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Article

Short Food Supply Chains and Their Contributions to Sustainability: Participants' Views and Perceptions from 12 European Cases

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Abstract: The present food system faces major challenges in terms of sustainable development along social, economic and environmental dimensions. These challenges are often associated with industrialised production processes and longer and less transparent distribution chains. Thus, closer distribution systems through Short Food Supply Chains (SFSCs) may be considered as a sustainable alternative. This study explores the role of different types of SFSCs and their contribution to sustainability through participants' (consumers, retailers and producers) views and perceptions. As part of the European H2020 project "Strength2Food" we conducted a cross-case analysis and examined 12 European SFSC cases from six countries: France, Hungary, Italy, Norway, Poland and the UK. We applied a mixed method approach including primary data collection, via in-depth interviews and customer surveys, as well as desk research. The findings suggest that, irrespective of the type of SFSC, a strong agreement among the participants were found on the contribution of SFSCs to social sustainability. However, participants' views considerably differ regarding the economic and environmental dimensions of sustainability. These differences relate to the way the SFSCs were organised and to some degrees to regional differences attributed to the significance of SFSC in different parts of Europe. The article concludes that the spatial heterogeneity of SFSCs, including supply chain actor differences, different types and organisational forms of SFSCs as well as regional and territorial characteristics, must be taken into account and further emphasised in future policies aimed at strengthening European food chain sustainability.

Keywords: short food supply chain (SFSCs); sustainability; case study; Europe; food systems; local development; alternative food networks (AFN); farmers' markets; box schemes; solidarity purchasing groups; local fish

1. Introduction

Today's food system faces major challenges along social, economic and environmental dimensions [1]. The social challenges are related to public health issues, in ensuring food security, food safety and healthy nutrition [2,3]. A socially sustainable food chain entails strengthening of local food production and food culture, building social capital and trust among actors in the food chain [1,4]. A more socially sustainable production and distribution of food is needed, also to ensure a fairer distribution of incomes and value creation in the food system [1,5]. Finally, agriculture, fisheries and aquaculture face major environmental challenges related to the overuse of land and water resources, biodiversity loss, pollution and climate change [2,6,7], as well as food losses and waste [2,8]. Many of these challenges are direct consequences of the way production, distribution and provisioning of food are managed. Concentration in food supply chains and concentration of production in specialised regions, as well as migration of the rural population to cities (large agglomerations) have led to greater physical and social distances between the various stakeholders in the value chain. We have also witnessed an increased transportation of input factors, agricultural commodities and finished food products.

In the research literature, as well as in the public discourse, short food supply chains (SFSCs) are often seen as an alternative form of food distribution with importance for sustainable transition of the food system [9,10]. SFSCs differ from conventional long food chains by having a limited number of economic operators (social proximity) and geographical proximity between producers and consumers [11]. A re-connection of production and consumption is often regarded as a more transparent way of distributing food that is strengthening the relations between producers and consumers towards more social, equitable and fairer practices. This article contributes to the discussion of the potential role of SFSCs in the transition towards a more sustainable food system [12] and focuses on the core participants that are involved in SFSCs: consumers, retailers/market organisers and producers. The paper contributes to the extant literature in several ways. First, it brings in new knowledge on established as well as conflicting perceptions and views of sustainability among SFSC participants. Second, it provides a cross-country analysis of different types of SFSCs in Europe. Third, it adopts a holistic multi-actor approach, in understanding different actors' perspectives (consumers, producers and retailers/managers) and benefit trade-offs within the same supply chain. An important contribution of the paper is that it includes the consumers' perspectives which is generally less emphasised in the research literature. There is in fact a shortage of research literature that extends to all facets of the value chain [10]. It is also worth noting that the literature on alternative food networks (AFNs) and SFSCs has so far typically focused on the Anglo-American area [13], while neglecting the post-communist countries as well as developing countries [14,15]. We also identify a bias towards studies of newer and so-called innovative initiatives. Thus, this paper aims at broadening both the empirical and comparative scope in order to discuss differences between actors, as well as spatial (geographical) and temporal (traditional versus innovative) characteristics of SFSCs. Against this backdrop, the present study includes 12 different cases of SFSCs across six European countries (France, Hungary, Italy, Norway, Poland and the UK). We apply a mixed method approach including primary data collection, via in-depth interviews with key participants of the SFSCs, customer surveys and desk research.

The main research questions are: What aspects and dimensions of sustainability are important to SFSC participants and how do these perceptions vary between diverse types of participants and types of SFSCs?

The article concludes that there are strong commonalities and shared perceptions/values among participants, especially in their view of the social benefits related to strengthened local identity and support for local production of food, increased knowledge, competencies and trust among supply chain actors. These may act as important drivers for improvement of the sustainability of SFSCs. However, problematic issues related to both economic and environmental aspects should be more explicitly taken into account in fostering a more sustainable development of SFSCs.

2. Background

The distribution of food through SFSCs is a multifaceted phenomenon and, as such, a unique and universally agreed definition of SFSCs does not exist [11,16]. SFSCs are often associated with 'face to face' distribution, linking directly the producer to the consumer, such as in the case of direct farm sales and farmers' markets. Such definitions leave out other types of SFSCs, for instance speciality shops selling local products and box schemes, which operate via one or a (very) limited number of intermediaries. SFSCs are also frequently confounded with the concept of 'local food systems', whereby food is distributed and sold within a short distance from the point of production, in the same geographical region or locality, irrespective of the number of intermediaries involved. The official definition of SFSCs in the EU is a supply chain involving a limited number of economic operators, committed to cooperation, local economic development, and close geographical and social relations between producers, processors and consumers ([16], p. 3). This is a broad definition that takes into consideration both 'social' proximity (number of actors) as well as geographical proximity (physical distance between producers and consumers). For this study, we have chosen this latter definition encompassing both social and geographical closeness between supply-chain actors.

