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Consumer attitudes and the governance of food safety

**Oliver Todt, Emilio Muñoz, Marta González, Gloria Ponce
and Betty Estévez**

This paper reports the analysis of a recent study of public perception of food safety governance in Spain, using genetically modified (GM) foods as an indicator. The data make clear that Spanish food consumers are aware of their rights and role in the marketplace. They are critical of current regulatory decision making, which they perceive to be unduly influenced by certain social actors, such as industry. In contrast, consumers demand decisions to be based primarily on scientific opinion, as well as consumer preferences. They want authorities to facilitate informed purchasing decisions, and favor labeling of GM foods mostly on the grounds of their right to know. However, consumers' actual level of knowledge with respect to food technology and food safety remains low. There are several ambivalences as to the real impact of these attitudes on actual consumer behavior (specifically when it comes to organizing themselves or searching out background information).

1. Introduction: food safety and the consumer

In the last few years, the governance of food and food safety has experienced a significant turn in the European Union (EU). As a result of several recent food crises (BSE, "mad cow disease," being the most prominent among them) and a rising overall concern about food safety issues, a common and comprehensive EU food law (European Parliament and Council, 2002; see also: EC, 2000) was introduced in 2002. This law places responsibility for general food safety guidelines in the hands of the executive branch of the European Union, the European Commission (EC). However, given the current EU decision making procedures, the EC, usually comprising Commissioners (ministers) from all member states, has to cooperate (and negotiate) with the Council of Ministers (representing the member states' governments) and the European Parliament (elected by the citizens of all EU member states). In order to centralize most regulatory, risk assessment and risk communication tasks, a new, independent European Food Safety Authority (EFSA) was founded. The EFSA is to coordinate the member states' national food safety systems. Risk management on the European level remains in the hands of the European Commission. All the EU member states, if they had not done so already, started introducing similar measures on the national level. Spain, as one of the EU members, introduced new food legislation in 2001. It also created a Spanish Food Safety Agency (*Agencia Española de Seguridad Alimentaria*—AESAs), modeled largely on its European counterpart, EFSA (Kingdom of Spain, 2001, 2002).

These wide-reaching regulatory changes were introduced to respond to the rise in public mistrust in regulatory authorities all over Europe and the questioning of their ability to protect public health and the environment. It is not only the failure (or perception thereof) of regulatory authorities during recent food crises but also the introduction of new food production and handling technologies (like genetic modification or irradiation), concerns about the lack of independence of regulators from certain interest groups, as well as changes in values that drive public concerns (see different studies on public perception of food safety: Macfarlane, 2002; Henson, 2001; Da Costa et al., 2001; also: Food Standards Agency, 2000).

The analysis presented in this paper is based on data from a recent study of public perception with respect to food safety governance in Spain. Several questions related to genetically modified (GM) foods were included because of the current importance of this topic for measuring European public opinion related to food governance and food safety. Since the BSE crisis, no single food-related issue in Europe has generated as much debate, as well as regulatory activity (Miettinen, 1999; Levidow and Carr, 2000; Grove-White et al., 1997; Phillips and Wolfe, 2001; on the Spanish case, see, for instance: Todt, 2004). In fact, the conflict related to GM foodstuffs was one of the main drivers behind revamping the EU food law. Because of negative public opinion and very active civil society opposition, an implicit EU moratorium on the authorization of GM ingredients came into force in 1998. Since then, Spain (despite public unease about GM foods: Luján and Todt, 2000) was the only EU member state where GM crops (maize) were grown on a significant scale (Muñoz, 2001a). The European moratorium came to an end in mid 2004 when the European Commission authorized a variety of GM maize, after profound regulatory changes (European Commission, 2001a). The authorization, in the face of continuing public opposition to GM foods (European Commission, 2003), was questioned by several EU governments. It has also generated tensions in the regulatory process, especially between national food safety agencies and the European Food Safety Authority (charged with issuing the scientific opinions for GM product marketing authorizations in the European market). This situation makes European public opinion about GM food governance an important indicator of perception with respect to the management of the food system in general.

