



# 1 Introduction

To buy or not to buy? In recent years, Germany has experienced a large number of food quality and food safety crises that emphasised the need for an improved understanding of consumer behaviour under uncertainty.

In the 1970s and 1980s, several technological catastrophes (Seveso, Three Mile Island, Bhopal and Chernobyl) caused by operators had negative impacts on the environment. The uncertainty over the environmental and technological risks initiated widespread discussions concerning the use of nuclear energy and related materials storage, biotechnology, and global climate change. Moreover, the food sector has been affected by food crises in the conventional sector (for example, foot-and-mouth disease in 1988 and bovine spongiform encephalopathy (BSE) in 1992-2000) and techniques such as the genetic modification of food in the 1990s (Roosen et al., 2005). Even the organic market has been affected by food crises (for example, the nitrofen scandal in 2002, the manipulation of organic labels in 2010, and several dioxin scandals). Food crises affect the vulnerable good in the organic food market: consumer trust. Consumers are concerned by whether business operators are in compliance with the relevant legal requirements. It is impossible to guarantee the complete safety of food products on the market. The problem is that consumers must select from large numbers of alternative products, but they do not decide completely rationally as a '*homo oeconomicus*'. Based on the work of Kahneman and Smith, Nobel Prize laureates in the economic sciences in 2002, behavioural and experimental economics have shown that internal psychological factors such as bounded rationality, limited self-interest and imperfect self-control influence the process of human decision making (Kahneman and Tversky, 1979; Smith, 1962). Thus, understanding consumer perceptions and attitudes in terms of organic food consumption helps to explain the heterogeneity of preferences and hence consumers' choice behaviour.



In November 1992, the first case of BSE was announced, arousing public interest in agricultural farming. Shortly afterwards, consumers began to reduce their consumption of beef. The policy of the “agricultural revolution” was established with a focus on “precautionary consumer protection”, targeting quality and not quantity. The counterpart to conventional farming already existed, in the form of organic farming. One sub-goal of the aforementioned policy was the expansion of organic farming through the definition of an organic farming standard<sup>1</sup> and an organic labelling system (Gerlach et al., 2006).

Sales of organic food products increased by 9% in 2011, reaching a record of approximately 6.59 billion Euros. Natural food stores experienced significantly higher sales increases (+10%) than other food retailers (+8%) (AMI, 2012a). A potential explanation for this is that consumers trust that these shops will comply with organic farming standards (approximately 57% consumer trust) to a greater extent than other food retailers (13%) (BMELV, 2012a).

A functional market requires that buyers and sellers have complete information. Neoclassical economic theory does not provide an adequate description of the complex field of consumer behaviour under uncertainty. In reality, consumers choose goods that are not optimal in terms of utility maximisation due to perception errors, market failures, individuals’ limitations or constrained product availability (Tiffin et al., 2006). Thus, consumers are influenced by several factors that cause inconsistency in their choices and reflect their uncertainty. Classical consumer theory assumes that consumers have a utility function that enables them to rank homogeneous goods consistently and unambiguously. The highest-ranked alternative is chosen. This assumes deterministic choice behaviour (Anderson et al., 1992; Amaya-Amaya et al., 2008). However, classical consumer theory was extended by Lancaster’s (1966) approach in which utility is derived from the combined utilities of the different attributes of the good. Therefore, the utility of a consumption bundle of different attributes is maximised and determined by the income constraint (Amaya-Amaya et al., 2008).

Three extensions to classical consumer theory must be enumerated to apply attribute-based approaches such as discrete-choice experiments. The first extension to standard economic consumer theory is the discrete change between two consumption bundles. The second extension is that the consumers choose their preferred alternatives from a finite and mutually exclusive choice set and not from a continuously differentiable infinity. This yields other

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<sup>1</sup> Council Regulation (EC) No 834/2007 on organic production and labelling of organic products and repealing Regulation (EEC) No 2092/91



constraints in addition to the budget constraint. The third extension is that discrete-choice theory uses a probabilistic instead of deterministic choice set. Thus, one treats the utility-maximising behaviour of the consumer as stochastic (Anderson et al., 1992; Amaya-Amaya et al., 2008).

