Chapter X: Consumer demand for ethically-improved animal production systems

By Ana Isabel Costa,¹ and John Cone²

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¹ Dr. Ana Isabel Costa, School of Economics and Management, Portuguese Catholic University, Palma de Cima, 1649-023 Lisboa, Portugal. E-mail: anacosta@fcee.lisboa.ucp.pt. Telephone: + 351 217 214 270.
² Dr. John W. Cone, Animal Nutrition Group, Wageningen University, P.O. Box 338, 6700 AH Wageningen, The Netherlands. E-mail: john.cone@wur.nl. Telephone: + 31 317 483 542.
X.0: Abstract

In this chapter, we propose to review a considerable body of empirical research (published and new), with the aim of producing a well-founded, up-to-date and in-depth analysis of the nature and extent of consumer demand for ethically-improved animal production systems and derived foods.

In this chapter, we will:

☐ Show that consumers do not differentiate well between animal production systems with different ethical standards;
☐ See that when positive differentiation does take place, it is because the system is perceived to positively impact on individual consumption benefits;
☐ Point out that consumers’ preference and willingness-to-pay for foods of animal origin is driven by habit and hedonic preference, not ethical considerations.
☐ Explain why consumers’ stated preference for ethically-improved foods of animal origin almost always leads to an overestimation of true demand;
☐ Reveal that consumers are willing to pay a premium for ethically-improved foods only when consumption is perceived to lower personal health risk.

X.1: Introduction and background to the research

By the late 1970s’, Western agricultural production slowly started responding to a growing societal awareness of the potential influence of farming practices on environmental conservation and animal welfare. This response first took shape in the form of food co-operatives and small organic farms led by a handful of dedicated ‘green’ producers and consumers. Besides concern for the environment, their actions were often rooted in deeply held convictions about the wider societal benefits of a more local, traditional and natural way of producing food.\(^1\) By the mid-nineties, however, the proliferation of agricultural systems following different ethical standards (for example, free-range, grass-fed, fair-trade, organic, locally-produced), together with the globalization of environmental and welfare concerns - undoubtedly fuelled by a series of food scandals bringing into question the safety of conventional farming practices -, drove governments to initiate the laborious task of regulating the ethics of food production.\(^2\)

As legislation and certification standards were being discussed, developed and enacted at (supra-) national level, public interest for ethically-produced food naturally grew and so did the respective market.\(^3\) By the dawn of the twenty-first century, mainstream agribusiness players had realised that there was a lot to be lost by not demonstrating sufficient concern for ethical principles in food production. With the advent of societal marketing - promoting the integration of social responsibility into commercial marketing strategies -, many also began to believe that the adoption of higher ethical standards could be a very profitable endeavour at any point of the food supply chain.\(^4\) Nowadays, and judging by their current product development and marketing efforts, nearly all major international players in the food arena seem to believe that higher ethical standards of any kind (preferably associated with
certification) will positively differentiate their products. It appears thus that an appropriate answer to the long-standing call for a more market-oriented food production, one that generates more consumer value and increases competitive advantage, has finally been found. But is this really the case?

Whatever the drive might be - promote the welfare of nature and society alike or generate higher corporate profits -, changes leading to ethically-improved animal production systems and associated certification schemes will undeniably come at a cost to food chain actors. It is therefore imperative to learn in advance whether these changes will meet with a sufficiently large consumer demand - and one that is eventually willing to pay a higher price - for the products and benefits they enable. In view of this, the aim of this chapter is to provide the reader with a well-founded, up-to-date and in-depth analysis of the nature and extent of consumer demand for ethically-improved animal production systems and derived food products in the European Union.

Based on own research and other published studies, we will show that consumers in general do not differentiate well between animal production systems with different ethical standards (conventional rearing included). We will also see that when positive differentiation of an ethically-improved system does take place, it is because the system is perceived to positively impact on consumption benefits addressing basic, individual needs, and not necessarily higher societal ones. This is not entirely surprising since most empirical evidence gathered so far points out that consumers’ preference and willingness-to-pay for foods of animal origin is driven by habit and hedonic preference, not ethical considerations. Furthermore, we will try to explain why consumers’ stated preference and willingness-to-pay for foods of animal origin produced under improved ethical standards almost always lead to an overestimation of their true demand. Social desirability of revealed attitudes and a lack of incentive to reveal true preferences, as well as implicit associations between higher ethical standards and higher personal benefits (or lower personal risks), are all factors that can play a significant role when estimating consumer demand for fresh meat and fish based on stated preference. In fact, we will see that consumers reveal themselves willing to pay a premium for foods of animal origin produced under improved ethical standards mainly when their consumption is perceived to lower personal health risk, not to increase societal benefit.

