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Portuguese Retailers' Motivations to Adopt Front of Pack Nutrition Labels: A Qualitative Analysis

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Abstract

Nutrition is an important food marketing differentiation criterion. There is growing evidence of the relation between diets and health conditions. Thus there is a potential conflict between industry and public health authorities over the use of nutrition labels. Understanding industry motivations for simplified nutrition labels use is paramount to scrutinize market dynamics, improve label policy design and its evaluation. The aim of this research is to ascertain how retailers perceive consumer's attitudes to nutrition labels and what motivates their use. We conducted in-depth semi-structure interviews with senior managers in leading Portuguese retail chains. Our results suggest that retailers' adopt FOP to aid their customers' food choices, as a response to competitors' moves and preempt labeling regulations. However, respondents were concerned on whether nutrition labels added value to their business, has a negative impact on sales in certain food categories and may hinder relations with suppliers.

Keywords: Nutrition labels, retailers, semi-structured interviews, content analysis

JEL Codes: Q18, M31, M38, M14

1. Introduction

Marketing nutrition attributes' of food started in the late Seventies. The food industry realized consumers were getting increasingly concerned with their aesthetic appearance (Thompson and Hirshman 1995) and how food might affect their health. Nutrition is a credence attribute of food and therefore consumers are not able to verify these features *ex-ante* or *ex-post* purchases. Thus firms have to resort to labels to communicate nutrition profiles of their products, but will only do so if: 1) the consumers have some interest in these features and information on them and 2) if the benefits of marketing and advertising nutrition outweighs its costs (Golan et al 2000). Clearly, consumers were interested in nutrition aspects of food and it was profitable to market such attributes, as throughout the 80s and 90s there was a proliferation of products using nutrition related labels and claims. In fact, the market developed so quickly that some argued that consumers were getting confused and misled by some of the marketing messages. Also there was concern over the clarity and truthfulness of nutrition label information (Silverglade 1996). Recently, the rise of obesity and food related diseases prompted a debate over alternative policy options to help consumers adopt healthier diets (Cowburn and Stockley 2005).

The link between diets and health issues was first established in the White House Conference on Food, Nutrition and Health in 1969. This conference also pioneered the suggestion that labels could be a remedy for social causes. The proliferation of nutrition and health claims and increasing evidence of the negative impact of food diets on health, motivated the FDA to propose the Nutrition Labeling and Education Act (NLEA) in 1991 that came into force in 1994. Amongst other directives, the NLEA mandated the use of

standardize nutrition facts in all packaged foods. Thus this regulation offered clarity and created a set of new rules for firms competing in the food industry.

Clearly there are conflicting motives and views on the use of nutrition labels as they have both private and a public good dimensions (Golan et al 2000). These different views lead to debates between the public and private sectors, but extend to arguments across the food industry and even within firms. While there is a wide body of research on consumers' attitudes and motives to use nutrition labels, comparable empirical investigation of industry motives and views is to the best of our knowledge still scarce.

The debate over the best way to convey nutrition information reinitiated recently with introduction of simplified forms of nutrition messages. In the USA, supermarkets chains introduced nutrition information in shelves, enabling comparisons across products of the same food category (Berning et al 2007). In the UK and other European Countries retailers voluntarily adopted Front-of-Pack (FOP) nutrition labels (Feunekes et al 2008; Van Camp et al 2010).

In the marketing literature, nutrition information in the front of packages is considered advertising, whereas information on the back serves more of an information purpose (Ippolito and Mathios 1993). In any case the initiative on what information goes on labels, how it is presented and to what does it refers to, has been largely decided by the promoters of these nutrition labeling innovations. Naturally there are vested interests involved and incentives to manipulate information on labels which may misguide consumers. An example of this is the debate on whether there should be a standardized portion size upon in which labels are based (Caswell 1992). Portion sizes can disguise the real nutrition value of packaged foods and some nutrition claim, such as 'low fat' may

