

## **RTG 1666 GlobalFood**

Transformation of Global Agri-Food Systems:  
Trends, Driving Forces, and Implications for Developing Countries

**Georg-August-University of Göttingen**

## **GlobalFood Discussion Papers**

No. 62

Why the Norwegians do not drink Organic Milk –  
An analysis of differences in the consumption of organic milk in  
Germany and Norway

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February 2015

# Why the Norwegians do not drink Organic Milk

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Germany and Norway

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## **Abstract**

Numerous studies have examined the consumption of organic products in various European countries and found a higher consumption of organic products in the northern European countries as opposed to the southern countries. While Germany is taking a pioneering position in Europe with the largest European market, Norway is falling out of this pattern. Based on a model determining organic consumption from a cross-national perspective developed by Thøgersen (2010) this study analyses, why significant differences in organic consumption of organic milk occur between Germany and Norway. Furthermore, it is discussed whether organic farming is a viable option for Norway since conventional farming in Norway is already considered as very environmentally friendly. The results of this study point to the weaknesses of the Norwegian organic market and give policy suggestions to resolve this. They contradict the widespread opinion among Norwegian consumers that Norwegian agriculture is almost organic. Norwegian agriculture is of no degree less industrialized than German agriculture; their problems are simply perceived to be of a lesser extent by consumers.

## **Keywords:**

**organic milk consumption; cross-national comparison, Germany, Norway**

**JEL:Q 13; Q18; Q19**

## **1. Introduction**

Worldwide, the market for organic food has tripled in the last ten years and organic food consumption is increasing steadily throughout Europe (Willer & Kilcher, 2013). This is especially true for organic milk and dairy products (Spiller, Enneking & Lüth, 2004).

Numerous studies have examined the consumption of organic products in various European countries and found a higher consumption of organic products in northern countries (for example Germany) than in southern European countries (Michelsen et al., 1999; Hamm & Grone Field, 2004; Padel & Midmore, 2005; Sønderskov, 2009). However, there are hardly any studies that explain why Norway is falling out of this pattern. Thøgersen (2010) states, “However, there are other important holes in our

understanding of the differences between countries in organic food consumption. Notably, the reviewed literature revealed no explanation for negative outliers in northern Europe, including Norway and Finland. Future research should investigate what has suppressed the demand for organic food in countries such as these” (p. 182). The consumption of organic milk and other organic products differs markedly in Germany and Norway. Germany takes a pioneering role within the European Union (EU) with the largest market for organic food (Schaack et al., 2011). In Germany, organic dairy products have a market share of 4% of the total sales of all dairy products (Schaack et al., 2011), while it is only 2.7% in Norway (Norwegian Agricultural Authority, 2012). In the European comparison, Norway is taking an outsider position in northern Europe together with Finland (Thøgersen, 2010). While sales of organic milk are steadily increasing in Germany (BÖLW, 2013), consumers in Norway increasingly gravitate towards conventional milk, although some supermarkets offer organic milk at a lower price (Oikos, 2012).

In addition, Germany and Norway differ with regard to their environmental situation. While Germany has already fought significant environmental problems and land scarcity in the 80's, Norway has experienced no serious environmental problems or scandals in the food industry so far. Only 3% of their area is used for agriculture and Norwegian agriculture is generally considered as small scale and almost organic (Storstad & Bjørkhaug, 2003). Against this background, the question arises whether Norway actually needs organic agriculture which is often associated with environmental benefits.

The aim of this paper is to find out, supported by a literature review, why serious differences in the consumption of organic milk have developed and whether the expansion of organic farming, as planned in Germany, is a meaningful option for Norway. Therefore the market factors and the political context of organic milk production in Germany and Norway are investigated on the basis of a model proposed by Thøgersen (2010) determining organic food consumption.