In the final section of this chapter, we will point out the practical implications of our analysis of consumer demand for ethically-improved animal production systems and derived food products for those involved in the food production and marketing. Additionally, we will briefly discuss the long-term implications of our findings, as well as of recommended marketing strategies, for the future of agri-food business, institutional regulations and society at large.

X.2: Literature review and main findings

Consumers’ awareness of animal production systems and their ethical standards is low
European consumers are, in general, poorly informed about the farming practices of contemporary animal production systems and the regulations that govern them. For the most part, their daily lives unfold at a great spatial and psychological distance from the realities of today’s agri-business sector – a fully industrialised, technologically sophisticated activity geared towards mass production. Unless they have some kind of personal link (directly or indirectly through relatives and acquaintances) with the animal husbandry or the animal health sectors, European consumers have very little actual contact or experience with modern animal farming activities. Therefore, they tend to have very vague, romantic and idealised notions of animal husbandry that are mostly based on historical knowledge or the rearing of pets.

When their idyllic mental images about animal husbandry are confronted with real ones released by the media, usually in the context of some food safety scandal, European consumers understandably react with shock. This leads them to form fairly negative and one-sided opinions about the ethical standards of conventional animal production systems. On the other hand, fairly high and wide-ranging expectations regarding the ethical features of alternative rearing systems are also created. In this ideal, holistic view of ethically-improved animal husbandry environmental-friendliness, animal welfare, regional small-scale production and food safety and quality assurance become virtually indissociable.

Figure 1 is a collage made by consumers depicting how, according to their view, a healthy way of producing meat might look like. It was obtained during a combined collage and focus group study involving forty-five participants from different cities in the Netherlands.

Figure 1: Dutch consumers’ collage on natural meat production.
Figure 1 constitutes a compelling illustration of the mental images and beliefs European consumers in general hold regarding conventional and ethically-improved animal production systems. The picture of a nuclear plant on its right-hand side corner symbolises the conventional rearing practices – extremely industrialised, highly pollutant and damaging to both nature and society – which must be abandoned for a healthier way of producing food. Directly above, the picture with different types of bread from Asian countries symbolises the drawbacks of the globalisation of food production – the exploitation of natural and human resources in developing countries, the pollution caused by the transportation of foods over long distances -, which also must come to an end. Meanwhile, the pictures on the left-hand side of the collage portray the way forward towards a healthier way of rearing animals for food production. Or in the words of participants themselves:

Healthy meat comes from healthy and happy animals, growing free in their natural environment and eating only natural food. Only small-scale local production, which cares more for nature and animals than for profit, can produce meat which is safe and of good quality. If meat could always be produced like this we would all - farmers, butchers, retailers, consumers – benefit a lot from it.

Likewise, European consumers do not possess a lot of knowledge concerning non-conventional rearing practices and are thus not able to distinguish very well between animal production with higher ethical standards. For instance, they are largely unaware of the meaning and the implications of certified organic farming, which they often confuse with free-range rearing. They also seem to be poorly informed about the current possibilities for ethically-improved fisheries and aquaculture, like organic or open-sea fish farming. This lack of knowledge affects even awareness of certification schemes ensuring the delivery of increasingly demanded ethical features, such as traceability, regional agricultural production and the preservation of local/national economies and cultural identities.