actually lead consumers to indulge eat bigger portions as was found by Wansink and Chandon (2006). Also, as reported by Unnevehr and Jagmanaite (2008), nutrition labeling decisions may lead to product reformulation, which in turn may have wide implications upstream in food chains. Moreover variations in suppliers' pools, seasonality and year to year changes in product composition, may increase menu costs (if firms decide to change labels each time there are different suppliers) or the unreliability of label information (when labels are maintained). Therefore, taking into account the industry's perspective and appreciating the fine-drawn of industry positions, may improve our ability to decide whether and how to design nutrition labels regulation. Furthermore, it may as well improve our ability to evaluate a regulation's efficiency, effectiveness and welfare impact.

The purpose of this paper is then to conduct an in depth analysis of retail managers views motivations to use nutrition labels. Specifically we aim to: 1) understand how retailers take into account consumers' interests in developing and using simplified nutrition labels and 2) what motivates retailers to adopt certain forms of nutrition labels. To this purpose, we conducted in depth semi-structured interviews with senior managers in the sales and marketing divisions managers of the six leading Portuguese retailers.

There are a number of reasons to focuses our research on the Portuguese market. First, it is fairly homogeneous in terms of food consumption patterns. Second, the Portuguese food retail market is very concentrated and four of the leading food retailers are international supermarket and hard discount chains. Third, as a member of the EU and of the Euro area, Portugal aligns with European policies in this area. Fourth, as was the case in most other EU countries, in the last four years the use of FOP increased

dramatically. Fifth, firms have adopted different FOP labels formats and these vary across food categories, manufacturers and retailers. Six, Portugal is a medium sized developed country where there hasn't been made much research in this area. Finally, while in Portugal most people follow a variant of the Mediterranean diet, there are rising concerns over obesity and other diet related health conditions.

Contrasting with USA policies, mandatory nutrition labeling was not yet adopted in the European Union (EU). In fact, Council Directive 496/1990, the EU legislated on the nutrition labeling before the NLEA went into force, article 2 clearly states that: "nutrition labeling shall be optional" unless a firm explicitly claims nutrition attributes. However, European food retailers have been in the forefront of recent nutrition labeling innovations. Specifically, these were first introduced in the UK by Tesco, plc in 2005 and quickly adopted by other major British retailers (Tesco 2010; Van Camp et al 2011). Other European food retailers' quickly adopted this practice and FOP nutrition labels are now being used across the EU (Grunnert and Willis 2007).

This study is also timely, as in the Autumn 2010 the European Parliament voted the EU Parliament and Council regulation proposal on food labeling that would make nutrition labeling mandatory for prepackaged foodstuffs (EU Parliament and Council 2008). However, the industry is lobbying quite hard to prevent such legislation to come into force (Pendrous 2010). Moreover, there is a divide across the industry, with some genuinely wanting to facilitate consumer's choices and others, in words of Alan Maryon-Davis "(...) want to muddy the waters" (Winterman 2011). Therefore it may be useful to get a deeper insight on why firms introduce simplified nutrition labels in the front of packages.

2. Literature review

There are clearly two polar perspectives in the use of nutrition labels. One view, coinciding with the proponents of the NLEA, advocates the use of these labels to promote a social policy goal, i.e. foster healthy diets (Golan et al 2000). Alternatively, the food industry uses nutrition labels to differentiate their products and cater for specific segments of the market. In the USA, the first view seems to have prevailed, whereas in the EU it is the second perspective that seems to be dominating. Naturally reality is more complex and these different perspectives often intertwine or collide. Nevertheless we need to take them into consideration not only when we evaluate the impact of regulation but also when we evaluate industry dynamics and performance.

The economic literature puts managerial decisions on the choice of labels in the context of advertising strategies. Information on a label is an attribute of a product or draws attention to a feature that is valuable to consumers (Golan et al 2000). Thus, firms profit maximizing will disclose information through labels if the rewards are larger than the costs. Schmalensee (1972) argues that advertising is justified when firms can sell more output for the same price or maintain sales when prices increase.