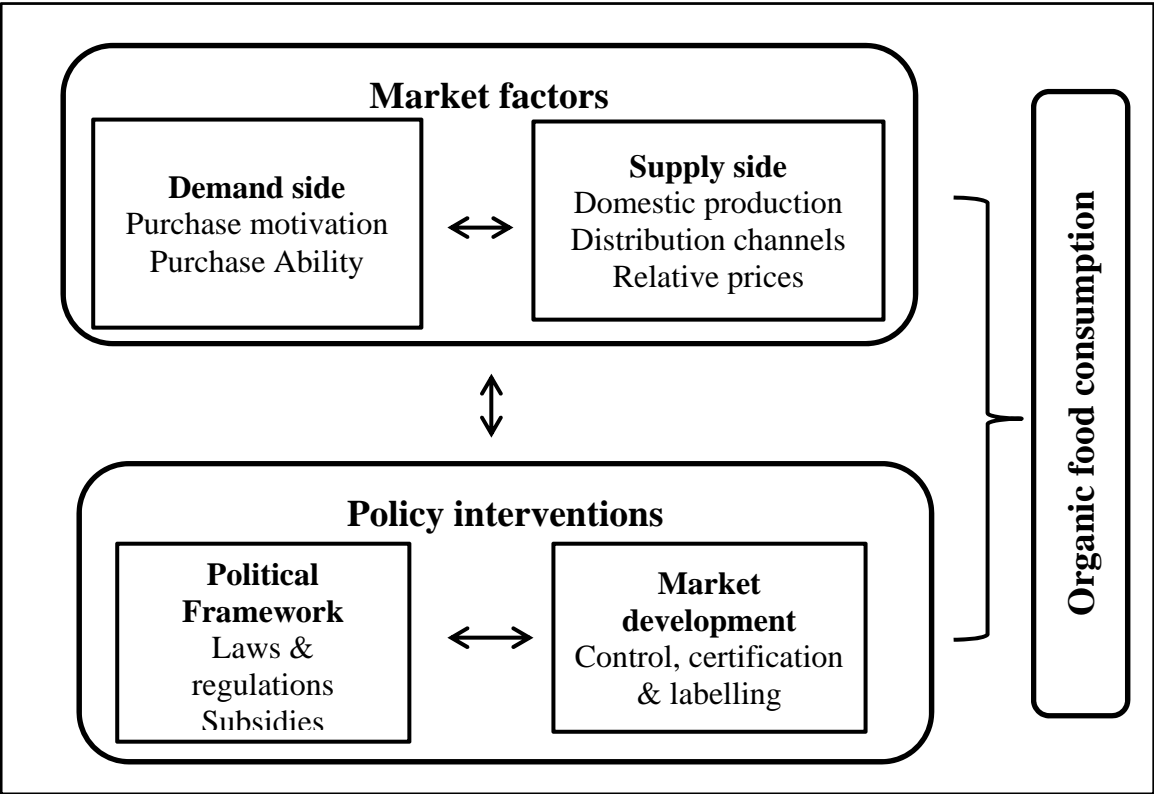
## **2. Theory and Methods**

Thøgersen (2010) has developed a model that illustrates the determinants of organic food consumption as shown in Figure 1. It also can be used to analyse the differences in the consumption of organic products between countries.

According to the model on the one hand political interventions can explain differences in organic food consumption. Political interventions include the legal framework and the subsidizing of organic production as well as independent controls, certification and labelling of organic products. They provide information about the status of development of the market for organic products in a certain country. On the other hand, market factors play an equally important role in identifying the differences in organic consumption between countries. They can be divided into supply and demand factors. Supply factors include the availability of organic products, their relative price and the soil and climate conditions. They affect the ability of consumers to demand organic products. Demand factors relate to the

motivation and the opportunity to buy organic food. The motivation to buy organic products arises from attitudes, values and motives. Income and subject-related knowledge influence the purchase ability as well (Thøgersen, 2010).

**Figure 1: Determining factors for organic milk consumption**



Source: Own illustration after Thøgersen (2010)

**3. Results**

Based on the above shown model, differences in organic milk consumption between Germany and Norway are shown in the following.

**3.1 Policy interventions**

As already mentioned, the interventions are divided into the political framework (laws, regulations and subsidies) and market development (control, certification and labelling). Subsequently these are presented in more detailed.