Survey studies on consumer perception of fresh beef certified with a Protected Designation of Origin in Portugal and with a Protected Geographical Identification in Spain show that, although individual brand names were easily recognized, only a quarter of the respondents was aware of either type of certification scheme. Focus group and survey research carried out by the authors in 2005/06 with 154 Portuguese consumers, however, indicates that this situation has recently improved (Figure 2). Over 50 percent of the participants knew about the existence of certification, had tried certified beef at least once, and were able to provide a reasonably accurate description of the features encompassed by this type of certification. Nevertheless, the same research showed that Portuguese consumers are, to a large extent, still unable to distinguish between the ethical features of animal production systems implied by certification from those implied by organic or free-range certification.
Positive differentiation of ethically-improved animal production systems is linked to expectations of safer and tastier foods

When higher levels of social responsibility are successfully promoted by companies, this often does not only improve their corporate image but also increases the perceived customer value of their products. A similar halo or spillover effect is responsible for consumers’ associations between improved ethical standards in animal production and the quality and safety of foods of animal origin. European consumers primarily associate higher levels of animal welfare with meat that is healthier, safer to eat and has better sensory quality relatively to that produced under standard animal rearing practices. A parallel association occurs between organic farming practices and the perceived wholesomeness, authenticity, safety and quality of foods of animal origin. Figure 3 illustrates this phenomenon by showing how positively Portuguese consumers, on average, judge the levels of safety and quality of certified beef vis-à-vis those of meat originating from conventional rearing. However, the data depicted in this figure also highlights the fact that most European consumers automatically associate the positive individual benefits delivered by ethically-improved animal production systems with high food prices, and thus with high personal costs.
Portuguese consumers' evaluation of DPO beef \textit{versus} standard beef

![Bar chart showing evaluation of DPO beef versus standard beef.]

1 = totally disagree  
5 = totally agree

\textbf{Source:} Survey research (n=154) carried out in 2005/06.

\textbf{Figure 3:} Portuguese consumers’ evaluation of beef certified with a Designation of Protected Origin (DPO) \textit{versus} standard beef.

Although deemed as increasingly important, ethical benefits like improved sustainability and better living conditions for farm animals seem to play only a relatively minor role in the deliberations of most European food consumers.\textsuperscript{20} For instance, when prompted about the features of organic farming during focus group discussions about animal production systems, Dutch consumers primarily mentioned aspects linked to improvements in the quality and safety of meat production and the consequent increase in fresh meat prices. Only afterwards did issues related to environmental protection, animal welfare or the promotion of small-scale regional farming surface the discussion. These were nevertheless extensively debated.\textsuperscript{21} Likewise, Dutch consumers rated ‘no genetic manipulation of fish species’ and ‘fish feed free from antibiotics and additives’ - aspects clearly associated with perceived food safety - as the most desirable attributes of sustainable fish farming. Practices related to animal welfare, such as ‘plenty of space to grow’ or ‘plenty of clean water’, were deemed as relatively less important features of ethically-improved fish farms.\textsuperscript{22}

Nevertheless, when, for whatever reason, positive differentiation of an ethically-improved animal production system is established in consumers’ minds, the risk for dissatisfaction and mistrust rises considerably. Disconfirmation of improved ethical standards (for example by media exposure) on one hand, or of high eating quality (through the consumption experience) on another, will reinforce each other in lowering the perceived consumer value of foods produced under higher ethical standards.\textsuperscript{23}
Consumer demand for foods of animal origin is mainly driven by habit and hedonic preference

Ethically-improved or not, people ordinarily do not consume animal production systems, they buy food and cook meals. Irrespective of the product category or the way of production, food or meal choice is determined mainly by perceived sensory quality, healthiness and convenience. The combined influence of these perceptions on food choice is furthermore mediated by powerful factors such as the individuals’ hedonic preferences in a given context, eating habits, product price and availability. Foods of animal origin, like meat or fish, constitute no exception to this rule, a fact that has been repeatedly demonstrated by many studies on European consumers’ food choice.

Table 1 presents the results of a regression analysis conducted on beef consumption frequency at home, the importance of beef consumption attributes for purchase decisions and the degree of beef liking, as reported by 154 Portuguese meat consumers during a survey. From these findings it is straightforward to conclude that individual hedonic preferences and eating habits remain the main drivers of beef consumption frequency, even when healthiness and ease of preparation are declared to be highly relevant factors in purchase decisions.

Table 1: Regression analysis results.