Within the food industry there will certainly be alternative views on the use or non use, as well as on the type of nutrition labels to be adopted. Therefore, understanding the range of attitudes and perception of these labels may facilitate the regulatory process as well as the analysis of its impact. Take the case of FOP nutrition labels, to the extent that they facilitate the identification of healthier products, a positive impact for both the firms that produce such products and on public health is expected. However, in some product

categories these labels can reveal that a product is not so good, which may have an adverse impact on sales. Thus, in the absence of a standardize label format, firms can adopt the label that best suits their purposes. But then, if a regulation is put in place, it will impact firms differently (Moorman, Rex and Mela 2005).

The choice of whether to label or not an attribute and how to do so is both challenging and risky. Challenging because there are several product attributes from which to choose from and consumers have heterogeneous preferences for such attributes (Golan et al 2000). Risky because a poorly designed label may devalue the product and alienate consumers. Also, consumer heterogeneity affects the way they will seek and value information. Thus, while firms have strong incentives to use labels, they must use caution when formulating and disclosing them. There is an obvious incentive to label positive attributes of products' however concealing negative ones is problematic for three main reasons. First, consumer skepticism must be taken into account, as if a firm fails to provide information on a given attribute the consumer may just assume that it is absent or of low quality (Grossman 1981). Second, because firms can offer warranties on attributes that are not included in the label. Nevertheless, while warranties may work for certain food attributes, in general they have limited use. Third, competition empowers consumers to infer proprieties of attributes that are not labeled by a given producer (Grossman 1981; Ippolito and Mathios 1990a). However, if a consumer can choose between two otherwise identical products, one labeling two attributes and another labeling only one of those attributes, then she may infer that the second product does not have the non-labeled attribute. Thus competition is a deterrent to conceal negative information sought by

consumers (Golan et al 2000). Ippolito and Mathios (1990b) coined this disclosure of product information through competition, the unfolding theory.

Still, there are plenty of products in food markets that conceal or mislead their true characteristics. There are number of reasons for this. It is well known that bounded rationality limits consumers' ability to process all information available and consequently admits they can be fooled (Conlisk 1996). Warranties may not apply to a number of markets. Competition will not necessarily lead to a full disclosure of all product attributes. Moreover, deficiencies in detecting absent or negative attributes of a product create a strong incentive to conceal them (Kerton and Bodell 1995). These incentives are well known and explained by the prevalence of asymmetric information in most food markets. In fact, they were already identified by Akerlof (1971) in his classic paper, as he argues that "there is an incentive for sellers to market poor quality merchandise" (p. 488). Another reason to be concerned about the sub-optimal levels of information in labels is the public good nature of certain food attributes, in which case the benefits of labeling are not fully captured by the firm providing them. Take the case of labeling fiber content in all grain cereal and associating to reduction of colon cancer. This information will increase the value for all producers in this market (Golan et al 2000). But because the benefits accrue to several firms, and the cost is born by the firm that introduced the label, there may be an under provision of information in labels.

Now firms may also have an incentive to create deceptive labels. That is, labels that are ambiguous about the attributes a product has. Darby and Karni (1973), show that under positive monitoring and information costs, the optimal amount of fraud is positive. This may be the case on credence goods and can be quite problematic when, as is the case

of nutrition or health attributes of food, information in labels also has a public good dimension (Golan et al 2000). This public good dimension motivated Caswell's et al (2003) investigation in the changes of voluntary nutrition and health claims adoption patterns across 19 food categories, between 1992 and 1999, that is *ex-ante* and *ex-post* NLEA. They found that after the implementation of NLEA in 1994, there was an overall decrease in the use of nutrition claims across food categories. Thus, Caswell et al (2003) suggests that the NLEA was effective in reducing the use of misleading or false nutrition claims by the industry. Still, Kerton and Bodell (1995) show that, under certain conditions, firms have a strong incentive to conceal negative attributes of their products. Take the case of a firm investing considerable resources to create a new product, but realizing that it also contains some negative attributes. In many circumstance the firm will release the product hiding the negative attribute to recap at least part of the development costs. On the same vain, Scherer (1980) argues that markets and regulations may not be sufficient to eliminate deceptive labels or partial disclosure of product attributes. This seems to be the case of "whole grain" labels, where efforts to privately regulate such standard may not necessarily provide better information to consumers (Mancino et al 2008). Also, along with the existence of clear regulations on what information should be presented in a label, the lower are monitoring costs and the more efficient are markets the lower the risks of deceptive or fraudulent labels (Golan et al 1990).