This study uses discrete-choice experiments to measure the utility values of different organic food attributes. In a choice experiment (CE), respondents are presented with hypothetical alternatives with different attributes and attribute levels and are asked to select their most preferred consumption bundle (Amaya-Amaya et al., 2008). When price is included as one of the attributes, willingness-to-pay (WTP) can be measured. This is considered to be the amount of money that each individual is willing to pay for a given product (Freeman, 2003; see section 3.3.3). WTP cannot be measured directly, but it can be estimated using econometric methods. In the case of organic foods, WTP will be measured in comparison to the WTP for the conventional counterpart and in the context of different product characteristics. Moreover, the influence of revealed variables (for example, socio-economic and demographic characteristics) and psychometric variables on preferences will be analysed. The consumers will be segmented based on psychometric variables to determine their heterogeneity. Prior studies on this topic did not account for the heterogeneity of German consumers (Enneking, 2003), nor did they use other product attributes or consumer groups (Stolz et al., 2011). Given the recent increase in organic food consumption, this study explores the underlying choice factors influencing the consumption of three different products produced according to the guidelines of organic farming. The products include apples, milk, and beef. As indicated by Bazoche et al. (2013), apples are the most widely produced and consumed fruit throughout the year in Europe. Similarly, milk and beef are produced and consumed throughout the year in Europe. Thus, consumers are very familiar with these products, facilitating efforts to elicit behaviours of general interest and for future developments in organic food production.



## 1.1 Background

Organic farming<sup>2</sup> follows an organisational principle based on a closed nutrition cycle with a focus on food quality and safety in the long term, nature conservation and sustainability. Organic agriculture, as an efficient and holistic approach, achieves the multiple goals of agriculture via soil conservation (for example soil fertility), the prevention of water pollution (for example, a lack of nutrients in ground and surface water), species protection (for example biodiversity), and species-appropriate animal husbandry (for example adequate run-out). Regulations prevent the use of synthetically produced chemicals and easily soluble mineral fertilisers, as well as hormones and antibiotics. The exclusion of genetically modified organisms is also required. Moreover, limited cattle stock, the use of farm-grown feed, diversified crop rotation and intensive humus management are important aspects of organic farming (BMELV, 2012a).

The foundations of organic farming emerged between the two World Wars. The rationales included agriculture and forestry problems, soil aggregation, the degradation of seed, an increase in plant diseases, and infestations of vermin that led to a decrease in crop levels and food quality. The German *Lebensreform* movement began at the end of the 19<sup>th</sup> century, with a focus on “back to nature” as an alternative farming method (for example, it included a reduction in the use of nitrate-containing mineral fertilisers and heavy metal phyto-pharmaceuticals). The agronomic measures of specific biodynamic subsistence strategies introduced by Steiner in the year 1924 were followed by movements based on the notions of anthroposophy, a holistic philosophy that treats every agricultural farm as a higher unit of an organism. Thus, the term “vital quality” was introduced. In the same year, the brand and association *demeter*, a directed and controlled production process based on biodynamic farming, emerged. The practice of organic-biological farming was developed from 1950 onwards (BÖLW, 2009; Niggli, 2007; Schaumann, 2002; Vogt, 2007; Willer and Richter, 2004).

In the year 1971, farmers in southwestern Germany founded the *Bioland* association in response to constantly increasing environmental damage. In the 1980s, most of the contemporary organic-biological associations and organisations were founded: *Biokreis* (1979), *Naturland* (1982), and *Ecovin* (1985) were organised under the umbrella *Arbeitsgemeinschaft Ökologischer Landbau (AGÖL)* from 1989 to 2002. *AGÖL* defined the standards of organic

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<sup>2</sup> In the following text, the terms “organic farming” and “organic food” are employed, as they are typically used in the international literature. The German term “ecological farming” is used to describe biological, organic, and natural farming systems.



farming and represented political interests. The *Gäa* (1989) and *Biopark* (1991) associations emerged in East Germany. As a regional organic association, *Ecoland* was founded in the year 1996. Since 2002, the umbrella organisation *Bund Ökologische Lebensmittelwirtschaft (BÖLW)* has acted on behalf of these associations and providers and traders and their organisations (for example, *Bundesverband Deutscher Reformhäuser (refo)* established in 1927, *Bundesverband Naturkost Naturwaren (BNN)* established in 1988, and *Assoziation ökologischer Lebensmittelhersteller (AoeL)* established in 2001) (BÖLW, 2009). These farmers' associations, umbrella organisations and certification bodies all have regulations that are equivalent to or stricter than the European regulations. Participation is voluntary, and the decision typically depends on the costs and benefits for the operator in question (Zorn et al., 2009).