**3.1.1 Political framework: laws, regulation and subsidies**

In the EU, law has regulated the production of organic food since 1992. EU regulations 834/2007 (EG) and 889/2008 form the legal basis for this. They are binding to all EU Member States and thus constitute the minimum standards for organic agriculture. The regulations describe the objectives, principles and basic requirements for organic farming. According to the objectives and principles for organic production set in the Council Regulation (EC) 834/2007 (EC 834/07), organic production establishes a “sustainable management system” (EC 834/07/II,3) “for 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” (EC 834/07/I1).

The objective of EC 834/07 is twofold. On the one hand, it should ensure “fair competition and a proper functioning of the internal market in organic products” (EC 834/07/I,3). This implies the need for simplification, flexibility and the allowance of exceptional rules to make it possible to adapt production rules to specific local conditions in the different EU member states (EC 834/07/I,21). On the other hand, it aims to contribute to transparency and especially to consumer confidence as well as to the harmonised perception of organic production (EC 834/07/I,5).

In particular, they prohibit the use of readily soluble mineral fertilizers and chemical synthetic pesticides as well as the use of genetically modified organisms. In addition, they apply special requirements for animal care and feeding (Rosenwirth, 2011).

As a member of the European Economic Area, these rules also apply to Norway and are integrated into the "Forskrift om Økologiske landbruksprodukter" (regulations relating to organic agriculture) (Mattilsynet, 2007). Foods that carry the EU organic logo must at least comply with the EU organic regulation. In addition, a voluntary membership to private organic associations is possible. Common associations in Germany are Bioland, Demeter and Naturland. In Norway, Demeter is the only organic association. The associations have their own guidelines, which complement EU policies. The EU guidelines form a compromise of all EU countries, consequently most organic associations think that they are not far-reaching enough (Rosenwirth, 2011). Demeter, for example, targets to achieve a healthy interaction both between humans, animals and plants, as well as between the earth and the cosmos (Demeter, 2012). Table 1 contrasts the differences between conventional and organic dairy farming. Demeter was chosen as an example of private organic standards because it is the only organic association in Norway.

**Table 1: Differences between conventional, EU organic and Demeter organic agriculture guidelines in dairy husbandry**

	<b>Conventional</b>	<b>EU-Eco-regulation</b>	<b>Demeter</b>
<b>Animal husbandry</b>	Livestock husbandry not dedicated for agricultural holdings.	Livestock husbandry not dedicated for agricultural holdings. But minimum barn area of 6m <sup>2</sup> required. Livestock stocking is bounded to an area.	Livestock husbandry is dedicated for agricultural holdings. Minimum barn area of 6m <sup>2</sup> required. Livestock stocking is bound to an area. At least 0.2 RGV/ha. Deworming with allopathic drugs only after prior faecal examination.
<b>Animal welfare</b>	Dehorning is allowed. Cow trainers are allowed.	Dehorning is allowed. Cow trainers are allowed.	Dehorning is not allowed. Dehorned animals may not be kept. Horn bearing breeds are required for dairy animals. Genetically hornless dairy animals are not allowed. Cow trainers are not allowed.
<b>Livestock transport</b>	Use of electrifying driving aids is allowed.	Use of electrifying driving aids is forbidden. Use of allopathic sedatives is forbidden. Transport of animals should be accompanied with little stress.	Use of electrifying driving aids is forbidden. Use of allopathic sedatives is forbidden. Short transport routes and transportation of carcasses is aspired.
<b>Purchase of compound feed</b>	Approved	Food production from the own farm is not clearly demanded. A location-independent animal husbandry is possible. Far-ranging list of feeds that can be purchased: ca. 80 products. The purchase of feed is not regulated.	At least 50% of the feed must come from own holding or cooperation. 50% of the daily ration has to be Demeter feed. Two thirds of the annual ration has to be Demeter feed. A max. of 1.3 years ration can be "in conversion to Demeter", a max. of 20% may be organic feed. Purchase of compound feed only from Demeter e. V. approved providers. All components of the compounded feed must be certified organic.
<b>Approved conventional animal feed</b>	Conventional animal feeds approved	If organic certified feed is not available, about 80 products of conventional origin are approved . The max. percentage of conventional feeding stuffs in cattle is 0%. Compound feed can contain conventional components.	Uncompromising use of 100% organic feed for all animal species. It is aimed to use 100% feed from biodynamic production. A fixed proportion of biodynamic feed components is mandatory Conventional feed is not allowed Organic compound feed is only allowed without conventional components.
<b>Silage feeding</b>	Is not regulated	Is not regulated	The exclusive feeding with silage is prohibited.
<b>Green fodder</b>	Is not regulated	Is not regulated	In the summer more than 50% Green fodder must be fed (desirable from pasture).
<b>Hay feeding</b>	Is not regulated	Is not regulated	In winter cows min. 3kg / animal / day

