Safety", EU, Available: http://europa.eu.int/comm/food/food/foodlaw/principles/index_en.htm (Accessed: 24.02.2004)
- European Union (24.02.2004 -last update), "Food and Feed Safety-General Food Law Principles", EU, Available: http://europa.eu.int/comm/food/food/foodlaw/principles/index_en.htm (Accessed: 24.02.2004)
- Eurostat Europa (26.04.2004 -last update), "Free Data", Available: <http://europa.eu.int/comm/eurostat/newcronos/queen/display.do?screen=welcome&open=/&product=THEME6&depth=2&language=en> (Accessed: 26.04.2004)

- FSANZ (27.04.2004 -last update), "Code of Practise", Nutrient Claims in food labels and in advertisements, FSANZ, Available: <http://www.foodstandards.gov.au/mediareleasespublications/publications/> (Accessed: 27.04.2004)
- FSANZ (22.04.2004 -last update), "Food Standards Code", Gazette, Available: <http://www.foodstandards.gov.au/mediareleasespublications/publications/> (Accessed: 22.04.2004)
- Henson, S. and Caswell, J. (1999), "Food safety regulation: an overview of contemporary issues", *Food Policy*, vol. 24, no. 6, pp. 589-603.
- Hooker, N. H. (1999), "Food safety regulation and trade in food products", *Food Policy*, vol. 24, no. 6, pp. 653-668.
- Lebensmittelrecht Online (22.04.2004 -last update), "Das komplette Lebensmittelrecht", Behr's Verlag, Available: <http://www.lebensmittelrecht.com> (Accessed: 22.04.2004)
- Marks, L. (1984), "What's in a label?" *Food Policy*, vol. 9, no. 3, August, pp. 252-258.
- Mueller, W. (1991), "Who reads the label?" *American Demographics*, vol. no. January, pp.
- Nancarrow, C., Wright, L. T. and Brace, I. (1998), "Gaining competitive advantage from packaging and labelling in marketing communications", *British Food Journal*, vol. 100, no. 2, pp. 110.
- OECD (1999), "Food Safety and Quality: Trade Considerations", vol. 1999, no. 11, pp. 1-82.
- Ravenswaay, E. O. v. and Hoehn, J. P. (1996), "The theoretical benefits of food safety policies: A total economic value framework", *American Journal of Agricultural Economics*, vol. 78, no. 5, pp. 1291-1297.
- Rosecky, R. B., Smith, L. W. and Ying, Z. (2003), "An empirical comparison of consumer package labels of Chinese and world brand products sold in China", *Journal of Global Marketing*, vol. 16, no. 4, pp. 1-33.
- Times-Chambers (1995) *Combined Dictionary Thesaurus*, 1, Federal Publications, Larousse