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Beep Consumption Frequency at Home</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
</tr>
<tr>
<td>Beef Liking</td>
<td>3.99</td>
</tr>
<tr>
<td>1 = I don’t like beef at all</td>
<td></td>
</tr>
<tr>
<td>5 = I like beef a lot</td>
<td></td>
</tr>
<tr>
<td>Healthiness</td>
<td>3.97</td>
</tr>
<tr>
<td>Ease of Preparation</td>
<td>3.30</td>
</tr>
<tr>
<td>Habit</td>
<td>3.02</td>
</tr>
<tr>
<td>Price</td>
<td>3.06</td>
</tr>
<tr>
<td>1 = Not at all important</td>
<td></td>
</tr>
<tr>
<td>5 = Extremely important</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>0.592</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.304</td>
</tr>
<tr>
<td>F-value</td>
<td>8.293*</td>
</tr>
</tbody>
</table>

*p < .01 (Two-tailed)

**p < .001 (Two-tailed)

Source: Survey carried out with 154 Portuguese meat consumers in 2005/06.
Figure 4 is a collage depicting the mental images Dutch consumers associate with the purchase and consumption of fresh meat. The core of this collage contains word clippings and pictures of cooked foods and shared meals, which taken together stress the vital role of sensory quality, pleasure and enjoyment in fresh meat consumption. Also playing a central role in this consumer collage are beliefs connecting a dietary rule of modest consumption of lean meat with health and well-being, which is depicted by pictures of female figures. Finally, in a secondary position on the bottom of the collage appear visual depictions of beliefs connecting food safety concerns to the ethical standards of conventional animal production systems. A stack of meat cuts symbolises mass production, the doll standing on a plate of fruit pieces signifies the power of mankind over nature and the oriental painting of a hunting party denotes concerns about animal welfare.

![Figure 4: Dutch consumers’ collage on fresh meat consumption.](image)

Food choice behaviour is often not aligned with attitudes and beliefs, even when these might be strongly held. This is a paradox both consumers and social scientists have grown painfully aware of. The contents and structure of the mental images depicted in Figures 1 and 4 offer a striking illustration of how consumers’ increasing concerns about the ethics of animal production systems spillover to their evaluation of foods of animal origin only to a limited extent. In spite of the negative images held regarding conventional animal rearing, most European consumers still view meat and fish consumption as taking a very central and positive role in their diets and daily lives alike. This does not mean, however, that these consumers are willing to forfeit a minimum level of quality and safety by their food choices. High quality meat and fish
are expected from ethically-responsible farming practices, even if they obviously do not constitute a sufficient enough guarantee of a high and stable demand for ethically-improved foods.\textsuperscript{28}

**Consumers’ stated preference and willingness-to-pay may overestimate demand for ethical improvements in foods of animal origin**

An in-depth analysis of consumer demand and willingness-to-pay for ethically-improved foods requires the existence of well-established and organised market institutions through which these products can be acquired. The European market for organic foods constitutes a good example of such an institution\textsuperscript{29}, which can therefore be used as benchmark in the current analysis. Judging by the most recent data available, the market share of organic foods of animal origin in Europe is around 2 percent, with these being sold at a price, on average, 60 to 65 percent higher than their conventional counterparts. It is important to notice that these estimates can, nevertheless, vary considerably across countries and product categories. In Denmark, for instance, the market share for organic dairy products is about 10 percent, at a premium price of 14 percent, while in the Netherlands organic minced beef is sold at a premium price of 94 percent, commanding a market share of 2 percent.\textsuperscript{30} Taken together, these findings indicate that there is a small group of committed organic consumers in most European Union countries who are willing to pay a premium price of 60 to 65 percent, on average, for ethically-improved foods of animal origin.