In the academic literature on SFSCs the three dimensions of sustainability—social, economic and environmental—have often been discussed, though only to a lesser extent they have been examined in relation to each other. In a European context, the social dimension is typically related to the role of SFSCs in building social capital (and food sovereignty) and strengthening the economic viability of farmers, rather than, for instance, in achieving food and nutrition security, as set out in the UN's Sustainable Development Goal 2 [3,6,8].

The conventional production and distribution of food has for many years been evaluated with regard to its economic-, social- and environmental sustainability dimensions and, as discussed initially, a number of challenges have been pointed at [17].

These many challenges and controversial aspects of food chains have spurred an increased interest in alternative production and distribution systems, with special emphasis on favouring direct sales through shorter supply chains. In the EU, on average, around 15% of farms sell more than half of their production directly to consumers [16]. However, the role of SFSCs in food distribution differs greatly across European countries. According to Augère-Granier (2016) [16], direct sales have minor importance in Malta, Austria and Spain, with more than 90% of food retail occurring in the large supermarket chains, while in other countries direct sales, traditional speciality shops and food markets have prevailed and account for a significant share of the market. For instance, the share of farms involved in direct sales is nearly 25% in Greece, 19% in Slovakia and around 18% in Hungary, Romania and Estonia [16].

SFSCs have gained increased political attention in light of the beneficial outcomes they are likely to provide for the economy, the environment and society as a whole [10,11,18]. However, the extent to which SFSCs contribute to sustainability is still an open question on many issues. The research literature points to a number of issues. SFSCs are considered to have positive effects on social sustainability. They are assumed to strengthen social capital in local communities through the creation of new networks engaging both farmers and consumers, in both rural and urban areas [19–21]. From a consumer perspective, increased traceability may enhance the awareness of and concerns for more sustainable food choices. Moreover, mutual trust and respect are valued as an essential part of the relations between producers and consumers in SFSCs [11,22–25]. Strengthened cooperation at the production stage has the benefit of supporting the knowledge and skills of small-scale farmers. Some studies also emphasise that participation in SFSCs may increase the food awareness and culinary education of consumers [26], eventually strengthening their cultural/regional identity, food provenance, sense of trust and of being food secure [18]. In this way, SFSCs can help revitalise and empower the local community, instilling a sense of pride and belonging to a certain area and community [27]. However, the consumer perspective is often neglected in studies on SFSCs, which generally tend to focus on the

production/supply side [25]. Another critique is that most of the studies often emphasise the positive valuations from SFSCs' participants, while having a blind spot for negative impacts [19,22].

In this article, we thus focus on the role of SFSCs in enhancing social sustainability by looking at aspects contributing to community building, such as strengthening local identity, knowledge, competencies and trust as well as support and cooperation among supply chain actors.

Regarding the economic dimension, there is limited evidence on whether SFSCs increase or decrease farm incomes [11]. Some studies suggest that the majority of farms participating in SFSCs are also part of longer value chains or in some cases, with reliance on off-farm income from some farm operators [19]. Mundler and Laughrea (2016) and Kneafsey et al., (2013) list several potential benefits for the farmer/producer from participating in SFSCs, such as a better redistribution of the value added and less sensitivity to market risks [11,19]. This is achieved via a wider portfolio of income-generating activities, product diversification and a more direct control of the price setting mechanism. This can particularly benefit small- and medium-sized farms, which, generally, do not have easy access to conventional food chains [28]. In this respect, it has often been suggested that a fair access to the market would improve the economic viability of many small-scale producers.

More generally, the economic value added for the farmer/producer involved in SFSCs results from the possibility to gain premium prices on the produce, which is sold directly to the consumer, compared with the one sold in long chains [29]. Whereas some studies point to a conflict between value added for the producer and costs for consumers [30], other studies show that SFSCs may in fact lower the prices for consumers while generating value added for the producer at the same time [31]. In the research literature, we find a bulk of studies on the economic value for producers, while the economic significance of SFSC for consumers is generally less emphasised. This article thus discusses how economic aspects are valued both from both producer and consumer perspective, alongside ethical dilemmas discussed by participants related to the fair price of food and "the real costs of production" [32].

Mundler and Laughrea [19] emphasised the lack of agreement in the literature with regard to the environmental impacts of SFSCs. The complexity in providing a real picture on the environmental dimension of SFSCs can be a consequence of the trade-offs among different priorities. For instance, packaging has a function to protect and preserve the perishable food products, and thus, avoids further food waste, while on the other hand, it is also a major contributor to greenhouse gas emissions both at the level of production and in the process of recycling. Moreover, consumers driving to and back from the local retail outlet or pick-up point (in the case of box schemes) can be more "carbon intensive" compared to ordinary shopping, per kilo of product/produce. In this respect, the organisation of distribution within the SFSCs is critical for the environmental impact in terms of CO_2 emissions [19,33,34].