There is an extensive empirical literature in applied economics and marketing focusing on the consumer perception and use of these nutrition labels, good reviews of this work from an applied economics perspective can be found in Nayga (2008), while

Cowburn and Stockley (2005) and Grunnert and Willis (2007) respectively summarize research in the public health and marketing literatures. However, empirical research investigating why firms adopt nutrition labels is still sparse. The main reason might be because in the US nutrition labeling has been mandatory and information standardized (Wilkie 1985). Still, this is not the case in most other countries and recently the emergence of voluntary simplified nutrition messages, justifies a closer look on industry motivations.

The public policy advantage of mandatory nutrition labels use is quite obvious. In line with the theoretical literature, Golan and Unnevehr (2008) suggest that nutrition and labeling may be boosting awareness for the consequences of poor diets and creating new market opportunities. Firms may be using labels to capture valuable segments and niche markets, while increasing their reputation suggesting their social responsibility towards consumers (Golan and Unnevehr 2008). Thus, nutrition labeling is a tool facilitating product differentiation, which may explain why in the UK, as in other EU countries, firms use different formats of front of pack nutrition labels (Feunekes et al 2008; Van Camp et al 2010). Moreover, as observed by Moorman, Rex and Mela (2005), when analyzing the period leading to the NLEA adoption, larger firms may be conditioning future regulation on simplified nutrition messages as well as compromising their rivals' competitiveness by promoting formats that may be more suitable to them.

While the literature suggests a number of reasons why firms choose to adopt labels there is not, to the best of our knowledge, any study assessing directly why these decisions are made at the firm level. Yet such information may be instrumental to guide future policy.

3. Nutrition label usage in Portugal

In 2009, Portugal had a population of 10,6 million. These are mainly concentrated in the Coastal strip between Lisbon and the Northern border with Spain. The main Metropolitan areas, Lisbon and Porto, account for about fifty percent of the total population (AICEP, 2011). As in most developed Western European Economies, the Portuguese economy is dominated by the service sector. Retail is a particularly important economic activity and hipper and supermarkets accounts for 35% of the total turnover in retail activities (AICEP 2011). According to the Kantar (2010) modern retail has an eighty percent market share on the Fast Moving Consumer Goods (FMCG) expenditures. The retail sector has been improving knowledge of and proximity to consumers, adding valuable services, improving quality and logistics. Sales of health and welfare products are increasing and hard discount, medium size supermarkets and specialized supermarkets and hipermarkets are all expanding (AICEP 2011).

In terms of food sales, supermarkets and hypermarkets accounted for about 72% of the consumer goods turnover. Interestingly, the recession is driving prices down but sales volume as increased (Almeida 2011). Moreover private labels market share is growing and represented a third of consumer good sales in 2010 (Nielsen 2011). Also Portuguese consumers increasingly trust in private labels and 76% said they bought more of these products with the recession (Nielsen 2011). These trends reveal that in terms of food retail Portugal aligns with other EU countries in retail penetration and consumer attitudes to private labels.