2. Methodology

The survey presented here was completed during the month of July of 2004. It used computer-assisted telephone interviews. By way of the survey, 1002 Spanish residents of 18 years and older, selected at random from the telephone directory (their distribution being corrected for age and sex), were interviewed on a range of topics, including general food safety issues, the recent foundation of food safety agencies on the European and Spanish levels, food labeling, as well as GM foods and their regulation.

3. Consumer attitudes to GM food regulation

The results of the analysis indicate that Spaniards have a well-formed consciousness as consumers, and understand their role in the marketplace.

Of those who gave an opinion (which is only about half of all respondents, the remainder saying they did not know), a majority considers the work of the new (European and Spanish) food safety authorities “good” (see Figure 1).

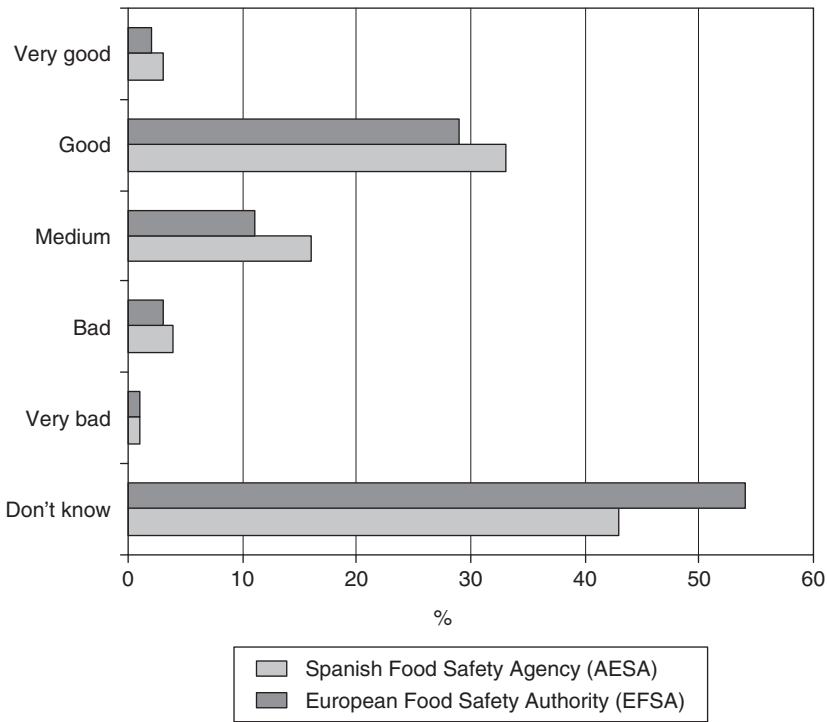


Figure 1. Consumers’ perception of food safety agencies (“How would you describe the way in which the Spanish Food Safety Agency/European Food Safety Authority fulfils its mission of ensuring the safety of our food?”).

But at the same time, as the next question shows, consumers do not perceive that regulation and decision making are taking adequate account of their preferences. This is made clear by their perception of the current regulatory process for GM foods. Respondents were given a closed list of factors (see Figure 2) from which to select the one they believed was the most influential in regulators’ actual decision making with respect to GM food authorizations, as well as the one they considered ought to be the most influential (responses to several of the options on the list, such as “trade union demands” or “opinion of political parties,” were summed up under “other reasons” in Figure 2 because of having been chosen by very few respondents).

When asked for the reasons they *thought or believed to have* been decisive for the recent authorization of GM foods by the European Commission (the first authorizations after an implicit six-year moratorium), 49 percent of all consumers said the two principal reasons were “pressures by certain industries on the authorities” or “international pressure” (see Figure 2). Only a minority (about 18 percent) considered the principal reason to be “scientific opinion.” Even fewer people (11 percent) saw consumer desires as the primary reason for the authorizations.