As part of the quantitative assessment of SFSCs in the Strength2Food project, the climate impact of SFSCs in terms of food miles and carbon footprint (of distribution) has been measured [33]. In contrast, in this article we look closer into the SFSC participants' own evaluations and perceptions of the environmental impacts of SFSCs on aspects such as CO_2 emissions, resource use and waste along the supply chain. We also discuss the link between a closer and more socially embedded distribution chain and a more naturally embedded production system emphasising animal welfare standards and strengthening biodiversity among others.

In this study, we specifically look at consumers' and producers' motivations for participating in different SFSCs, and regard their motivations and perceptions as important factors for establishing and developing SFSCs. However, different dimensions of sustainability may not necessarily be complementary, so that a trade-off between different priorities and conflicting interests may exist. Additionally, the degree of impact will vary among different types of SFSCs, their products and locations, and the impact on different agrifood actors may not be homogeneous [18].

3. Materials and Methods

3.1. Selection of Cases

Previous research on SFSCs has been criticised for looking at single case studies, mostly focused on individual aspects of sustainability, typically studied in isolation from one another [11,18,35]. As a result, this study provides a more comprehensive approach by including all three (social, economic and environmental) dimensions of sustainability examined over a broad range of European SFSC case studies. To achieve this set of objectives and explorative approach, we selected the cases by variation according to the following criteria:

- History and organisation: traditional versus new/innovative SFSCs.
- Social and spatial proximity: direct sale versus one (or two) intermediaries within a local area.
- Geographical variation: different countries and regions of Europe.
- Type of products: ordinary (fresh produce), speciality (processed) and organic products; agricultural and aquaculture/fishery products.

Although the different case studies covered multiple dimensions, they also shared common features, such as encompassing both traditional town- and farmers' markets, as well as newer forms of farmers' markets. The case studies also included speciality shops (fish and cheese) and more innovative initiatives (consumer co-operatives, solidarity groups and box schemes). With some exceptions, most of the cases represented direct sale without intermediaries (see Table 1), with, in all circumstances, distribution taking place locally.

Regarding geographical variation, we investigated different regions including South (Italy), East (Hungary and Poland) and North/West (Norway, UK and France) Europe. Finally, we analysed food markets, outlets and initiatives selling fresh produce as well as markets and outlets specialised in processed food such as local cheese as well as organic food products. Three of the cases also covered fish and seafood produce, which are more rarely included in studies of SFCSs. Thus, the selected cases represent a variety of different realities and dimensions reflecting multiple aims and motivations of participants, including consumers, farmers/fishers, retailers and organisers.

Although the present study includes a wide range of different types of SFSCs, other catering or public procurement arrangements of local food, as well as on-farm sale to consumers, community supported agriculture (CSA) or direct sale through the internet, have been excluded. Table 1 summarises the final selection of our case studies.

3.2. Methods

A mix of research methods, and thus data sources, were applied to conduct the present study. Fieldwork data collection activities, including semi-structured interviews with key informants and customer surveys, were complemented with desk research to review statistics, policy reports and other 'grey' literature. A discussion of the specific methods is provided in the next sub-sections.

Table 1. List of cases [1].

Country [2] and Type of Case	Name/Specification	Types of Products	Social Proximity	History/Tradition Dimension	Geographical Variation
FR-Central market	The central market in Dijon	Diverse	Mainly direct	Traditional (150 years old)	Medium-sized town
FR-Producers' market	Hauterives' organic producers' market	Diverse	Direct	New (recent)	Rural (village)
HU-Farmers' market	Szekszárd Farmers' market	Diverse	Direct	Traditional (since 1969 in the current place)	Small-town
HU-Freshwater fish shop	Local distribution of fish in Tolna County (Szekszárd)	Freshwater fish: Carp	Intermediary	Traditional (1989)	Small-town
IT-Dairy cooperative	'Latteria Sociale Garfagnolo'—Appennino Tosco-Emiliano National Park	Cheese	Intermediary	Traditional (1947)	Rural
IT-Solidarity purchasing group	'Kuminda'—network of solidarity purchasing groups in the Parma Province	Vegetables	Direct	New (2003)	Medium-sized town
NO-Consumer cooperative	'Vestfold Kooperativ' Consumer cooperative in Vestfold county	Organic vegetables, fruit, meat, dairy, bakery	Intermediary	New (2015)	Small-town
NO-Fish shop	Local distribution of fish in Vestfold county	Seafood: fish and shellfish (shrimps)	Intermediary	Traditional (1911)	Small-town
PL-Farmers' market	Local food market in Płońsk	Diverse	Direct	Traditional (>50 years)	Small-town
PL-Organic market	Local organic food market in Warsaw—'BioBazar'	Organic, diverse	Direct	New (2010) but traditional concept	Large city
UK-Fish box scheme	The 'Creel Fish Club'	Seafood: fish and shellfish	Intermediary	New (2016)	Small-town
UK-Farmers' market	Hexham Farmers' market	Diverse	Direct	Recent (1999)	Small-town

[1] Source: Own compilation based on Strength2Food Task 7.1 partners. [2] FR = France, HU = Hungary, IT = Italy, NO = Norway, PL = Poland, UK = United Kingdom.

3.2.1. Customer Surveys

The aim of the customer survey was to identify drivers, motivations and barriers among consumers for acquiring food through SFSCs. Besides socio-economic background questions, the questionnaire focused on shopping habits and motivations for buying from the studied SFSCs. The questionnaire also included other topics related to customers' travelling patterns in connection with buying food from the SFSC. The questionnaire is provided in Appendix A.