The International Federation of Organic Agriculture Movements (IFOAM), the international umbrella organisation for organic agriculture organisations, defined four principles that conform to the historical concepts of organic farming: the principle of health, the ecological principle, the principle of fairness, and the principle of care (IFOAM, 2009).

Further issues related to organic farming include:

- a biological understanding of soil fertility,
- the intensity and survival of the ecosystem with biological and ecological instruments,
- the production of high-value food, and
- a vision of an alternative way of living and society (Vogt, 2007).

Since January 2009, organic farming and food has been based on European Council Regulation (EC) No 834/2007 on organic production and labelling of organic products and repealing Regulation (EEC) No 2092/91: “Organic production is an overall system of farm management and food production that combines best environmental practices, a high level of biodiversity, the preservation of natural resources, the application of high animal welfare standards and a production method in line with the preference of certain consumers for products produced using natural substances and processes.” This definition, according to recital 1 of European Council Regulation (EC) No 834/2007, is the minimum European standard for food processes to be considered organic. This new regulation preserves the core concept of comprehensive protection for organic products. The scope of the organic production rules covers plant, livestock and aquaculture production and the collection of wild plants and seaweeds. Moreover, they cover the conversion and production of processed food, including wine, feed and organic yeast (according to recital 7 of European Council Regulation (EC) No 834/2007). A restricted list describes the products and substances allowed in organic farming and their uses, for



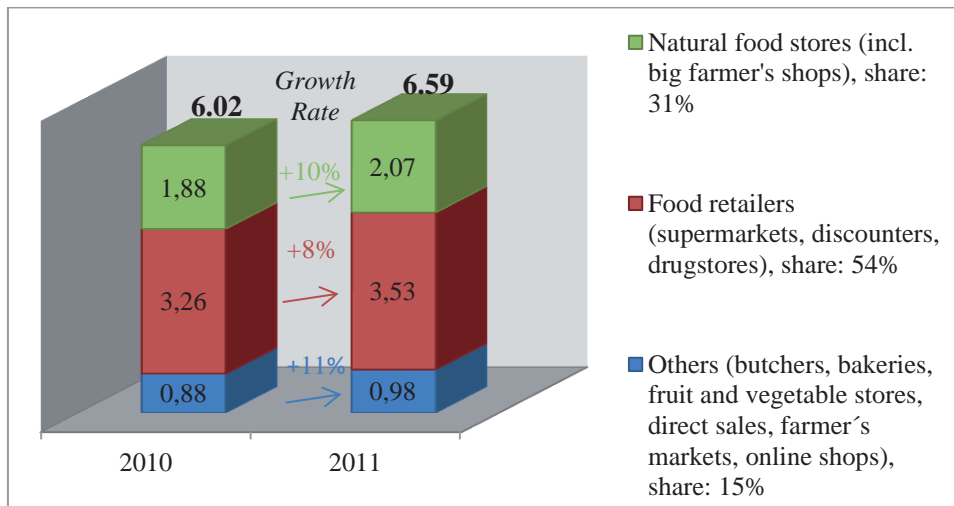
example, plant protection products, fertilisers and soil conditioners (according to article 16, paragraph 1 of European Council Regulation (EC) No 834/2007). As mentioned above, genetically modified organisms are prohibited in organic production (according to article 9, paragraph 1 of European Council Regulation (EC) No 834/2007). At least 95% of the ingredients of in-conversion products or processed foodstuffs must be of organic origin to be labelled organic products and receive the organic production logo. This protects the consumer from being misled (according to article 23, paragraph 4, letter a, number ii and article 25, paragraph 1 of European Council Regulation (EC) No 834/2007). When in compliance with the organic standard, the operator receives documentary evidence thereof (according to article 29, paragraph 1 of European Council Regulation (EC) No 834/2007).

### *Facts and figures about organic farming*

The amount of organic agricultural land in Europe increased from 4.5 million hectares (ha) in 2000 to 10 million ha, managed by nearly 280,000 farms, in 2010. Thus, the amount of organic land has continued to grow in Europe (by 0.8 million ha between 2009 and 2010 alone). Spain (1.5 million ha), Italy (1.1 million ha), and Germany (0.99 million ha) have the largest land areas under organic cultivation (Willer, 2012).