Though fairly accurate and realistic, analyses of shares and premium prices in actual markets only indicate the lower boundary of committed consumers’ overall valuation of ethically-improved foods at current levels of consumption. They do not tells us what the maximum willingness to pay for such products might be, how individual food attributes are valued against each other (for instance, sensory quality and environmental-friendliness), or at what kind of premium price levels uncommitted consumers could be led to become ethical food users. Moreover, good estimates may be impossible to obtain if markets for the ethically-improved foods are poorly developed or simply do not exist yet. One way to deal with this problem is to ask current and potential consumers of these goods to state how much they would be willing to pay for them, in a methodological approach generally known as Contingent Valuation Analysis.\textsuperscript{31}

Taking once more organic foods of animal origin as a benchmark, recent contingent valuation studies in Denmark and the Netherlands with representative samples show that consumers’ stated willingness-to-pay for these products is, on average, 10 to 15 percent and 20 to 25 percent higher than for conventional ones, respectively. In both countries, the willingness-to-pay is higher for those already committed with organic food purchase than for those who were not. Willingness-to-pay is also higher for those consumers who valued the individual use benefits associated with these foods, irrespectively of whether or not they also valued their ethical features.\textsuperscript{32} These findings confirm our earlier statements regarding the crucial role of perceived use
benefits in shaping the demand for ethically improved foods. They also indicate that there is room for an increase of current market shares by lowering prices.

The stated willingness to pay approach allows insight into consumers’ food demand outside the scope of the products and prices featured by actual markets. However, many questions remain regarding the accurateness and reliability of consumers’ own estimates of how they would behave in a real purchase situation, especially when these are elicited under hypothetical market circumstances. If no real products and no real money is being exchanged, and there is no way to hold individuals accountable for their stated valuation or buying behaviour, consumers’ have little incentive to reveal their true preferences and willingness to pay estimates.\textsuperscript{33}

Contingent valuation studies give consumers the possibility to provide strategic answers when asked about their willingness-to-pay for ethically-improved foods or animal production systems, due to the lack of accountability created by such hypothetical markets\textsuperscript{34}. If consumers underestimate the influence of their stated preferences on the course of market events and policy decisions, they might state willingness-to-pay estimates lower than their true valuations and attempt to free-ride on others willing to pay a higher premium for ethically-improved foods. Conversely, if they happen to overestimate their influence, they might feel tempted to provide willingness-to-pay estimates higher than their true valuation, in the hope that this will eventually lead others to benefit also from the consequent rise in ethical standards. Examples of this discrepancy between private preferences and public choices have been recently provided for sustainable fish production systems and environmentally-certified pork.\textsuperscript{35}

The contingent valuation analysis methodology employed to elicit willingness-to-pay estimates has equally become the subject of intense scrutiny and controversy. Different sources of bias have been identified which can lead to an overestimation of consumers’ demand for ethically-improved foods. Loureiro and Lotade, for instance, have studied interviewer effects and social desirability bias.\textsuperscript{36} That is, the tendency of individuals to give answers they think the interviewer would like to hear or that are aligned with perceived social norms. They uncovered that under the same experimental settings, consumers provided significantly higher willingness-to-pay estimates for fair-trade coffee when questioned by a black African interviewer than when questioned by a white American one. Meanwhile, Bennett and Blaney have conducted a contingent valuation study of English consumers’ willingness-to-pay for hen welfare legislation through a general increase of the price of eggs.\textsuperscript{37} They found that warm glow bias (the purchase of moral satisfaction associated with contributing to a good cause) and part-whole bias (perceiving their willingness-to-pay as a contribution to the welfare of all farm animals) resulted in an over-statement of willingness-to-pay of 50 percent for the ethically-improved eggs.

Overall, there is ample evidence that stated preferences and willingness-to-pay for ethically-improved foods of animal origin, such as those obtained by contingent valuation studies, will most likely lead to an overestimation of demand and market prices.\textsuperscript{38} Moreover, such techniques will not normally encompass mechanisms allowing for a clear distinction between the share of stated willingness-to-pay deriving
from the valuation of the product’s perceived ethical attributes and that deriving from the valuation of associated use benefits. As discussed earlier in this chapter, this is a highly relevant issue to be taken into account when marketing foods mainly on the basis of higher ethical standards of production. Nevertheless, these difficulties can be largely overcome by the use of demand-revealing, experimentally-induced markets, as discussed in the following section of this chapter.

Consumers’ revealed preference and willingness-to-pay for foods of animal origin is mainly determined by valuations of sensory quality, naturalness and safety

As highlighted earlier in this charter, consumers’ positive differentiation of ethically-improved animal production systems, when occurring, is strongly associated with expectations of superior food quality and safety vis-à-vis conventional products. It is therefore not surprising that their valuations of foods of animal origin produced under higher ethical standards also reflect these expectations.