The field work was carried out from June 2017 to January 2018. The customers were interviewed by the project researchers at the different case locations. The web-based survey tool Qualtrics was used for data collection and computation of results. For simplicity, most interviewers used paper questionnaires with collected data manually entered into Qualtrics afterwards. However, there were some local adjustments. For instance, in the UK, it was not easy to get hold of customers, thus, additional answers were collected via social media, i.e., by posting the online version of the survey via the Facebook and Twitter accounts of the initiatives, with additional media coverage in the local newspaper for the fish box scheme. The aim was to survey (at least) 30–60 respondents in each of the cases, dependent on the customer base and accessibility of customers. Some of the cases, such as the UK Fish box scheme and Norwegian Consumer cooperative, have rather small numbers of subscribing members, and some of the markets have infrequent opening hours and great variations in its customer base. In total, 596 respondents took part in the customer survey (Table 2).

3.2.2. In-Depth Interviews

In-depth interviews were carried out with key informants within respective SFSCs to explore different motivations and practices. Semi-structured interview guides were developed to collect data for identifying participants' perceptions and SFSCs organisational characteristics as well as drivers and barriers for the development of the studied initiatives. The guides were adapted to the different types of actors interviewed and local contexts.

3.2.3. Selection of Interviewees

We recruited participants using a purposive sampling technique where the respondents were selected based on their roles as either producers (farmers/fishers), retailers (store managers, managers of markets, subscription schemes, co-operatives etc.) or consumers (customers on markets, subscribers to box schemes, members of consumer co-operatives etc.). Where appropriate, other relevant respondents were also included such as employees at food stores, market stalls, subscription schemes or volunteers in co-operatives with first-hand knowledge of the SFSC.

To secure a uniform collection of data across partners and cases, common guidelines were developed on how to recruit respondents and carry out surveys and interviews. The research partners were encouraged to recruit at least four producers and four consumers for in-depth interviews as well as interviews with central actors such as retailers or market managers in each case. All interviewees were given written information about the project and a short introduction about the aim of the interview. Written consent forms were handed out for signing by the respondents.

In total, 65 in-depth interviews were carried out with consumers, 56 with producers (farmers, fishers, food processors) and 18 with organisers and retailers (Table 3). At some interviews, more than one interviewee was present and some interviewees had more than one role. For instance, one of the producers in the French Producers' market was interviewed also in the role of main organiser of the market. One interviewee in the Hungarian freshwater fish shop was interviewed as a producer, but also in the role as retailer because he also operated two fish shops. Likewise, in the Norwegian consumer cooperative, one of the producers was the one of the founders of the cooperative and did most of the organisation together with one of the consumers. Thus, these two members were as well interviewed in their roles as organisers of the cooperative.

Table 2. Demographics of the customers that responded to the survey in each case study (N = 596).

SFSC Case	Respondents	Gender [%]		Age Group [%]				Education [%]			Income [%] [1]		
	N	Male	Female	≤29	30–44	45–59	≥60	Primary	Upper-Secondary	Tertiary	Low	Medium	High
FR-Central market	61	30	70	7	19	19	56	13	31	56	11	40	49
FR-Producers' market	34	41	59	3	29	24	44	24	26	50	15	36	48
HU-Farmers' market	60	37	63	4	41	30	25	0	42	58	14	14	71
HU-Freshwater fish shop	61	70	30	2	52	30	16	2	49	49	3	33	64
IT-Dairy cooperative	62	55	45	6	21	35	37	24	42	34	16	65	19
IT-Solidarity purchasing group	73	21	79	18	24	33	25	18	38	44	22	61	17
NO-Consumer cooperative	28	14	86	0	46	39	14	0	11	89	12	42	46
NO-Fish shop	65	43	57	0	12	26	62	5	25	71	11	30	58
PL-Farmers' market	48	46	54	2	23	44	30	10	69	21	46	48	6
PL-Organic market	40	18	83	20	43	30	8	0	18	83	18	35	48
UK-Fish box scheme	19 [2]	47	53	0	16	32	53	5	5	84	10	10	80
UK-Farmers' market	45	45	55	5	11	35	49	0	8	85	28	41	31

[1] Due to large variations in income levels in the six countries, we constructed categories based on national statistics for low, medium and high income (measured as monthly net household income) for each country. The cut-off points for the categories are thus not equal in absolute numbers (EURO), but reflect the income levels in each country. [2] This relatively low number reflects the small size of the customer base—on average, on a weekly basis, around 13–20 fish boxes are delivered.

Table 3. Number of participant interviews with key chain actors.

Type of Case	Consumers	Farmers, Fishers and Food Processors	Organisers and Retailers
FR-Central market	6 (7)	7 (9)	
FR-Producers' market	5 (7)	5 * (7)	1 *
HU-Farmers' market	5	5	2
HU-Freshwater fish shop	5	5 *	1 *
IT-Dairy cooperative	5	5	1
IT-Solidarity Purchasing Group	5	5	1
NO-Consumer cooperative	4 *	5 * (6)	2 *
NO-Fish shop	4	4 (6)	3
PL-Organic market	11 (12)	2	2
PL-Farmers' market	5 (6)	5	
UK-Fish box scheme	5	4	3
UK-Farmers' market	5	4	2
Total	65 (70)	56 (63)	18

* Some interviewees had more than one role.