In Germany, 23,003 organic producers cultivated organic farmland comprising 1,013,540 ha in 2011. Organic farmland increased by 2.3% (22,838 ha) and the number of producers increased by 4.8% (1,061 producers) in 2011. However, the organic land area increased more slowly than the demand for organic food products in 2011. One explanation is the change in the financial support provided for the adoption and maintenance of organic farming (the suspending of area-based organic payments by some (federal) states, for example Schleswig-Holstein) (BÖLW, 2012; Latacz-Lohmann et al., 2012).

In 2011, more than 53% of the organic agricultural land in Germany was grassland (535,000 ha) and 43% was arable (435,000 ha). The key organic crop groups were cereals (204,000 ha), dried pulses (25,500 ha), and vegetables (11,300 ha) (BÖLW, 2013).



**Figure 1 Sales of organic products in billions of Euros (excluding ready-to-go meals)**  
Source: AMI (2012a)

Germany comprises the largest organic retail market in Europe. In 2011, sales of organic products were estimated at 6.59 billion Euros. Due to the increasing prices charged by organic farmers and the diversification of animal products, there was an approximately 9% increase, indicating a highly dynamic market. Natural food stores experienced significantly higher sales increases (+10%) than other food retailers (+8%) (see Figure 1).

The strongest growth was observed for animal products in the form of meat and poultry (+40%), eggs (+32%), and dairy products (+10%). In general, bread and bakery products, vegetables, fruits, and milk and dairy products had the largest shares of organic sales in 2011 (AMI, 2012b). German households spend 9% of their food budgets on eggs and 14.3% on fresh products (vegetables, potatoes, fruits), followed by oil (4.3%), milk (4.2%), and bread (4.0%) (AMI, 2012c).

Although the number of organic producers is increasing, domestic organic production was unable to satisfy demand in 2011. Thus, Germany had the largest retail market in Europe for both domestic production and imports. In 2009/2010, Germany imported between 2% and 95% of the organic products purchased, depending on the organic product in question (for example, the import share for cereals was 15%, leguminous crops 24%, pork 22%, eggs 20%, potatoes 28%, carrots 48%, tomatoes 82%, peppers 91%, apples 50%, and milk 16%) (Schaack et al., 2011).

Despite the stable growth, the market share of organic food products (3.7%) remained quite low as of 2011 (AMI, 2012a). Consumers do not typically have a choice of different organic labels





in a single store or different organic product attributes from which to choose. Thus, consumer choices are constrained.

## 1.2 Problem setting and motivation

Organic farming has been supported through public funding in Germany since 1989. The objective of this financial support for organic farming within the European Commission extensification scheme was to decrease production surpluses and environmental efforts (for example, the reduction of chemical fertilisers and pesticides, and the promotion of animal husbandry), and the current aims include fostering rural agricultural development, consumer satisfaction, and new market opportunities. Since 1994, the adoption and maintenance of organic farming has been supported by the agri-environmental programmes of the (federal) states ministries (BMELV, 2012a; Nieberg and Kuhnert, 2007).

Major changes in organic farming support were implemented in response to the BSE crisis of 2001. The national “Sustainability Strategy” defined the goal that organic farmland would comprise 20% of all farmland by 2010 (Federal Government, 2002). However, the federal structure of Germany, the different policies of the states and the dynamic development of the organic market in recent years have led to a differentiated series of policy supports (BMELV, 2012a).<sup>3</sup>

In Germany, organic production and regional products represent an important aspect of the national agricultural sustainability strategy. The World Commission on Environment and Development (1987) defined the sustainable development approach (Brundtland Report) as meeting

“[...] the needs of the present without compromising the ability of future generations to meet their own needs”.

Sustainability is considered a process of using the natural resources of the earth in a way that is linked to behavioural change and a new responsibility on the part of society to support the strategy for sustainable consumption and production (Federal Government, 2002).

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<sup>3</sup> For detailed information, see the national legal basis: ‘Joint Task for the Improvement of Agricultural Structure and Coastal Protection’ in accordance with the ‘principles governing the promotion of market- and site-adapted land management’ (BMELV, 2012a).





A number of studies have discussed the similarities and differences between organic farming and the concept of sustainability (Rigby and Cáceres, 2001; Sackett et al., 2012; Seyfang, 2006). Due to the large number of definitions of each agricultural system, disagreement persists regarding the exact relationship between organic farming and the concept of sustainable agriculture. On the one hand, sustainable production methods led to the principles of organic farming in the first place. The common points are biodiversity, nitrate loss, soil carbon stocks, animal welfare and added (economic) value in the local area. On the other hand, organic farming contributes to an improvement in sustainable development. However, the success of sustainable farm practices in organic farming depends, for example, on the administration of the energy system, local economic cycles, improved packaging, and fair prices at all stages of the value chain (BÖLW, 2012; Rigby and Cáceres, 2001).