Source: Demeter (2011)

The EU regulations are supplemented by the Implementing Rules. These include details about the production, labelling, control and imports of organic foods (Regulation (EC) no. 1235/2008, Regulation (EC) No. 889/2008 and Regulation (EC) 1254/2008). States wishing to import organic products in the EU are also subject to these standards (Willer & Kilcher, 2012).

Both Germany and Norway support organic agriculture through subsidies. In Germany, the state first supported organic farming in 1989 under the EG extensification program. Since 2000, support is taking place within the programs for rural development (Regulation (EG) no. 1257/1999 or Regulation (EG) no. 1698/2005). The main target of the promotion of organic farming is to achieve environmental goals. It is, however, realised very differently in the provinces, since a large part of the agricultural structures and agri-environmental policy falls within the competence of the federal states. Consequently both, support conditions and subsidy rates differ from state to state in Germany (Nieberg, Kuhnert & Sanders, 2011).

In Norway, the state first started supporting organic farming about twenty years ago. Subsidies for conversion to organic agriculture and support for organic areas were introduced in 1990. The support occurred within the “produksjonstilskudd primærprodusenter” (production subsidies for primary producers) and the “Tilskudd til utviklingstiltak” (subsidies for development measures) and is managed by the state's agricultural administration (statens landbruksforvaltning). Subsidies for organic livestock have existed since 2001. In the beginning, the food industry was not paying premiums. Still in 1994 it was mentioned in an article in the *Bondebladet* (newspaper and learned journal for Norwegian farmers) that the price of milk should not be differentiated between conventional and organic milk, as to not give the impression that conventional milk is subprime (Vittersø, 2000). This was based on the thought that organic farming is a criticism to conventional agriculture and consequently as well a critique to the majority of the members of the only Norwegian dairy group Tine (who process 95% of Norwegian milk) (Vittersø, 2000). In 1996, the food industry finally started to pay premiums for organic products (Koesling et al., 2012).

Germany and Norway support milk production differently. Dairy farmers usually receive a price premium for milk and sometimes also subsidies on their land and livestock. However, these turn out to be between €142.68 to €176.03 higher in Norway than in Germany (compare Table 2) (Ebbesvik, 2009a; Ebbesvik, 2009b; organic, 2013, BLE, 2013a; Rosnes & Thanh Ha, 2013).

**Table 2: support rates of milk production in Germany and Norway**

	<b>Germany</b>	<b>Norway</b>
<b>Additional charge for milk per litre</b>	7.5 ct/kg	11ct/kg (85 øre)
<b>Subsidy for organic cows per animal per year</b>	x	AK-Zone <sup>3</sup> 1-4: 307.67 € (2400 NOK) AK-Zone 5-7: 346.38 € (2702 NOK)
<b>Subsidy for organic grazing area per ha and year</b>	131 €204 €	0.32 € (25 NOK/daa)
<b>Total aid</b>	132,07 €204.07 €	308,10 €346.75 €

Source: Own illustration based on: Ebbesvik, 2009a & b; Bioland, 2013; BLE, 2013a; Røsnes & Thanh Ha, 2013. 3 AK-zones :the areal and cultural landscape subsidy is dependent on the zones into which the country is divided. The grant should contribute to the strengthening and stabilization of income between dissimilar productions, company sizes and districts in plant and animal production.

### ***3.1.2 Market development: control, certification and labelling***

In Germany, 20 different private boards of control check the compliance of the EU directives (BLE, 2013C). These are approved by the Federal Agency for Agriculture and Food and monitored by the control authorities of the federal states (BLE, 2013b).