Tables 2 and 3 present the results of a study aiming to uncover the determinants of Portuguese consumers’ willingness-to-pay for certified beef. Respondents’ answers regarding their level of agreement with statements about attitudes and beliefs potentially influencing willingness-to-pay were factor analysed in order to obtain determinant dimensions. Table 2 presents the outcome of this analysis, which uncovered four main factors: Price Sensitivity for Beef, Belief in Certified Beef’s Higher Sensory Quality, Belief in Certified Beef’s Higher Overall Quality and Attitudes towards the Sustainability of Animal Production Systems. For each of these factors, the associated statements’ factor scores were correlated with respondents’ willingness-to-pay for certified beef, which were obtained through the use of the iterative bidding method during face-to-face interviews.39

The correlations obtained and their statistical significance (see Table 3) indicate that, as theoretically expected, the income level of respondents is positively associated with their willingness-to-pay for certified beef, while their price sensitivity is negatively related. These results also confirm previous assumptions regarding the nature of the main determinants of consumers’ willingness-to-pay for ethically-improved meat. Respondents’ beliefs regarding the sensory and overall quality of certified beef were shown to have a significant positive association with their willingness-to-pay for this meat. However, the existence of a significant relationship between the fairly positive attitudes of respondents towards the sustainability of animal production systems and a higher willingness-to-pay for certified beef could not be demonstrated.

The iterative bidding method may reduce the uncertainty of respondents when asked to provide their valuations for goods in a hypothetical setting. However, it does not eliminate other sources of biases which may seriously compromise the employment of contingent valuation approaches in the determination of consumers’ willingness-to-pay.40 To this end, alternative research methods have been proposed, namely the use of demand-revealing laboratory auctions.41
Table 2: Factor analysis results.

<table>
<thead>
<tr>
<th>Extracted Factors</th>
<th>Mean</th>
<th>SD</th>
<th>Factor Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Price Sensitivity for Beef</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Price is important in my beef purchase decision</em></td>
<td>3.06</td>
<td>1.12</td>
<td>.73</td>
</tr>
<tr>
<td><em>Price weighs heavily in my decision to buy beef</em></td>
<td>3.18</td>
<td>1.13</td>
<td>.82</td>
</tr>
<tr>
<td><em>I wait until beef is on special offer to buy it</em></td>
<td>2.67</td>
<td>1.17</td>
<td>.81</td>
</tr>
<tr>
<td>Variance Explained: 62%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Belief in DPO Beef’s Higher Sensory Quality</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>DPO beef tastes better than standard beef</em></td>
<td>3.60</td>
<td>.77</td>
<td>.80</td>
</tr>
<tr>
<td><em>DPO beef is more tended than standard beef</em></td>
<td>3.32</td>
<td>.73</td>
<td>.93</td>
</tr>
<tr>
<td><em>DPO beef is juicier than standard beef</em></td>
<td>3.45</td>
<td>.74</td>
<td>.92</td>
</tr>
<tr>
<td>Variance Explained: 79%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Belief in DPO Beef’s Higher Overall Quality</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>DPO beef is more authentic than standard beef</em></td>
<td>4.10</td>
<td>.65</td>
<td>.87</td>
</tr>
<tr>
<td><em>DPO beef’s quality is more consistent</em></td>
<td>3.85</td>
<td>.68</td>
<td>.87</td>
</tr>
<tr>
<td><em>DPO beef is always safer than standard beef</em></td>
<td>3.74</td>
<td>.66</td>
<td>.83</td>
</tr>
<tr>
<td>Variance Explained: 74%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Attitude towards the Sustainability of Animal Production Systems</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>I do not mind paying more for animal welfare</em></td>
<td>3.75</td>
<td>.83</td>
<td>.79</td>
</tr>
<tr>
<td><em>Meat traceability is very important to me</em></td>
<td>3.97</td>
<td>.75</td>
<td>.75</td>
</tr>
<tr>
<td><em>DPO beef sales promote regional development</em></td>
<td>4.09</td>
<td>.72</td>
<td>.74</td>
</tr>
<tr>
<td>Variance Explained: 58%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Level of item agreement measured on a 5-point Likert scale (1 = totally disagree, 5 = totally agree).