The rapid development in the organic sector has resulted in the possibility of purchasing an organic variety of virtually any food product. The attributes of organic products are credence characteristics, in that their presence or absence cannot be identified before the purchase nor ascertained after consumption (Darby and Karni, 1973). Thus, consumers are becoming increasingly aware of the credence characteristics of food products. Organic products normally carry labels to differentiate them from their conventional counterparts. However, there is always an alternative to the organic food product available – the “conventional” product. The consumption of organic food is therefore a real food choice in which the decision to purchase the more expensive organic food product will be a consequence of a comparison of the perceived attributes of organics against those of the conventional alternative (Ritson and Oughton, 2007).

A survey conducted by BMELV (2012b) asked respondents to state relevant reasons for purchasing organic food products (multiple responses were possible). The most significant motivations for organic food purchases were animal welfare (94%), wanting to buy from the local region (89%), and the reduction of pollution (89%). Avoiding potential additives in food was cited by 85%, protection of the environment by 84%, and health aspects by 84% of shoppers as important aspects. Taste (59%), the food crisis (64%), and comprehensive and convincing information (50%) were deemed less important.

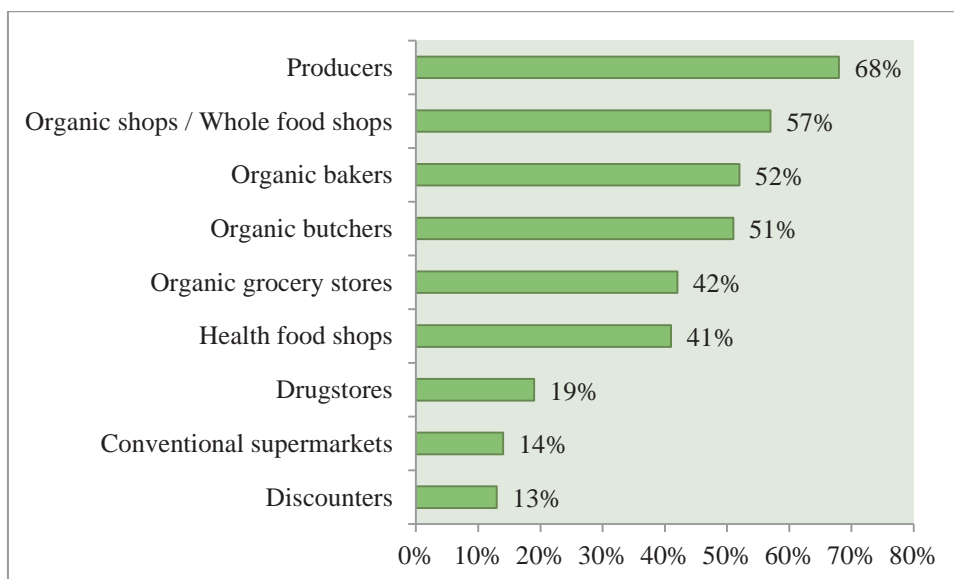
Other studies have found that the key drivers of the growth in demand for organic food are consumer concerns about food quality, human health, animal welfare aspects, and environmental issues with conventional farming practices (Baker et al., 2004; Cicia et al., 2002;



Enneking, 2003; Grunert and Juhl, 1995; Lacaze et al., 2009; Makatouni, 2002; Mondelaers et al., 2009; Naspetti and Zanolì, 2009; Schifferstein and Oude Ophuis, 1998).

Sirieux et al. (2011) conclude that consumers might rank individual benefits (to themselves or their family), such as economic, health and food quality, higher than social motives (altruistic benefits), such as environmental or animal welfare concerns. The differentiation consumers make between altruistic and individual benefits is important in many ways but is less relevant to understanding food consumer behaviour and consumer preferences for organic foods. In reality, consumers make decisions by comparing a bundle of attributes.