Turning to nutrition labeling use and regulations, Portugal closely aligns with other European countries. As a member for the EU since 1986 and a founding member of the EURO area, the Portuguese market is increasingly integrated with the European. Contrary to happens for instance in the UK, the Portuguese authorities have been rather passive in terms of nutrition labeling initiatives and merely transcribe to the Portuguese law European led regulations and directives. In this regard, much as has been observed in other EU countries, in Portugal food retailers are leading nutrition labels use and innovation. Some of the retail operators in the Portuguese market originate in other EU countries (for example the Pão de Açúcar brand is own by the French group Auchan). Thus, nutrition labeling initiatives are often decided internationally and merely adapted to the Portuguese market. Annex 1 illustrates some of the FOP nutrition labels used by retailers in the Portuguese market. A recent study reported that the use of nutrition labels, regardless of location in packaged food, is widespread across food categories and retail formats and penetration of nutrition labels is well above the average for EU (Wills et al. 2009)

4. Methods

To address our research questions we conducted in depth semi-structured interviews with managers of the six larger Portuguese supermarket chain. These account for almost 80% of total Portuguese food sales (Kantar 2010). This exploratory study aims to analyze the extent to which the main motivations for adoption of food labels identified in the literature are valid. Along with providing a more detailed appreciation of retailers views'

nutrition labels adoption, we hope to generate novel insights. Also, this qualitative step will serve as a platform to a quantitative study that will follow.

Following Miller and Crabtree (1992) we designed a questionnaire containing open questions addressing two main themes: 1) investigate how retailers consider consumers' awareness when developing and using simplified nutrition labels and 2) retailers' motives, timing and benefits of adopting simplified nutrition messages. Table 1 below shows the main themes and respective questions. These topics emerged from our research questions, the literature or from informal phone discussions with senior managers from Portuguese supermarket chains. Specifically we personally approached and interviewed marketing, quality, private labels management, nutritionists and sales managers in each supermarket chain. The criteria for selection of respondents was that he or she had the power to make or influence nutrition labels use decisions in products sold in the supermarket chains' stores. The interviews were conducted between February and May 2011. Each interview was held at each firm's main offices and designed to take up to two hours. With the exception of one of the interviews, all responses were taped. Interviews were then transcript and validated for accuracy with the respondents. Upon validation the interviews were prepared for content analysis.

Table 1. Themes and questions use in the in-depth interviews

Themes	Questions
1. How retailers consider consumers' awareness when developing and using simplified nutrition labels.	1. What is the importance retailer attaches to consumer's nutritional value perception concerning ready to eat food products?
	2. What communicational/educational campaigns does the retailer develop, if any, in order to promote healthier food consumption amongst costumers?
2. Retailers' motives, timing and benefits of adopting simplified nutrition messages	3. What are the advantages and disadvantages of using front of pack nutritional labeling in ready to eat food products?
	4. What format of FOP was adopted in which category and when?
	5. Is the Front of Pack label adopted the most appropriate/suitable/adequate one?
	6. Does the adoption of this label influences food product categories on offer? How?
	7. Concerning the decision process of adoption of the Front of Pack nutritional label, how did it run and what resources were involved?

Content analysis is a qualitative research methodology to objectively and systematically collect and identify common themes and categories on messages, reports,

interviews or any other textual, video or audio material (Hosti 1969). There are different ways of conducting content analysis. Here we mainly used it to confirm the main motives identified in the literature on retailers' motivations to adopt front-of-pack labels and to quantify the main themes and categories identified in the interviews (Tharenou et al 2007). However, we also identified alternative motivations that may either strengthen the interpretation or generate issues to include in the quantitative part of our study. One of weaknesses of content analysis is that it is often hard to assure the validity and reliability of the analysis. To minimize this issue it is recommended analysis should be made by two or more researchers independently and then compared to assure conformity in themes and categories, as well as coding (King 1994; Tharenou et al 2007).

In this study we decided to use a computer based approach NVivo[®], a content analysis software assistant tool. This software facilitates the search and quantification of keywords, themes and categories in a sample of documents (Tharenou et al 2007). Nvivo[®] also enables the identification of associations between different concepts or categories. Furthermore, it eases the task of organize, store and retrieve the documents on which the analysis is based.