4. Results

4.1. Actors' Perceptions of SFSCs' Contributions to Social Sustainability

Social sustainability is here discussed by focusing on how the participants viewed SFSCs in terms of strengthening social capital and local community building. This is analysed first by presenting results from the customer survey on how respondents first visited or were recruited to the SFSC as an indicator of how SFSCs are socially embedded in the local community. These results are discussed against evidence from the in-depth interviews with SFSC participants about the importance of cooperation and personal knowledge to strengthen local networks. This is also analysed in relation to how direct contact between producer and consumer is viewed in terms of sociability, knowledge of food production and how this affect trust and support for local food production among participants of the SFSC.

4.1.1. Local Identity and Community Building

SFSCs may be viewed both as part of existing local networks, as institutions that historically have been present as part of the local community, e.g., farmers markets and local food stores, or they may be new initiatives aimed at building and developing new relations between food system participants in the local community. In this study, we wanted to know how customers first got to know the SFSC as an indicator of local and social embeddedness (Figure 1).

The dominating answer to this question was: 'Through family, friends and colleagues' in many of the cases. In some cases, the question was met with confusion, and comments from the respondents such as: "What do you mean?" and "This shop has always been here" or "I have always known about it" "I remember coming here with my grandmother as a child" (Norwegian Fish shop). In the French Central market (Dijon), this question was asked, but considered irrelevant by the customers because it was so well-known. From the in-depth interviews with customers at the market, continuity in certain families was observed, for instance by customers saying that their parents and grandparents used to come to the same stall, where the producer's father was. For some consumers, this market is a matter of long-term relations, of trust, respect, sometimes even friendship. Similarly, in the Norwegian Fish shop case, one of the retailers explained that he felt it almost as an obligation to take over the shop, which was a traditional shop established in 1948. When the owners were thinking of retirement, he described his sentiments like this: "This shop is an institution in this town that someone just had to take care of" (Retailer 2, Norwegian Fish shop). There was a similar situation in the Italian Dairy case, where almost all the respondents (N = 60) said they learnt about the selected SFSC thanks to family, friends and colleagues (N = 42). In this case, the retailer said: "The dairy cooperative shop has always

been there (. . .). Those who were involved in the dairy sector and moved in the neighbouring regions, once coming back were looking for our product, so there was a strong demand that remained over time and that allowed the shop to increase its activity".

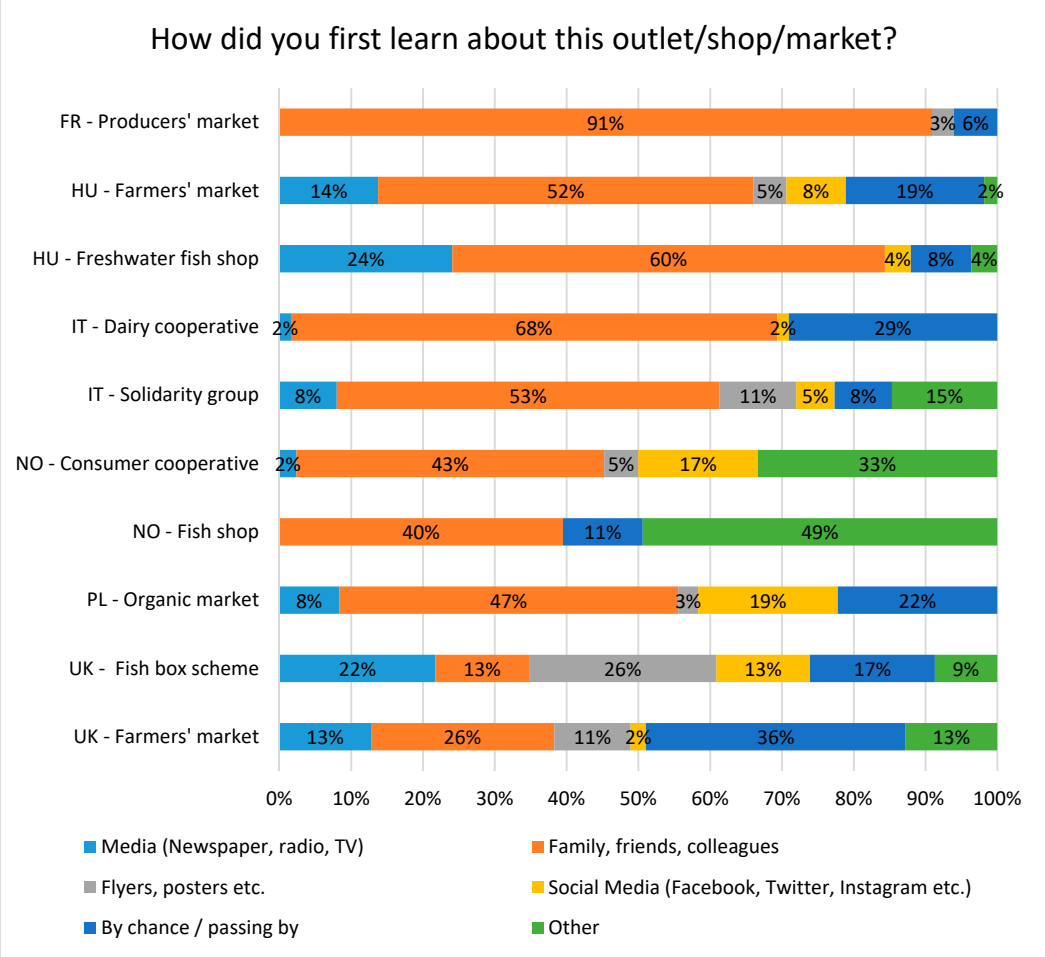


Figure 1. How did you first learn about this outlet/shop/market? Percentage of responses (more than one answer per respondent was possible).