Traditional consumer demand theory is inadequate for explaining the intrinsic characteristics of organic products (Lancaster, 1966). Moreover, it does not provide information concerning the influences attribute variations or new product attributes have on consumer preferences and WTP. However, intrinsic characteristics differentiate organic products from their conventional alternatives (Giannakas, 2002). The most important attitude underlying organic food consumption is distrust in conventionally produced food (Fricke and v. Alvensleben, 1997; Halkier and Holm, 2006; Krystallis and Chryssohoidis, 2005; Lobb et al., 2007; Saba and Mesina, 2002; Schroeder et al., 2007; Tonsor et al., 2009). This therefore means that trust is involved in the consumer food purchase decision and WTP. In particular, it is crucially important if the credence attribute requires a price premium, as in the case of organic products (Yiridoe et al., 2005).



**Figure 2 Consumer trust in different providers of organic food**

Source: BMELV (2012b)



BMELV (2012b) analysed consumer trust in organic food products. It found that consumers have greater trust that the following types of shops comply with organic farming standards: producers (68%), organic shops (57%), organic bakers (52%), and organic butchers (51%). From the consumers' point of view, conventional supermarkets (14%) and discounters (13%) were trusted the least (Figure 2). It is important to note the different perceptions of conventional supermarkets and discounters, on the one hand, and organic shops on the other. The former are the most important points-of-sale for consumers (84% and 63%), but consumers' levels of trust in these shops to comply with organic farming standards are lower than those for organic shops, which are a less important point-of-sale for consumers (47%).

The strategy of the conventional retailer is to win consumers by charging low prices for organic foods. Specialised organic food shops have higher purchase prices, which explain why organic shops and organic food retailers have experienced different levels of increase in their sales (Figure 1).

Understanding why some consumers choose organic food products while others do not provides valuable insights into food consumer behaviour (Ritson and Oughton, 2007). The aim of this study is to explore which underlying factors influence consumer behaviour for organic food products and to what extent.

### 1.3 Study objectives

The overall objective of this study is to use CEs to identify the preferences and WTP for organic food product attributes among consumers in Germany. Given the current discussion of organic and related credence food attributes, the evaluation of these multi-ingredient attributes is important to address options for organic food producers to offer a broader range of product ideas to associate organic products with additional product claims. Specifically, the study seeks (i) to identify the determinants of consumer trust, (ii) to determine the socio-economic reasons for consuming organic food and identify preferred organic attributes, (iii) to estimate the economic value of these attributes and WTP and investigate the existence of preference heterogeneity, (iv) to investigate the effect of starting point bias (SPB) on WTP, (v) to examine the sources of heterogeneity across classes of organic food consumers, and (vi) to provide recommendations and implications for future developments of organic food products and policy and practical advice for the producers of organic food products.



To achieve these objectives, the following hypotheses will be tested:

1. Trust depends on socio-economic, demographic, and psychographic variables.
2. The initial decision to purchase relatively expensive organic foods is well-considered. Food safety, health, environmental and animal welfare conditions all influence consumer choice.
3. Local attributes are highly valued relative to food safety and health attributes.
4. Consumers demonstrate different preferences for organic attributes. An individual's perceptions of risk and trust (as well as socio-economic and demographic factors) are the main sources of preference heterogeneity.
5. Organic products are more likely to be selected by trusting consumers. These consumers are less price-sensitive.
6. In accordance with standard assumptions, the respondents' preferences and thus WTP should not be influenced by the set of prices in the first choice set. Therefore, preferences are independent of the treatment and the number of choice sets.

Therefore, the following research questions are addressed:

- ❖ Which determinants influence consumer trust?
- ❖ Which organic food attributes do German consumers prefer, and what factors influence their preferences?
- ❖ Does preference heterogeneity exist, and if so, what are its determinants?
- ❖ Which factors determine consumers' WTP for organic food products?

### 1.4 Significance of the study

Germany had the largest domestic market for organic foods in the European Union (EU) in 2010 and was second worldwide behind the United States of America (USA) (Schaack et al., 2012; Willer and Lernoud, 2012). The organic food market increased from 1.48 billion Euros in 1997 to 6.59 billion Euros in 2011, accounting for 3.7% of the entire food market in the latter year (AMI, 2012a). This demonstrates considerable growth potential. Organic production is important for the national sustainability strategy of German agricultural policy. Organic farming reflects the wishes of many consumers.

BMELV (2012b) found that 71% of a representative sample of the German population wanted additional background information on organic foods. An increased willingness to buy if additional information is available was observed among frequent and occasional organic food consumers (84% and 78%) compared to non-buyers of organic food. The additional information



should be related to production claims. Most important are local claims (90%), followed by fair trade (89%), sustainability (72%), animal welfare (70%), and carbon footprint (53%).