Soon after each interview was conduct, we completed its transcription and complemented with any notes that were taken in the process. Content analysis started with *a priori* definition of categories according to the seven questions above. Sources were first content analyzed independently by each researcher using the pre-defined categories but also adding new ones as they emerged. Thus additional codes were created as necessary. The next step was the comparison and contrasting for validity and reliability by the two coders together. As is common practice with this methodology only the agreed

themes and categories emerging from the content analysis are reported in the results below.

5. Results and discussion

As expected the results of our in depth interviews largely confirm the theory and previous research on why the industry adopts nutritional labels. However, they also clearly reveal there are differences in attitudes and ways in which each firm perceives and uses this instrument. Moreover the answers suggest that there are supply chain wide impacts of adopting nutritional labels, especially when these lead to product reformulation. Also, it was interesting to note that there were not only conflicting views on nutrition labels across companies, but also within each company contacted. Below we present the results to the questions relating to the two main topics identified in table 1.

5.1. How do retailers consider consumers' awareness when developing and using simplified nutrition labels?

Following the structure of the questionnaire described in the methods' section above, we first report the results to the first question, asking retailers why they provide nutrition information to consumers. Half of the firms inquired said that providing nutrition information increases their products' values. This is line with the view that information, regardless of its signal, is an attribute of a product in its own right (Golan et al 2000). A second reason, mentioned by a third of the respondents, was that firms felt that it was their (social) responsibility to contribute to their customer's balanced and healthier diets. This motivate has been advanced in the marketing (Ganesan et al 2009) and the food policy literature (see Golan and Unnevehr 2008). However it deserves further analysis,

specifically investigating to what extent social responsibility coincides with social welfare. Finally, a third motivate related to firms' reputation and transparency.

Further probing on consumer's valuation of nutrition information, we find that retailers are fully aware that not all consumers are equally motivated or able to check the nutrition labels. Confirming recent research on consumers' use of food labels (see for example Nayga 2008) low levels of literacy, nutrition label format or layout and inability to interpret information on labels are the main reasons why a number of consumers will not read labels (FSA 2009). This leads to the issue of consumer education and who should do it.

Thus, in our interviews we asked whether retailers had any formal communication or education programs to help consumers read labels and do more informed food choices. We obtain mixed responses. Most retailers had some form of education programs targeted at consumers. These programs involved training staff to provide information on how to use nutrition labels; producing leaflets or flyers; providing *online* nutrition and health information; organizing store based campaigns where customers could check their cholesterol, blood pressure and BMI measurements; having experts in stores to provide nutrition counseling and supporting school nutrition programs. Two of the retailers contacted revealed they are boosting these programs and targeting them at specific niches, namely elder consumers and those with food allergies or particular health conditions.

5.2. Retailers' motives, timing and benefits of adopting simplified nutrition messages

Given that consumers have mixed views on the value of nutrition labels and that their use is not yet mandatory, we wanted to get more information on what motivates front of

pack (FOP) nutrition labels adoption. Specifically we aimed to gather information on: 1) why the decision was made; 2) what format was adopted; 3) when did it occurred and 4) whether it was implemented across food categories or only for a limited number. Table 2 below summarizes the answers.

Table 2: Motivations to FOP nutrition labels adoption

Question	Answer
Why?	<ol style="list-style-type: none"> 1. There was a strategic headquarters decision. 2. Competitive pressure. 3. Preempt EU regulation. 4. Corporate social responsibility.
What format?	<ol style="list-style-type: none"> 1. Using some variation of the GDA or signpost label, reporting fat, sugars, salt and energy. 2. Varied formats according to specific food categories.
When?	Adoption was fairly recent. Only 2 retailers had labels in 2008. Most started using labels in the past two years.
Which food categories?	Most retailers aim to have FOP labels across all food categories. Namely in all ready to eat ones. Exceptions are spices, mineral water, wine and raw products.