Most of the studied SFSCs are not only experienced as places to buy food, but the social dimension is equally strong, also in the most traditional markets where the purchase of ordinary food products is part of daily or weekly routines such as at the Polish Farmers' market in Płońsk. Here, the customers declared that they liked to socialise at the market:

> "I always do the shopping here, this is a tradition, people are nice, it's good to talk to them" (Consumer 1). "There is a nice atmosphere here, everyone knows each other" (Consumer 3, Polish Farmers' market). "There is a family atmosphere here, I meet many people I know here" (Consumer 4, Polish Farmers' market).

Even though in many cases there is competition between producers, for instance at traditional food markets and farmers' markets, the producers said they cooperated and benefited from the close network that participation in SFSC provided. Thus, the focus was more often on the benefits of cooperation than potential conflicts or competition. Producers at the Central market in Dijon emphasised that the close relations to the customers were important in building loyalty, and networks and cooperation with other producers were important for running the business as, for example, the possibility of buying from each other when running out of their own produce. The solidarity and harmony within the

network was also underlined at the UK Farmers' market: " ... getting to know some of the other traders, the way they run their business. Hexham is a good example, really good atmosphere, some good regular customers and good traders there" (Trader 4, UK Farmers' market).

In the newer initiatives, such as the Norwegian Consumer cooperative, the focus was not on sustaining traditional networks but rather on creating new ones: farmers, who were used to operate autonomously, appreciated the opportunity for participation in this network, which also led to cooperation with the other farmers in other settings than the cooperative. With regard to supplying products to the cooperative, there was a focus on supplementing each other rather than competing in delivering the same type of products. An attitude of respect and goodwill towards each other was apparent. One of the farmers expressed the view: "I very much appreciate the farmer-network. (...) We have in a way a cooperation" (Farmer 1/Organiser). Although there was competition among farmers at the Hungarian Farmers' market, they also expressed the advantage of cooperating with each other. Here, the main competition was perceived as coming from the larger retailers. These organising principles of autonomy on the one hand and cooperation in close networks on the other were appreciated and regarded as distinctively different from the conventional food system with its hierarchical structure, which, as we will come back to later, is often experienced as a disadvantage to the producer, especially regarding price [33].

From the interviews with producers and retailers, we found few negative expressions towards cooperation and competition between producers or between producers and retailers, rather the positive aspects were emphasised. These findings are in line with the results of the quantitative producer survey in the Strength2Food project [33], where the SFSCs overall scored higher than "long chains" on perceived bargaining- and market power (the indicator included factors such as influence, trust, relations with other producers and consumers) as well as general satisfaction with participation in the chain ("I like it"). As mentioned, the critique from the producers was directed towards competition from other actors, such as larger retailers. However, following Malak-Rawlikowska et al., this picture is not straightforward. Several producers also emphasised that hypermarket chains are trustful business partners that opens for sale of larger quantities of products to reasonable prices [33]. The benefits of large-scale retail were also emphasised by one of the organic producers in the Norwegian Consumer cooperative. He appreciated the cooperation with the conventional retail chain because in this way organic food became more accessible and affordable for ordinary consumers.

A sense of community was valued not only among producers, but also among consumers and between participants with different roles in the SFSC. Connecting with the producers, including fishermen, and supporting the local economy were among the aspects appreciated by consumers: "It feels much, much more connected with the people who are fishing ... it feels different [from the supermarket] because it feels like my money might stay in the local community" (Consumer 2, UK Fish case). Personal knowledge of the producers also appeared as an important value: "I absolutely love it ... I just find it absolutely delightful to know who your producers are and to buy local stuff" (Consumer 4, UK Farmers' market). A member of the Norwegian Consumer cooperative pointed at the way in which the cooperative was embedded in and further strengthened the existing local social network: "The most important reason why I participate is that I know so many of those who are involved and organise it, and that it takes place here. Because it is a kind of 'local community-thing'. It is kind of a small group of people who say: 'We think that this is important'. Thus, you support them. (...) It 'lubricates' the local community" (Consumer 3, Norwegian Consumer cooperative).

The value of direct, face-to-face contact and the way it is seen to provide for good communication was also underlined by producers: "That's what I like with the concept of the Consumer cooperative: That there is a direct sale between farmer and consumer. [...] The more direct sale, the stronger the communication, I believe" (Farmer 4, Norwegian Consumer cooperative).

4.1.2. Strengthen Knowledge and Competencies

The transparency and proximity—social as well as spatial—provide for opportunities of gaining insight and knowledge in a personal and direct way. These forms of gaining knowledge—e.g., information exchange, direct observation, dialogue, becoming aware of connections and complexity in food production—were highlighted by consumers, and also emphasised by producers.

Personal familiarity and sense of connection with the farmer as well as with the particular place, nature and animals was valued for several reasons. In the example below member of the Italian Solidarity purchasing group relates the place of food production to food quality: "buying directly from the farmer, I have direct knowledge of what I eat and its origin, in particular where the crop fields are located, the water used. For example, a local farmer produces very tasty vegetables and when I went to him I discovered that it is due to the fact that he uses water coming from his private well" (Consumer 5, Italian Solidarity purchasing group). Similar experiences of the value of knowledge obtained from personal contact with the producer are described from the UK Farmers' market: "[It's about] the provenance, isn't it? It's knowing where they've been bred, where they come from … what their welfare's like. It's having that contact direct with the producer which is just … you can't replace that in my view … You'd know how it's been reared. You know a lot more about it and you can go and find out more about it. You know talking to the people who've bred the animals very often there is … it's that immediacy of contact. I like that" (Consumer 3, UK Farmers' market).