Source: Survey of 154 Portuguese meat consumers in 2005/06. DPO: Designation of Protected Origin.

Table 3: Correlation analysis results.

<table>
<thead>
<tr>
<th>Factors</th>
<th>Willingness to Pay for DPO beef (Euro/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Spearman’s rho</td>
</tr>
<tr>
<td><strong>Price Sensitivity for Beef</strong></td>
<td>-.248*</td>
</tr>
<tr>
<td><strong>Belief in DPO Beef’s Higher Sensory Quality</strong></td>
<td>.222*</td>
</tr>
<tr>
<td><strong>Belief in DPO Beef’s Higher Overall Quality</strong></td>
<td>.318**</td>
</tr>
<tr>
<td><strong>Attitude towards the Sustainability of Animal Production Systems</strong></td>
<td>.173</td>
</tr>
<tr>
<td><strong>Income Class (net household income/month)</strong></td>
<td>.270**</td>
</tr>
</tbody>
</table>

*p < .05 (Two-tailed)
**p < .01 (Two-tailed)

Source: Survey of 154 Portuguese meat consumers in 2005/06. DPO: Designation of Protected Origin.
Laboratory or experimental auctions simulate active market environments to estimate consumers’ valuations of goods and uncover the determinants of these valuations. Relatively to other methods for estimating consumers’ willingness-to-pay, such as contingent valuation analysis and choice experiments, experimental auctions have the following advantages:

- They take place in a non-hypothetical context, with real products and real money being exchanged;
- They are incentive compatible when appropriately designed, that is, the respondents’ dominant strategy is to truthfully reveal their valuation of the good in question;
- They take place in an active trading environment in which respondents can incorporate market feedback and become accountable for their revealed valuation through their buying behaviour.

They are also particularly suitable to explore the effects of different attribute levels on willingness-to-pay estimates. Therefore, this type of experimental market institution has often been employed in the design of pricing and communication strategies for new and improved foods.⁴²

Experimental auctions were conducted with Dutch consumers in order to elicit their preferences for ethically-improved fishery and aquaculture systems.⁴³ Such preferences can be inferred from the differences in respondents’ willingness-to-pay for sole and cod (in Euro/kg fresh fish), before and after information is provided regarding the levels of ethical features of the associated production systems, as depicted in Figures 5a-b*. These differences show that fish originating from conventional fisheries was always preferred by these consumers even when:

- The information provided highlighted the relatively low levels of the ethical attributes displayed by this alternative (including attributes respondents themselves had classified as highly relevant immediately prior to the experiment);
- The information provided about fish from alternative, more sustainable production methods (the provision of which was equally ensured by the experimental market set up), stressed their relatively higher levels of ethical attributes.

Figure 5a: Effect of information about ethical standards of production on Dutch consumers’ willingness-to-pay for sole.

Figure 5b: Effect of information about ethical standards of production on Dutch consumers’ willingness-to-pay for cod.
Regarding fish farming systems, fish from sea aquaculture was always preferred to fish from inland aquaculture, irrespectively of the information provided on the ethical features of each available alternative. Since the information provided about fish from conventional and from sustainable aquaculture (whether at sea or inland) only differed on whether or not the administration of feed additives and antibiotics was allowed, the respective differences in willingness-to-pay indicate that revealed preferences were strongly influenced by safety concerns. These findings are in good agreement with Dutch consumers’ stated concerns about the safety of foods of animal origin, immediately prior to the experimental auctions and in previous studies, as well as with findings from similar studies.  

Overall, the obtained results illustrate the deeply-rooted preferences of consumers towards the provision of fresh fish through conventional fisheries and sea aquaculture, even when such production systems are overtly associated with low levels of environmental sustainability. These preferences are closely linked to consumers’ perceptions of the sea as being the most natural and habitual source of fish for human consumption.

X.3: Conclusions and implications

The analysis of the nature and extent of consumer demand for animal production systems and derived foods conducted throughout this chapter leads to the conclusion that European markets are not yet sufficiently developed to, on their own, sustain substantial ethical improvements in farm animal production. Moreover, it also indicates that a sufficiently large consumer demand for these improvements may be quite hard to achieve in the near future unless food chain actors, together with their institutional environment, decide that a significant change in current policies and strategies is in order. Some guidelines regarding the main vectors upon which such changes could be structured will now be discussed.