Only two of the six larger retailers operating in the Portuguese market have their headquarters in the country. Therefore it is not surprising that some of the decisions and pattern of FOP adoption was a top-down decision and often made outside the country. This reflects the increasing connectivity of food markets and how difficult it is for local

authorities to affect labeling decisions. Confirming Grossman's (1981) conjecture and Ippolito and Mathios' (1990a) empirical analysis, competition is another main driver of FOP use. Therefore, as long as one major retailer or manufacturer adopts a nutrition label, all the others will follow suit or, as Moorman, Rex and Mela (2005) found, will leave the market. The other two reasons to introduce FOP labels are in line with the literature (Sagerson 1999; Ganesan et al 2009).

Regarding the format of FOP adopted, most firms' use labels with information on *salt, fat, saturated fat, sugar* and *energy*. These are based on the Guideline Daily Allowance (GDA) or on the signpost formats, which are color based. However, one of the firms contacted customized nutrition information for each food categories. This firm's nutrition labels always include information on energy, but then would only display information on two or three of the following nutrition parameters: *salt, sugars, fat, saturated fat* and *fiber*. As well as differences on the nutrition information included on labels, there were different views on the definition of portion sizes. Perhaps surprisingly, there were not only arguments across companies but also between the quality and marketing departments become apparent in the interviews with three of the firms contacted. The marketing department typically favors the definition of smaller portion sizes, particularly when the firm uses the GDA based FOP, as it masks each nutritional parameter and makes the product look "healthier".

Retailers operating in Portugal started using FOP back in 2007, though some retailers were already using nutrition labels (presumably in the back of packages) since 2006. Interestingly rivalry was high in this regard, as two different firms claimed to be pioneers of simplified nutrition information use, initially in the back of pack, so clearly they saw

first mover advantages. Also, some retailers reported they decided to postpone the decision of adopting these labels fearing consumers' reactions. This year the last of the leading retailers operating in the market will adopt FOP labels.

Simplified nutrition labels are being used across the food categories range. Specifically all ready to eat meals, breakfast cereals and other multi-ingredient food categories have some form of label or will have when new packages are issued. However, fresh produce, meats and dairy, bottled waters and other single ingredient foods do not carry a label. Possible reasons are that it is not practical or retailers' seem to think the information is too obvious for consumers making a label redundant.

Another related question addressed the advantages and disadvantages of FOP use in ready to eat meals. For two thirds of the respondents the main advantage of simplified nutrition labels was that they catered for consumers concerned with nutrition and health. Then, about half of the respondents mentioned that such labels facilitated the identification of healthier product lines developed by retailers. Also half of the respondents said these labels are easier to read and provide more immediate information to consumers on the nutrition value of a product. Other advantages mentioned by only one of the respondents was that the FOP labels enable a clear identification of attributes that could not otherwise be spotted and that they may have *ex-post* benefits, enabling an accumulation of product understanding that may guide future purchases. There were four main drawbacks on the adoption of nutrition labels:

1. Half of the retailer's managers interviewed mentioned that it was not clear whether there was any benefit to the firms on having these labels.

2. Simplified nutrition messages might conflict with other information in the product's package, leading to visual pollution. This was suggested by sixty percent of the respondents and is consistent with Verbeke's (2005) argument of consumer's information overload.
3. One third of respondents argued that having to provide nutrition information in the front of packages takes space in packages that could be used for more profitable information.
4. Finally, by facilitating the identification of undesirable product attributes, front of pack labels may impact sales of certain products, has reported by one of the interviewees.

Both these pros and cons largely align with theory and previous research. A related issue reported by retailers was the difficulty using these labels in their private label product lines. Interviewees often reported there were variations on the composition of products across suppliers of a given product line. An interesting point was the recognition that these labels are mass marketing forms of communication. This is in line with Wansink (2003: 306) who calls for a more customized nutrition labeling, arguing that 'effective nutrition labels should take both these less involved and more involved shoppers into account'. Consumers with specific nutrition needs may still be clueless about a product after reading the label. Another issue was the reliability of nutrition labels, as respondents suggest that for some products the labels might be inaccurate due to seasonality and different product formulations. This seems to imply that there are large menu costs associated to nutrition labeling and the dynamic of the food system might just lead to misleading information on labels. To the best of our knowledge this is a point that

was not fully explored in previous work in this area and might have important implications for policy evaluation.