In Norway, Debio, the only board of control, is responsible for the control and certification of organic products. Debio is a private membership organization and was founded in 1986. Mattilsynet, the states supervising organisation of plants, fish, animals and food, has delegated the control authority to Debio (Debio, wd). In turn, Mattilsynet and the Norwegian Accreditation Service (norsk akkreditering) check Debio once a year (Stormoen, 2013).

The boards of control in both Germany and Norway hold an announced control once a year to check compliance with the organic standards. However, unannounced spot checks can be made in addition. After successful completion of the inspection procedure, the organic certification is awarded for a year.

When a producer meets all the requirements, he can label his products according to the EC Regulation on Organic Agriculture with the EU organic logo. If the farm is in addition a member of an association (for example, Demeter), he has to pass through additional annual inspections to be able to use the association label for marketing his products (Demeter, 2012; BLE, 2013b; Debio, wd).

## **3.2 Market Factors**

The supply- and demand side determine the market for organic food. This is shown in more detail below.

### **3.2.1 The supply side**

The supply factors affect the ability of consumers to demand organic milk products. They include the domestic production, the distribution channels and the relative price of organic milk. Due to differences in the supply factors, the possibility to acquire organic milk products is very different in Germany and Norway.

According to Thøgersen (2010), a high domestic production can promote the consumption of organic products. However, there is no clear relationship between the proportion of organic land and the organic food share of the total food market in a country. In Germany, 6.3% (1,043,528 ha) of agricultural land is organic (BÖLW, 2013). Furthermore, 139,000 dairy cows are kept organically (BLE, 2012). Their milk has a share of 2.2% of the total milk delivered to dairies and is processed in 53 different organic dairies all over Germany (BÖLW, 2013). Germany is not only one of the largest organic producers, but also has the largest market for organic products in Europe. Often the demand for organic milk is greater than the supply (Willer & Kilcher, 2012). To meet the demand for organic milk in Germany, both fresh organic milk and organic butter are imported (26%), mainly from Denmark and Austria. The import share of cheese is in a similar range (Willer & Kilcher, 2012).

Norway, however, lags behind the European trend (Thøgersen, 2010). Only 5% (55,258 ha) of the total agricultural land is organic. Furthermore, only 7,693 dairy cows are kept organically. Their milk has a share of 3.5% of the total milk supply and is processed in 21 different organic dairies. Alone, 16 of these 21 dairies belong to Tine and thus provide the group a monopoly. In Norway, the production exceeds the demand. While in Germany, organic milk



products must be imported to meet the demand. In 2012, only 40% of the delivered organic milk was used in Norway, the remaining part was conventionally marketed (Rosnes & Thanh Ha, 2013).

While organic milk production is booming in Germany (Kilcher & Willer, 2012), numerous farms in Norway are returning back to conventional farming. Besides the obvious reasons, like increasingly stringent regulations and low income, this trend is also caused due to personal reasons, such as disappointment and the need for acceptance (Koesling et al., 2012). This development is reflected in the growth of the organic farming area. In Germany, the area under organic farming has grown between 2007 and 2010, by 435,870 ha (4.6%). In Norway, it were only 482 ha (0.8%) during the same period as shown in Table 3 (Kilcher & Willer, 2012).

**Table 3: Production parameters for organic milk**

	<b>Germany</b>	<b>Norway</b>
<b>Area under organic farming</b>	1.043528 ha (6,3%)	55258 ha (5,1%)
<b>Cows in organic husbandry</b>	139000 = 3,3%	7693 = 3,1%
<b>Delivery proportion (organic milk)</b>	2,2%	3,5%
<b>dairies</b>	53	21

Source: Own illustration based on BLE, 2012; B6LW, 2013 & R6snes & Thanh Ha, 2013.