From the producers' side the direct and personal communication with customers was also valued for several reasons; one of them being the way in which the insights gained through these conversations could be actively used in improving practices and food products: "There are several customers (…) who have asked actively—'what are the hens eating?' for example. And, then I can tell them what they eat. And then they might say 'well, but isn't it possible to get any grain feeds without soy?', for example. And that may push me—or other farmers—towards thinking 'yes, perhaps I can try to achieve that.' Last year I did in fact get hold of a feed product, 'Norgesfôr', without soy, and then I changed to that. I didn't even know about it, and there were several other small-scale farmers who were unaware of it, and then we all changed" (Farmer 4, Norwegian Consumer cooperative).

This story goes on, further inspiring collective action among the local farmers. It turned out that this particular feed stopped being produced by the large market actor. Faced with this challenge, several of the local farmers cooperated in placing a common order to another main market actor: "But now several farmers have cooperated about a common order to 'Felleskjøpet', (Felleskjøpet' is a Norwegian farmers' cooperative) so now they have started producing one type of feed [without soy]—because there were enough who requested it. So—if the customer hadn't asked for it, I am not certain that I would have involved myself in it—perhaps I wouldn't have even thought about it. I completely agree that it is better with proteins from Norway in the grain feed, than soy from Argentina—even if that may be organic. Then the feed gets a bit more expensive, but—this is an example of how the consumer may affect change—and I am more than willing to be influenced" (Farmer 4, Norwegian Consumer cooperative). This is one example of how the embeddedness of the SFSC in the local community can function as a support in identifying common values and strengthening the compliance of food production with these common values.

New information and experiences, practical knowledge and change of food habits and valuations of food are among the gains reported from participating in SFSCs. Practical help with filleting fresh fish is one example of useful information gained from personal contact within the SFSC, as described by a customer from his/her contact with the fishmonger: "Very good and very helpful—e.g., stop the scheme when going on holiday—fishmonger at the centre very friendly, taught me a few times how to fillet—happy with the relationship" (Consumer 2, UK Fish case). Similar experiences with practical advice from the producer are reported from the UK Farmers' market: "The man on the [vegetable] stall is good at suggesting ways to cook it or what you could do with it. It's the same with the people at the meat stalls" (Consumer 5, UK Farmers' market). A further example of how new products and food habits were established because the household took part in a SFSC came from the Norwegian

Consumer cooperative, where a member told the following story about how kale became integrated in their food habits as a consequence of appearing in the 'vegetable bag'—which is ordered as an unspecified seasonal selection of vegetables—accompanied with a recipe. The customer described changes that had occurred due to their membership: "Kale, for example, which we otherwise would not get much of. (. . .) There is a recipe of kale-chips, which has become very popular from when I came home with the first bag. (. . .) The kids like it very much. (. . .) Now, the kids are very content when there is kale [in the bag], because then there will be kale-chips one day" (Consumer 3, Norwegian Consumer cooperative). Another member in the same cooperative described what she valued the most like this: "The joy of vegetables, which I do not get in the ordinary food store, and completely fresh! (. . .) It has contributed to new dishes. Twice a week, I make a new type of dish that I otherwise would not have made" (Customer survey, 21, Norwegian Consumer cooperative). From the UK Farmers' Market, there were accounts of how getting their food from the Farmers' Market influenced the likelihood of cooking a 'proper meal': "If I have bought some vegetables and some nice meat from the farmers" market I am more likely to go home that evening and cook a proper meal from scratch whereas if I am in a supermarket and buy vegetables I might be lazy and buy something quite easy to heat up' (Consumer 5, UK Farmers' market). These examples illustrate some of the ways in which taking part in a SFSC can inspire changes in food practices, including types of products used, cooking skills and types of dishes made. All the examples above may serve to illustrate how food—in all the phases of interaction; production, provisioning, preparation and eating—may provide for opportunities for making connections with other people, and local food initiatives have particularly much to offer in this respect. Stevenson has put forward the notion of 'human infrastructure for negotiating alternative agrifood systems', referring to collective capacities—or competencies—required to facilitate 'alternative visions and explorations toward preferred food systems' [36]. Meeting places, such as those provided in SFSCs, may serve to inspire and strengthen such competencies and through that facilitate developments of more sustainable food system solutions.

4.1.3. Trust

SFSCs may play an important role in bringing together different types of economic and social actors within a local community. As SFSCs are generally regarded as more transparent and personal alternatives to conventional/large retail chains, consumers may put more trust in them. This was also confirmed by the respondents of the customer survey, responding to the statement "I trust this outlet/shop" (Figure 2).