However, when asked about which *ought to be* the decisive factors for regulators to base decisions on during the authorization process, a majority of consumers points out basically two (Figure 2): “scientific opinion” (30 percent) and “the demands of the consumers” (28 percent). In third and fourth place, at a considerable distance, we find the opinions that the

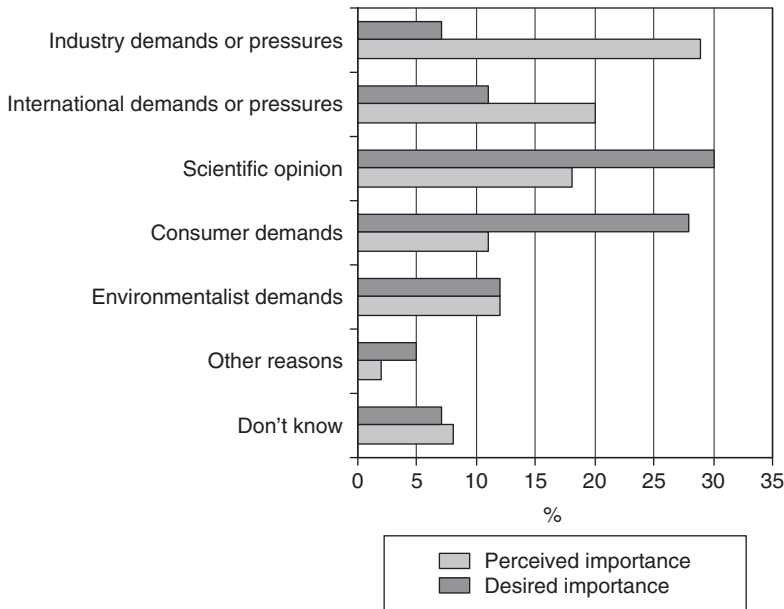


Figure 2. Comparison between consumers' perception of the weights regulatory authorities have placed on certain factors when authorizing GM food, and their expressed desired weights.

authorities ought to take into account “the demands of environmentalist groups” (12 percent) and “international demands” (11 percent). “Industry demands” come in fifth (7 percent).

The comparison of, on the one hand, the *perceived* influence of the different social actors on the GM authorization process with, on the other hand, the role respondents *desired* for each of those actors reveals a clear gap between the perception of current regulatory decision making and consumer preferences. As Figure 2 clearly shows, Spanish consumers desire scientific opinion and consumer demands to play a key role in decision making. But they perceive the current importance of those two factors to be much lower (the difference between *perceived* and *desired* importance is 12 percentage points for “scientific opinion” and 17 percentage points for “consumer demands”). In fact, the current *perceived* importance of “scientific opinion” is slightly below that of “international demands or pressures,” and the one of “consumer demands” is about equal to “environmentalist demands.”

In other words, consumers perceived industry as well as international pressures to be the key factors but did not desire those factors to play such a dominant role. Only in the case of the environmentalists' influence on decision making did the perceived and desired roles coincide. In fact, the exact coincidence of both the (relatively low) *perceived* and *desired* importance of the environmentalist groups shows that for most Spanish consumers the environmentalists do not constitute an important social actor when it comes to regulatory decision making on GM foods (even more so when compared to the role desired for scientific opinion).

These results make it clear that Spanish consumers are affirming themselves as consumers with a right to be heard and to participate, even with respect to environmentalist groups. At the same time, respondents demand decision making to be based on scientific opinion as well as consumer demands (contrary to their perception that currently neither are of preeminent importance for regulatory decisions).

The demand for a preeminent role of science in decision making is consistent with the high level of acceptance and confidence, among Spaniards, with respect to science and science-based decision making. Compared to the remainder of the (pre-enlargement) EU members, Spanish residents consistently show the highest level of trust in science, not only in general but also with respect to its role in policy making (European Commission, 1997, 2001b, 2003). However, notwithstanding their overall trust in science-based decision making, Spaniards do tend to favor precautionary approaches to science and technology regulation (Luján and Todt, 2007).