### **3.2.1.1 Distribution Channels**

In addition to the production, where the consumer can purchase the products and when the conventional food retail sector has gone into the marketing of organic products is also relevant. While organic products were sold by conventional food retailers very early in Germany, in Norway, direct marketing, health food stores and health food stores were the only marketing channels for a long time (Kilcher et al., 2011). Furthermore, German consumers have a variety of options when it comes to purchasing organic milk products. Germany has a relatively well-developed segment for organic shops and organic supermarkets and health food stores. They take a 25% share of the total sales. However, most of the organic food is sold through food retailing (57%). The remaining 18% is spread over other sales channels such as direct marketing or farmer's markets (Kilcher & Willer, 2012). Germany has a great variety of organic milk products. The organic share of sales of the total market reflects this. Organic butter, for example, has a share of sales of 1.6%, yoghurt 3.7%, cheese curds 2.3% and cheese 1.8%. Organic milk has the largest share of the market with a share of sales of 3.8% (Schaack et al., 2011).

In Norway, the possibilities of purchasing organic milk products are relatively limited. The marketing is done primarily through grocery retail (85%), 14% by specialised stores; the remaining 1% is allotted to other sales channels such as direct marketing and farmer's markets (Kilcher et al., 2011). Additionally, the array of product turns out smaller. There are six types of organic milk, one type of organic kefir, two types of organic soured milk, two types of organic butter, one type of organic yoghurt, two types of organic sour cream and two types of organic "kulturmilk" available. Only organic cheese has a slightly larger range with 27 different varieties. In addition, the products are not available everywhere. For example, the proportion of stores that have organic

milk in their product range declined between 2007 and 2011 (Authority, 2012). According to Norfelt (2008), this availability-barrier is formed by the lack of interest and knowledge about organic products by the purchasing managers of conventional supermarkets. Furthermore, the chances for the introduction of new organic stores and supermarkets, as we have seen for years in Germany, are unlikely because the conventional supermarkets have a too strong of a market position in Norway.

### ***3.2.1.2 Relative Prices***

In countries where the majority of the products are available through the conventional food retailing, often the premium prices for organic products are comparatively lower (Thøgersen, 2010). The high premium price for organic products is the largest purchase barrier in Germany and Norway. Therefore, supermarkets stimulate consumption when they take organic products in their range. Both in Germany and Norway, many of the organic products are sold through conventional food retailing. In Germany, 84% of the total organic milk is sold through conventional retailing (Rosenwirth, 2011). Prices could fall further through market growth (Thøgersen, 2010). For a litre of whole milk, the consumer must pay a surcharge of 23% on average over the price of conventional milk. Compared to the average of the 25 most expensive conventional types of milk, the consumer pays even 2% less for a litre of organic milk (Hamm, Aschemann, & Riefer, 2007). Conversely, the small Norwegian market leads to high prices. Tine requires a surcharge of 18% for organic low-fat milk. This should reflect the additional costs of production. For dairy products in general, you pay on average a surcharge of 25% in Norway (Kilcher & Willer, 2012). As a result, the market growth is slowed down due to the high prices (Thøgersen, 2010).

## **3.2.2 The demand side**

While the supply factors affect the ability of consumers to demand organic milk products, the demand factors point out the motivation and ability for the consumption of organic dairy products.

### ***3.2.2.1 Purchase motivation***

The decision whether a consumer picks organic milk or the conventional product is influenced by an interaction between values, attitudes and motives (Aertsens et al., 2009). In both Germany and Norway, organic consumers see the values of altruism (relationship with others), ecology (harmony with the universe and sustainable future) universalism (protecting the welfare of man and nature), self-determination (independent thought and action), benevolence (improve the welfare of the people with whom one is in permanent contact) and spirituality (inner harmony and unity with nature) as important (Hughner et al., 2007).

The most common reasons for buying organic products are health and nutritional interest, better taste, food safety and lack of confidence in conventional farming. Altruistic motives, such as concern for the environment, animal welfare and support of the local economy, also have a high significance (Hughner et al., 2007).

Culture has a great impact on the attitudes, values and motives and affects the significance of environmental and ethical concerns in the choice of food. For the consumption of organic

food the cultural characteristics, food culture and environment are of particular importance and should be seen as a whole (Thøgersen, 2010).