Against this background, the study is conducted in Germany. This country was selected because few recent studies have investigated German consumers and focused on the influence of trust on the consumption of organic food, despite that the German organic food market is growing and plays an important role in the European market.

Most studies to date have explored subjective perceptions of quality attributes (for example Grebitus, 2008; Grunert, 2005), consumer uncertainty, and consumer risk perceptions in general and towards food risks (for example Franz and Enneking, 2005; Roosen et al., 2005), quality information gaps between producers and consumers (for example Giannakas, 2002; Lobb et al., 2007) or different food product markets but with a different geographical focus (for example Schroeder et al., 2007; Tonsor et al., 2009). Few studies have examined German consumers' uncertainty in terms of organic food information using factor analysis and cluster analysis (for example Franz and Enneking, 2005), and few measure preferences and WTP in Germany (for example Plaßmann and Hamm, 2009; Stolz et al., 2011), despite that sales in the German organic food market are increasing (BÖLW, 2012).

Consequently, this study aims to determine the motivations and hindrances influencing the decision to purchase organic foods with various attributes in Germany. Given the current discussion on organic and regional products, the evaluation of these multi-ingredient attributes is important to provide agri-food companies, the public sector and researchers with effective, long-term approaches to developing new communication strategies based on consumer trust.

### **1.5 Outline of dissertation**

The study is structured as follows:

Chapter 2 provides a literature review on organic food objectives and attribute preferences. The coherence between knowledge of organic agriculture, perceptions, and attitudes towards the food sector and towards organic food products will be discussed. Moreover, psychometric, socio-economic and demographic characteristics emerge as potential determinants of consumer acceptance of organic foods. The chapter closes with a literature review of preferences and WTP studies for organic food products.



Chapter 3 presents the theoretical framework of the CEs, the economic model of choice decisions and the econometric models. Mixed logit and latent class models are used in this study to model the CE data. These methods are used because the mixed logit model accounts for preference heterogeneity and latent class models examine endogenous preference segmentation in choice data.

Chapter 4 provides a description of the methods employed in the CE study, including the survey design and a description of the data. The descriptive analysis and the results of the principal component analysis (PCA) regarding the respondents' risk perceptions are also presented. The results of the ordered probit model will represent the determinants of consumer trust.

Chapter 5 presents and discusses the empirical results of the econometric models (conditional logit models, mixed logit models, latent class models) to analyse the preferences and WTP estimates for organic food attributes obtained from the CE.

Chapter 6 analyses the effect of SPB on the WTP estimates obtained. Anomalies are explained using the Discovered Preference Hypothesis.

Chapter 7 discusses the results of the study.

In Chapter 8, the findings of the study are summarised and the implications for policy and prospects for future research are provided.



## 2 Literature review on the determinants of willingness-to-pay for organic food products

This second chapter presents a review of the literature<sup>4</sup> on studies analysing consumers' choice behaviour regarding organic food products in developed countries<sup>5</sup>.

Empirical studies from a social science perspective that look at the purchase situation of consumers, such as information, socio-economic and demographic characteristics, knowledge and awareness, perceptions and attitudes towards food products in general and towards organic foods in particular, are reviewed. One purpose of the current study is the evaluation of multiple organic food attributes. Therefore, previous studies on preferences and WTP measures for organic food products are presented.

### 2.1 Introduction

Consumers can be defined as “market players and citizens” (Reisch, 2004). Behind these two concepts are different motivations: In the *consumer* framework the response is based on the individual benefit, which is independent from the benefits for other individuals. In the *citizen* framework the individual takes ethical and moral aspects into account and therefore the benefits for other individuals are also respected (Sugden, 2005). Moreover, they are “participants in an informal life in which purchased goods and services are being translated into quality of life through home production, nurturing of friendships, voluntary work, political activities and unpaid services for neighbours” (Reisch, 2004). Hence, the decision maker can behave as a consuming actor, as an agent of the society, or as a member of a private household with corresponding daily routine (Reisch, 2004). This study focuses mostly on the role of consumers as market actors who choose the alternative with the highest level of utility.

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<sup>4</sup> Selected previous studies are presented in the tables in Chapter 2 in chronological order. The most interesting results are presented and explained in more detail.

<sup>5</sup> The focus of this study is not a comparison between developed and developing countries. Hence, the literature review is based on studies from developed countries.