In sum, consumer attitudes are ambivalent: while expressing confidence in science as a basis for regulatory decisions, consumers are critical of official decision making. And they demand their needs and preferences to be considered. This can be seen by the high percentage of respondents who ask consumer opinion to be taken into account in decision making (almost on par with the percentage of those who demand scientific opinion to play a decisive role, and more than double the percentage who ask for environmentalists' involvement). In fact, the second largest difference between *perceived* and *desired* influence is with respect to the consumers' role (17 percentage point difference, as already stated), closely after the largest one, which refers to industry's role (22 percentage point difference).

4. Labeling

When questioned about food labeling, Spanish consumers, again, demand authorities to be responsive to their preferences. In fact, respondents clearly consider labeling a key issue for food regulation.

When asked if they read the labels on the foods they buy or consume, about two-thirds of consumers affirm to "always" or "usually" read such labels. Only 17 percent say they "never" or "almost never" do so. While these responses may be considered "socially acceptable" ones (and independent of the issue of what respondents understand by "reading a label"), the high percentage of positive answers shows that food labeling is considered an important issue.

In a related question, when asked if they favored or opposed identifying GM foods through labeling, 95 percent of respondents came out in favor of such labels. Those who favored GM food labeling in the preceding question were then asked about their reasons for doing so. The results of this follow-up question are presented in Figure 3 (the respondents had to pick one out of a closed list of responses).

The principal reason given by almost half of all respondents (48 percent) for justifying GM food labeling is simply "the right of the consumers to know." Only a minority asks for such labels in order to be able to make a choice on buying (19 percent) or not buying (14 percent) such products (see Figure 3). In other words, only for a relative minority of respondents is the labeling issue related to specific concerns about GM foods (for instance, safety). In contrast, for about half of them it is primarily about general consumer rights (in this case, the right to be informed about certain characteristics of the food they buy).

This result is confirmed by a different question in which respondents were asked about the perceived effects of providing more specific information about the foods currently on the market. About 73 percent of respondents said that measures like providing more information (for instance, about the transgenic origin of food) or increasing possibilities for informed consumer choice (like labeling) would increase overall public confidence in the food safety system (only 13 percent disagreed).

In fact, in yet another labeling-related question consumers were asked for their perception of the reasons behind the introduction of compulsory labeling for GM foodstuffs in the



Figure 3. Reasons given by consumers for justifying their demand for GM food labeling (“Tell us, please, the main reason for which you approve the identification of GM products through labels.”).

EU (which came into effect in 2004, after several years of conflict between citizen groups, national governments and the European Commission). The results show that 72 percent of respondents agreed that the principal reason for the introduction of labeling legislation was “consumer pressure” (with only 11 percent “don’t know” answers). This confirms that Spanish consumers are clearly aware of their potential power over authorities and in the marketplace.

5. Decision making

When it comes to decision making with respect to purchasing specific food products, consumers affirm their capacity and right to take such decisions, even in the case of controversial products. However, again the data show the ambivalent nature of these attitudes. There is a marked contrast between, on the one hand, the declared capacity of consumers for taking decisions (about purchasing a food or not) and, on the other hand, their lack of background knowledge about the specific issues that might influence their decisions. Again, GM foods are used as an indicator.

When it comes to expressing an opinion about the (hypothetical, given the current absence of such products in stores in the EU) purchase of GM food, 90 percent of consumers volunteer one. A majority (56 percent) says they would not buy GM food. This result is consistent with results of surveys in other EU member states (in most of which the percentage of respondents who would not buy GM food tends to be even higher: European Commission, 2003).

The majority rejection of GM foods is related to the perception of their lack of advantages. When asked (in two separate questions) for the perceived *general impact* of GM foods on, respectively, human health and the environment, about one-third answers that they believe GM foods to have more negative impacts than non-GM foods; 25 percent and 21 percent, respectively, think their impact is about the same, and only 9 percent and 15 percent, respectively, believe they offer advantages.