Marketing strategies to increase consumer demand for ethically-produced foods of animal origin

Marketing strategies potentially leading to an increased demand for ethically-produced foods of animal origin can be structured upon the traditional 4 P’s of the marketing mix: Place, Price, Promotion and Product.

Increased availability and consumer awareness of foods produced under improved ethical standards, on one hand, as well as price reduction on another, will lead to increases in demand. More product exposure at the usual points of purchase will reduce the novelty of these products and facilitate incorporation in consumers’ evoked set of normal, habitual, day-to-day food purchase. Given that demand for ethical foods of animal origin is highly sensible to changes in both own prices and prices of conventionally-produced alternatives, any relative price reductions that can be
feasibly achieved for the former will be highly valued by committed and uncommitted consumers of these products. There seems to be room for that in retail prices, with or without direct government intervention. Overall, food chain actors may do well to realize that, like with any other innovation, it might pay off to forerun investment in foods with higher ethical standards at a cost than catch up later with smaller profit.

More than societal benefits per se, most European consumers expect to derive a high private value, namely higher product quality and safety, from the consumption of more ethically-produced foods. They are also willing to pay relatively more for products which they perceive to bundle up the highest number of individual and collective benefits.47 Demand for the latter can thus be better supported by delivering products that consistently meet both expectations and communicating appropriately about them. Perceived societal benefits disconnected from experienced private value constitute a necessary but insufficient condition to raise consumer demand for ethically-produced foods. Consequently, an effort must be made in designing products and marketing communication strategies that align the private values experienced during consumption with previous expectations about both individual and societal benefits. Together with pricing decisions, the design of such strategies should be increasingly based on revealed (rather than stated) consumer preferences, which can be obtained with the performance of laboratory auctions and other market experiments.48

Other strategies to promote the increase of consumer demand for ethically-produced foods of animal origin

Nowadays, the daily lives of European consumers unfold, for the most part, at a great spatial and psychological distance from the realities of today’s agri-business sector. Meanwhile, these same consumers are increasingly called upon to make consumption decisions about products that require a high level of knowledge about the characteristics of modern food production systems (ethically-improved and not). Moreover, they are also asked that their food choice behaviour reflects informed judgments of such characteristics and their broader societal implications. Taken together, these circumstances create a huge gap between what consumers are expected to know and what they actually do know. Devising multiple effective strategies that can bridge this gap is essential to increase consumer demand for more ethically-produced foods.

Food choice decisions can be empowered by reducing lack of information and uncertainty regarding the characteristics of different animal production systems in general and their ethical standards in particular. Private sector can take the initiative by promoting a greater transparency of the agri-business world through activities that can range from farm visits to establishment of self-enforced certification schemes that are clear, closely monitored and truly informative.49 But the large bulk of initiatives that can effectively reduce consumer uncertainty and mistrust regarding the ethical standards of conventional and alternative animal production systems lies by national governments and other supra-national institutions.50
Governments should make clear to consumers that conventional food productions systems are highly effective in producing large amounts of good quality food at affordable prices, but that this comes at the cost of current and future societal welfare. They should also make clear that all food chain actors, including consumers, must be made accountable for this state of affairs by being called upon to share the burden of inverting this situation. Many ways of sharing the burden can be devised, from raising the prices of conventional goods to reflect their true societal costs to reducing prices of ethically-improved foods by subsidising production or commercialisation, from taxing unethical food production and consumption to promoting private donations to support ethically-improved animal production systems.

Irrespective of the formula chosen, both the institutional decision-making processes and the application of the resulting policies should be highly transparent and involve all relevant stakeholders. Governments should also be able to offer enough credible guarantees to all of those involved that their individual contributions do matter and that they are proportional to their fair share of responsibilities and the public interest at stake. Ultimately, relying on the market alone to correct the long-standing inefficiencies of an entire society will not work, especially if citizens perceive that those who demand rationality and coherence from their consumption behaviour often do not behave according to these principles themselves.

X.4: References


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