6. Conclusions and future research

Over the past five years European retailers have introduced a number of nutrition label innovations. Simplified nutrition messages based in different formats emerged on the front of packaged food. Recent studies show that adoption is not homogeneous across firms or product categories (Van Camp et al 2010 and 2011). Moreover there is mixed evidence on the usage of these labels by consumers (Grunnert and Wills 2007). However, little is known on retailers' perceptions of consumers' attitudes and usage of these labels, as well as on their motivations to use FOP nutrition labels. This exploratory and preliminary study aims to start addressing such gap in our knowledge.

We conducted in depth interviews with senior marketing, quality, private labels management, nutritionists and sales managers of the six leading Portuguese food retailers and then analyzed the content of the responses. Our results offer a reasonable picture of what is currently the position of the main Portuguese food retailers on the use of simplified nutritional labeling messages.

First we identified the main motives of retailers to use nutritional labeling, which seem to be mainly associated with the need to follow competitors' strategies and align with current trends in the retail sector. This motive is in line with the conjectures found in the literature, namely with those in the unfolding theory proposed by Ippolito and Mathios (1990b). Corporate social responsibility strategies and serving costumers' best interests also motivated retailers' FOP adoption. However, most retailers recognized that

many consumers are still not capable of interpreting and using the nutritional information provided, even in the simplified format of FOP nutrition labeling.

Retailers also identified problems with the use of simplified FOP nutritional labeling. A dominant concern was the unfolding of undesirable product attributes, especially when this nutritional information is reported to serving units. This is because it is not trivial to define portions in a sensible way, but these can affect the nutritional profile of products. Another issue with the use of FOP is the risk of confusing consumers and crowding the limited space available in packages. A recurring issue emerging in the interviews was the unreliability of nutritional profiles provided by suppliers of private label product lines. Retailers' are concerned that the revelation of these inconsistencies might undermine consumers' confidence in labels and affect private label's reputation. To prevent this possibility, retailers are increasing monitor efforts and repeating tests to determine nutrition profiles which leads to higher labeling costs.

Finally, concerning the use of FOP nutritional labels by Portuguese retailers there is an apparent conflict between one major retailer, who has adopted the Traffic Light System (TLS) or Signpost format, and its competitors. Opponents to the TLS format, argue that introducing colors jeopardizes their labeling efforts and only confuses consumers. All those retailers adapting GDA format of FOP, argue that having different nutritional labeling schemes might be detrimental to the effectiveness of product's nutrition information. Therefore there seems to be a move towards an industry wide coordination of the type of FOP format adopted.

Notwithstanding the preliminary and exploratory nature of our research, it seems to suggest that the effectiveness of labels in guiding consumer's choices depends not only

on availability of the correct information on labels, but also on how it is presented and displayed. Therefore, given the limited space available on food packages, we need to fully understand how retailers and manufacturers make their decisions on what labels they use and how they place them products. Moreover, bearing in mind recent findings on the behavioral economics literature, leaving to the industry the initiative on what information goes on nutrition labels and how these are constructed may condition future policy options, as we are anchored by the FOP formats already in adopted.

An obvious next step to our research is to validate our results in a wider population of food industry decision makers. Specifically we could develop a number of constructs from our content analysis and perhaps design a set of experiments enabling a richer understanding of the determinants of information disclosure decisions. For instance, we could determine what affects decisions on what nutrition information retailers' and/or manufacturers' put on labels, what formats are preferred and where they should be located in food packages. This information could then be compared with current work on consumer's perceptions and preferences for alternative label formats, to guide future policy.

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ANNEX 1. Front of Pack Nutrition labels used by Portuguese retailers