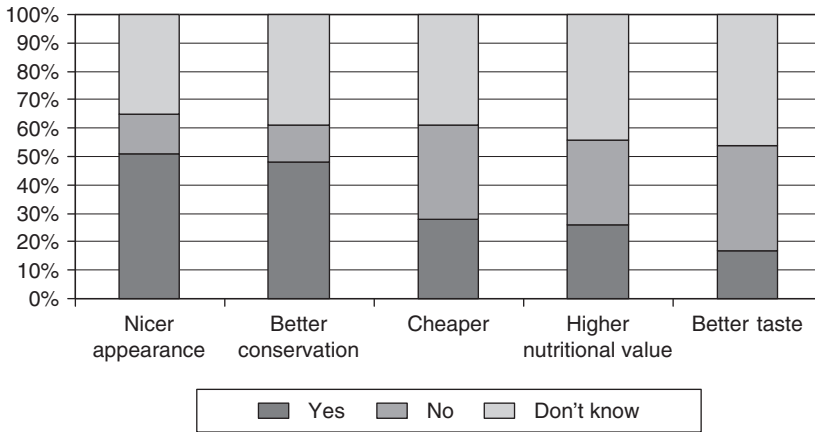


Figure 4. Advantages of GM foods, as perceived by consumers (“Do you believe GM foods offer the following advantages? GM foods offer/are...”)

Finally, consumers were asked for their opinion about five *specific characteristics* of GM foods (price, flavor, period of conservation, appearance and nutritional value), as compared to non-GM foodstuffs (Figure 4). As Figure 4 shows, consumers expect GM foods to offer advantages with respect to aesthetic (appearance) and practical (shelf life) values, but are split on the issue of economic advantage or disadvantage. Even more important, a majority (of those who gave an opinion) considers that GM foods will not offer advantages in terms of nutrition or taste (even though, precisely in the case of these two questions, the percentages of “don’t know” answers are highest). In other words, the general perception is that GM foods will have certain practical advantages (which might benefit producers more than consumers) over current foodstuffs but that they are not going to improve the food supply in terms of intrinsic qualities like nutrition or taste. Consumers do not expect GM foods to offer advantages that would benefit them most.

In fact, this last point may influence their majority rejection of purchasing such foods. On the other hand, the high percentages of “don’t know” answers indicate that consumers might change their point of view if they perceived GM foods to offer specific advantages.

The four preceding questions discussed in this section about purchase of GM foods, general health impacts, general environmental effects, as well as specific characteristics of GM foodstuffs (Figure 4) will now be compared as to the percentage of “don’t know” answers. To the question about GM food purchase (presented at the beginning of this section), only 10 percent respond they “don’t know.” When asked for the *general* health and environmental impact of GM foods, the percentages of “don’t know” answers go up to 31 percent and 33 percent respectively. And when questioned about the *specific* characteristics of GM foods (see Figure 4), the “don’t know” answers rise again. Their percentage now lies between 35 percent and 46 percent, for each of the respective five characteristics, with a mean of about 41 percent of “don’t know” answers.

In other words, when asked for a *decision* (on purchasing GM foods), 90 percent of food consumers feel they are able to make one. Yet, when it comes to expressing *knowledge* about the effects and characteristics of GM foods, between a third and almost half of all respondents answer they “don’t know.” And, as can be seen from the data, the more specific the questions with respect to GM foods (comparing the opinion on *general* environmental and health effects

with those on *very specific* characteristics), the higher tend to be the percentages of “don’t know” answers.

In this case, too, consumer attitudes are ambivalent. Spanish consumers profess their being able as well as willing to take decisions (even on products with which they lack practical experience, given that currently practically no GM foods identified as such can be purchased in Europe). But their level of knowledge about the technology itself remains low (as studies of public perception have consistently shown for a number of years; see, for instance, European Commission, 1997, 2001b, 2003).

6. Knowledge of food safety and food regulation

This contrast between expressed attitudes and lack of specific background knowledge is not limited to the issue of GM foods. It also shows up in the case of other food governance issues. Our study indicates that in spite of being critical of authorities and affirming their right to information and informed decision making, Spaniards have a very low level of knowledge of general food safety and food regulation issues.