In northern Europe, the interest in organic farming has mainly emerged from a strong public, environmental awareness (Thøgersen, 2010). In 1980's Germany, a period of high industrial growth already resulted in significant contamination of water, soil and air (Andersen & Wichard, w.d.). Organic farming has been the object model for progressive industrialisation and increasing productivity in the agricultural and food industries (Dabbert & Haring, 2003), and an expression of distrust in conventional agriculture (Bruhn & von Alvensleben, 2001). While environmental protection was one of the main drivers of organic consumption in Germany, this aim is of rather low importance in Norway. As far as food concerns, Norwegians are primarily concerned about their health, while environmental concerns are of less importance (Vittersø, 2000). Moreover, Norwegian consumers have great confidence in conventional agriculture since this has not been rocked in recent years by any major food scares (Berg, 2004). For example, Norway had, in contrast to Germany, no BSE crisis (Halkier & Holm, 2006). Norwegians think that Norwegian agriculture as environmentally friendly and small scale, and they assume that the local conventionally produced products are almost organic (Kvakkestad et al., 2011). Furthermore, the consumer does not recognize the connection between environmental problems and agricultural production to the same extend as a number of other environmental problems (e.g., traffic pollution). An example of this is the eutrophication of Norway's largest lake, Lake Mjøsa, in the 70s. From the political side, phosphate in detergents was blamed for over-fertilization, although phosphate and nitrogen from agriculture were a far greater source of pollution to the lake (Vittersø, 2000).

Often, the small farm size and the low number of livestock in Norway are stressed in this discussion. While an average German farm is 58 hectares and has 52 dairy cows, an average Norwegian farm is 22 hectares and has 23 dairy cows (Statistisches Bundesamt, 2012; Statistics Norway, 2012). However, if one is taking the vegetation period and the number of animals per hectare into account, a very different picture arises. The Norwegian growing season (May-September) is on average two to four months shorter than the German (March to late October) (Meteorologisk institutt, 2012; ima, w.d.). Furthermore, Germany and Norway have a very similar number of livestock per hectare. In Germany, there are 0.2 animals per hectare (Statistisches Bundesamt, 2013). In Norway, there are 0.1 animals per hectare (Statistics Norway, 2012). Consequently, the environmental impact due to the spreading of manure is greater in Norway due to the short growing season. In addition, the different regions are specialised due to politically driven subsidies, which separate farming and animal husbandry (Norges Bondelag, w.d.). This reinforces the environmentally harmful use of manure. In addition, this prevents a healthy nutrient cycle on farms (Granstedt, 2000). As a result, the Norwegian agriculture is not as idyllic and environmentally friendly as many consumers perceive it.

### **3.2.2.2 Purchase ability**

For the purchase of organic products, the motivation not only plays an important role, but income and subject-related knowledge also matter (Hughner et al., 2007). Through a substantiated involvement, consumers are able to identify products labelled as organic and know what they mean (Hughner et al., 2007). However, the organic label enjoys a different degree of familiarity in Germany than in Norway. In Norway, 79% of respondents stated they know the national Debio-label (Alnes, 2011). In Germany, 72% of respondents stated to know the meaning of the organic label (Meyer-Höfer & Spiller, 2013). The recognition of the EU logo is very low in both Germany (5%) and Norway (3%) (Alnes, 2011; Meyer-Höfer & Spiller, 2013).

## **4. Discussion**

The aim of this paper is on the one hand to find out why the consumption of organic milk in Norway is so low compared to Germany. On the other hand, it assesses whether organic farming should be preferred over conventional and if it is a useful alternative for Norway. For this purpose, Germany and Norway were examined based on the Thøgersen (2010) model of organic food consumption determinants looking at their market and their political framework for organic milk. The result shows that both differences in the political context and in market factors lead to reduced consumption of organic milk in Norway.

According to Thøgersen (2010), differences in the political context play a particularly important role in the success of organic foods on the market. Indirectly, market factors influence the political framework, as they are, for example, paving the way for political support or putting pressure on farmers to convert (Thøgersen, 2010).