In the survey, almost 75 percent of respondents confirm they are unaware of the existence of neither the European (EFSA) nor the Spanish (AESA) food safety authorities. And, as we have seen before (Figure 1), only about half feel able to give an opinion on the work these agencies are performing (using the perception of the agencies’ performance as an indicator for public perception of the general functioning of the food safety system). Up to a point, these results can be explained by the recentness of the agencies’ foundation (in 2001 and 2002, respectively). Even more so as this lack of knowledge also shows up among the Spanish food industry: 33 percent and 44 percent, respectively, of industry representatives say they have insufficient information to form an opinion about the work of the Spanish and the European food safety agencies (Muñoz et al., 2004).

But these data also show that respondents give an opinion on the status of the food system without possessing some basic information about its functioning (such as the very existence of the food safety agencies). This effect can be observed in other instances, too. While, as we saw, 95 percent of respondents are in favor of labeling GM foods, when questioned about their knowledge of the *existence* of such products, only 75 percent gave a positive answer. Even fewer people, only about half of all those questioned, affirm to be aware of the European GM regulatory framework (in place since the beginning of 2004) that makes labeling compulsory for almost all GM foodstuffs.

In other words, the typical Spanish food consumer is not proactive in searching out information about the food system, and does not necessarily form an opinion about food governance using specific knowledge about its functioning. In turn, he or she seems to be a passive receptor of information about food issues. In fact, this image of the Spanish consumer as passive receptor of information is confirmed by data from other studies (López and González, 1997; López et al., 1998) which attest to, for instance, the low degree of organization of citizens in Spain and the general weakness of Spanish civil society.

7. Discussion

Our survey uncovers a fundamental ambivalence that characterizes Spanish food consumers. On the one hand, consumers, through their expressed attitudes, clearly profess to be independent and critical decision-makers. But, on the other hand, in their day-to-day behavior this

does not necessarily translate into organizing themselves, nor trying to acquire specific knowledge related to fundamental questions of food safety or general food governance.

In fact, through our survey data we can identify elements of two different “consumer” constructs (Draper and Green, 2002). The first one of the two was prevalent in the 1980s and 1990s in European food legislation and regulatory action. This is the consumer receptive to official analyses and recommendations, who generally trusts in experts and accepts “science-based” arguments and decisions. And who, because of his or her “lack of knowledge and comprehension” of specific technical information, is in need of being informed about science and scientific method (“Deficit Model”: Irwin, 1995; López and Luján, 2000). The part of our survey data which presents the Spanish food consumer as passive receptor of information, jointly with the consumers’ demands for science-based regulatory decisions as well as their passiveness in obtaining background information, shows important elements of this first type of consumer construct.

The second type of consumer corresponds more to the one taken for granted by the recent food law on the European level, but also by the national laws in a number of EU member states (like the UK: Draper and Green, 2002). This is the consumer who possesses knowledge, tends to distrust official advice (or even deliberately chooses to ignore it), is potentially critical of official bodies’ actions, demands authorities to facilitate informed choice and respect his or her preferences (including by way of participatory decision making). As we have seen, Spanish food consumers show some characteristics of this type of consumer.

This second type of consumer (and their specific concerns for food and food safety) can be interpreted as a corollary of today’s highly industrialized society. The current preoccupation with food safety is not transitory, nor linked solely to the food crises that have affected the EU in the last decades. Rather, it is an expression of contemporary values in industrialized society, which make food, its attributes (such as nutritional or other characteristics), its production (and the concomitant secondary effects), as well as its safety a public issue. The individualization and de-traditionalization, which are characteristic of modern industrial societies, as well as the predominant concerns for the second-order effects of industrialization (Beck, 1986; Beck and Beck-Gernsheim, 2002; Lash *et al.*, 1996; Echeverria, 2003), have turned issues of everyday life, such as food (Berg, 2004; Jensen and Sandøe, 2002; Marsden, 2000), into important themes for political action. Giddens (1990) calls this politicization of daily concerns “life-politics.”

The survey indicates that Spanish food consumers exhibit certain attitudes that are characteristic of this type of individualized, “reflexively modern” (Beck, 1997) consumer. They concern themselves with the effects of food (and food production) on health and the environment. And they are sensitive to uncertainties in decision making which makes them question official regulatory bodies (Wynne, 1992), even though—as we have already seen—trust in science remains higher in Spain than in the rest of the EU. In extreme cases, consumers can even choose to ignore official advice, constructing their own “realities” (Ravetz, 2003).

However, at the same time food consumers present several attitudes and behaviors, such as their passiveness in seeking out background information or their trust in science-based regulatory decisions, which contrast with those aspects of the “reflexively modern” consumer. In fact, their overall behavior corresponds fairly well to the first type of consumer discussed above.

8. Conclusions

Even if the Spanish consumers’ attitudes do not necessarily translate into action and reflect more an individual than a collective consciousness, consumers clearly demand to gain better access to information, consultation and participation. Not only industry, but also the food safety regulators have to take care not to enter into conflict with these professed attitudes.

There is a potential for future conflict if the attitudes corresponding to a “reflexively modern” consumer were to deepen and affect actual behavior. The food safety agencies (like the Spanish AESA), whose creation can be interpreted as a direct response to the loss of public trust in regulation as a result of the European food crises, have to ensure that their operation takes account of those consumer values. In other words, the ambivalences (and even contradictions: Muñoz, 2001b) in the consumers’ attitudes and behavior have clear implications for the governance of food safety:

- Consumer behavior and attitudes are never clear-cut. Rather, they are complex and subject to change. It should not be assumed that consumers will necessarily behave in a certain way. Therefore, food regulation should give more attention to the implicit constructs of social actors which underlie legislation. In particular, the implicit construction of “the consumer” carried out in the food law should reflect the complexities and ambivalences (like the ones uncovered by the present study) of the consumers’ values and demands, taking care not to adopt singular and fixed definitions. In fact, the various European Food Agencies could adopt the task of explicitly studying and following up consumer values and demands.
- The potential for future conflict, especially between the Spanish food industry and consumers, stemming from the gap between industry’s perception of the consumers as mostly passive (Muñoz et al., 2004) and the consumer attitudes uncovered here, might be addressed by regulation and the Spanish Food Safety Agency’s work. This in order to avoid, for example, a repetition of the problems with the introduction of GM foods in Europe, in which the food industry misinterpreted consumer values, demands and fears, despite conscious preparation and study to prevent problems during the introduction of this technology (Lezaun, 2004). Food policy should focus on dialogue and exchange *among* the different social actors (and not only between them and the food regulators), in all areas and settings. And there clearly is a need to better communicate the basis for decision making.
- A consequence of the above is that food regulation needs consumer participation. The new European and EU member state food regulations introduce participation of civil society in food policy in a diversity of ways. The recently created Spanish Food Safety Agency (AESA) is trying to implement participation of consumer organizations on a number of levels. However, as studies show (Todt et al., 2007), those organizations are mostly given a consultative function but so far have had little direct influence on the Agency’s policy making nor its day-to-day management. In fact, in the view of the concerned social actors, up to now it seems unclear if the Agency is really willing to give consumer representatives a real say in its operation and agenda setting as well as access to all the information they may demand. However, trust—the key problem of today’s European food safety system—has to be built through participation. In fact, this could be achieved by way of a new ‘social contract for technology’ (Todt and Luján, 2008). The regulatory system should give attention to actually putting into practice the professed goals of transparency and consumer involvement. If not, there is a danger of misconceptualizing the consumer, potentially leading to an increase in public distrust.

In sum, food regulation has to give attention to putting into practice the objectives concerning independence, transparency and excellence stated in the EU food law, without presuming simple and clear-cut social constructs of consumers. In addition to its function of facilitating exchange between social actors and regulators through the Food Agencies it could also assume the function of fostering communication among those actors outside of this framework.

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