In Norway, differences in market factors primarily explain why Norwegians do not drink organic milk. This is, amongst others things, explained by the differing perceptions of the problems associated with agriculture. While German consumers became aware of the negative effects of conventional agriculture due to environmental problems and food scandals (Bruhn & von Alvensleben, 2001), so far this process has not taken place in Norway (Berg, 2004). Norwegian consumers have not experienced the connection between environmental problems and agriculture to the same extent as German consumers. Consequently, they still favour products that are produced in Norway and are primarily concerned with their health when choosing their food; environmental concerns are rather secondary. This combination leads to a barrier for organic products (Thøgersen, 2010).

In addition, environmental problems do not show up to the same degree as they do in Germany because only a very small part of the country's land (3%) is used for agriculture (Storstad & Bjørkhaug, 2003). In addition, environmental problems, such as in Lake Mjøsa (Vittersø, 2000), were in some cases even hidden. German consumers, however, are aware of environmental problems that may come in the future. Consequently, the potential for the organic market in Germany is significantly greater (Storstad & Bjørkhaug, 2003).

However, the potential for the organic market in both countries has been reduced by the confusion and ignorance that organic labels create, especially the EU-label. If a consumer neither recognizes nor knows what is hidden behind organic products than they cannot buy them consciously. Through targeted campaigns, this potential could be further exploited.

Additionally, Norway has a very low range of organic dairy products, which in comparison to Germany, are also less available and more expensive. This means that the Norwegian consumer does not have the opportunity to consume organic dairy products to the same extent as the German consumer. Norfelt (2008) assumes that the lack of availability of organic products is one of the greatest barriers for the organic market in Norway.

In Norway, they attempted to increase the organic milk production with the help of subsidies and thus increase the demand. Although the high subsidies could increase Norway's organic milk production, the demand was not growing to the same extent. Consequently, 60% of the organically produced milk is marketed conventionally (Røsnes & Thanh Ha, 2013). This has had a demotivating effect on farmers and has persuaded many farmers to return to conventional farming. This example shows how important it is that the political interventions aim to support supply and demand to the same extent. The food industry was reluctant in introducing organic products as well. Organic milk was seen as competition and a criticism to conventional milk in Norway (Vittersø, 2000). The long lack of acceptance and marketability of organic milk could be another reason why many farmers do not convert to organic farming or are returning to conventional agriculture (Koesling et al., 2012).

Differences in the implementation of the control, labelling and certification may have contributed to lower organic milk consumption in Norway as well. While there are 20 different certification bodies in Germany (BLE, 2013c), there is only one in Norway (Debio, w.d). Due to this, Debio is approaching a monopoly position. Since higher prices and welfare losses may arise in a monopoly situation, this may lead to reduced trust in organic products and a demotivation of organic farmers. Furthermore, there is only one organic association in Norway, Demeter. The Demeter principles are very specific and not everyone can identify with them. This is reflected by the low number of Demeter certified farms. Only 26 farms are Demeter certified (Biologisk dynamisk foreningen, 2013). In contrast, there are around 1,400 farms in Germany that have the certification (Demeter, 2011). Consequently, Norwegian farmers do not have the same opportunities to get paid for the additional costs caused by stricter standards. However, the laws for organic agriculture are almost identical in Germany and Norway. Therefore, it is difficult to state whether the stricter Norwegian system of rules prevents the farmers from converting to organic farming. Furthermore, no studies could be found that explain why consumers in Germany and Norway buy organic milk. Consequently, this part could only be considered very generally. The results of this study especially contradict the widespread opinion amongst Norwegian consumers that Norwegian agriculture is almost organic. Although lesser amounts of plant protection products can be used because of the climate (Hofsvang, w.d.), the main problem of poor utilization and wastage of nutrients remains and is even boosted by the politically regulated separation of agriculture and animal husbandry (Norges Bondelag, w.d.). This indicates that there is a considerable need for awareness training among Norwegian consumers. This awareness training should aim to raise awareness about agriculture and its impact on the environment. With that, the question arises whether organic farming is a more meaningful option for Norway? Organic farming has very good approaches for optimally using resources. Yet, the EU regulations are not far-reaching enough to secure a sustainable agriculture. Stricter regulations, such as the Demeter regulations, are a step in the right direction. However, even these need continuous improvements and adaption to the evolving state of the art. Norway has great potential to take a leading role in this development.

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