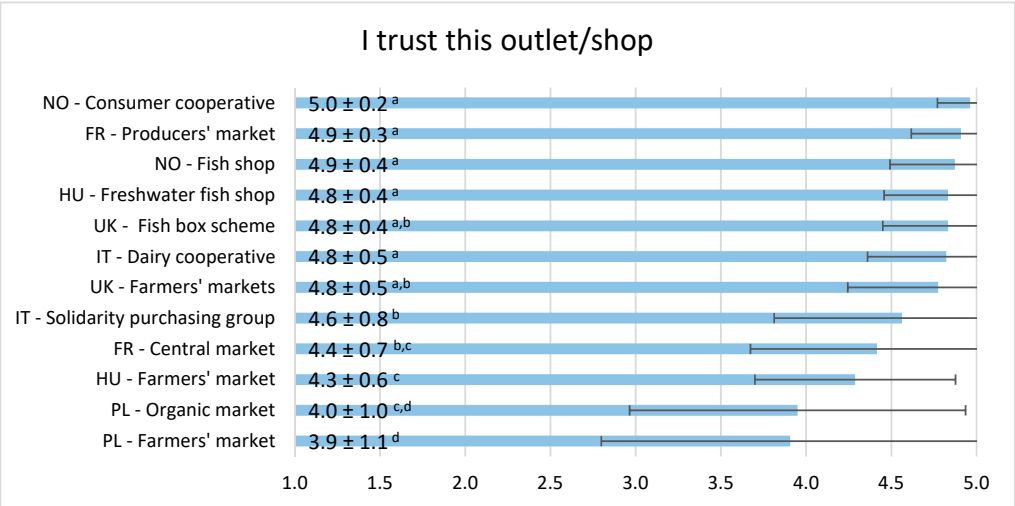


Figure 2. I trust this outlet/shop. (1 = completely disagree, 5 = fully agree) (N = 576). Mean and standard deviation given. Means with different letters are significantly different at $p < 0.05$ probability level between cases (independent sample T-test).

Overall, customer survey results indicate high levels of trust in all 12 cases. However, there were some differences. These differences could reflect different forms of organisation of the SFSCs, or differences in the general levels and types of trust among the public in different countries/regions. It is common when considering trust relations to distinguish between relations based on personal interaction and trust in impersonal organisation or systems. Trust based on networks and personal relations is often called 'familiarity', while impersonal and generalised trust in institutionalised procedures or systems is called 'confidence' [37]. In a previous comparative European study, Kjærnes et al. [37] describe how different types of trust have manifested themselves within distinctive national configurations. They found associations between trust in food and general levels of trust in public authorities and market actors, and described various types of triangular relations between food system actors. Norway was characterised by high levels of stability and trust in other people and political institutions [37]. The strong belief in the safety of Norwegian food was found to be largely a matter of generalised confidence where public authorities are trusted to manage and regulate corporate actors in whom consumers have much more limited faith. In Italy, trust as familiarity was prominent—i.e., a strong reliance on networks and personal relations. Considerable dislocation and disruption of its traditional provisioning system, conflict between European, national and regional state authorities, and consumers torn between alternative lifestyles of tradition and modernity were found to characterise Italy ([37], p. 182). Lower levels of trust in public authorities are also reported for Poland and France compared with EU average [4].

Besides national variations, the differences observed in Figure 2 may also be seen as a result of differences in the organisation of the studied SFSCs. One observation is that although the scores on trust were high for all cases, those at the lower end of the scale included more market-type cases, while the cases organised as cooperatives, solidarity groups and box-schemes were all in the high-end of the scores. These results could indicate that the cases in which there was a high degree of direct contact, solidarity and shared values (as e.g., involvement by membership, shared risk, participation in work tasks, etc. could imply) relations of familiarity were more likely to be established. These traits seemed to be associated with the highest levels of trust. Although similar traits may also be present in the market-oriented cases, they may perhaps not be developed to the same extent.

The in-depth interview data provided more nuance and complexity to the customer survey results. In the customer survey, the Polish markets had the lowest score on trust (3.9 and 4.0, on a scale from 1–5). This slightly lower score does not necessarily mean that the customers at the Polish markets are less confident about buying from SFSCs. From the in-depth interviews we found that trust was highly important for the customers at both of the Polish markets.

At the Polish Farmers' market in Płońsk, one of the consumers expressed trust in producers/sellers in the following way: "I trust producers, I believe they sell healthy products" (Consumer 2, Polish Farmers' market). Many of the customers had bought food at the market place for years; they trusted the sellers and believed that they would not be cheated by them. Trust in the sellers seemed to be based on tradition and intergenerational bonds.

Trust related to familiarity was expressed in a variety of ways. In several cases, the strong importance of trust in the customers' choice to participate in a SFSC, and the way in which this makes a significant distinction from shopping in a supermarket was underlined: "Supermarkets are not my scene because I like to have direct contact with the producer. (...) I recognise the merit of the supermarket to provide a faster service compared with our network; on the other hand it doesn't allow for the creation of a trust relationship with the producer" (Consumer 3, Italian Solidarity purchasing group). "Compared with other shopping experiences, such as those that take place in a supermarket, I recognise a difference in the price, but I prefer to buy in a traditional way because I really trust this shop" (Consumer 2, Italian Dairy cooperative).

One consumer at the UK Farmers' market described how familiarity with the producer and his/her values inspires trust: "[...] it's that personal contact we have with the people who are rearing the animals, or producing the cheese, or smoking the salmon. And that gives you confidence that these are

the sorts of people who do take the issues of animal welfare, of the welfare of the environment, they do take them seriously" (Consumer 11, UK Farmers' market).

These differences in the perceptions of trust reflect the diversity of SFSCs where some cases are strongly embedded in the local context, while in others the relation between consumer and producer is looser and perhaps distant. Thus, measures for enhancing trust, such as formal structures and guarantee systems should be developed in accordance with the local context. Direct access to information and knowledge through personal relations or familiarity with place/nature/animals provides for trust in a different way than for example the use of labels would, which relates more to a conventional market context and longer, less transparent chains.

4.1.4. Support for Local Production

In the customer survey respondents were generally highly positive about the statement "I wish to support local producers" (Figure 3).

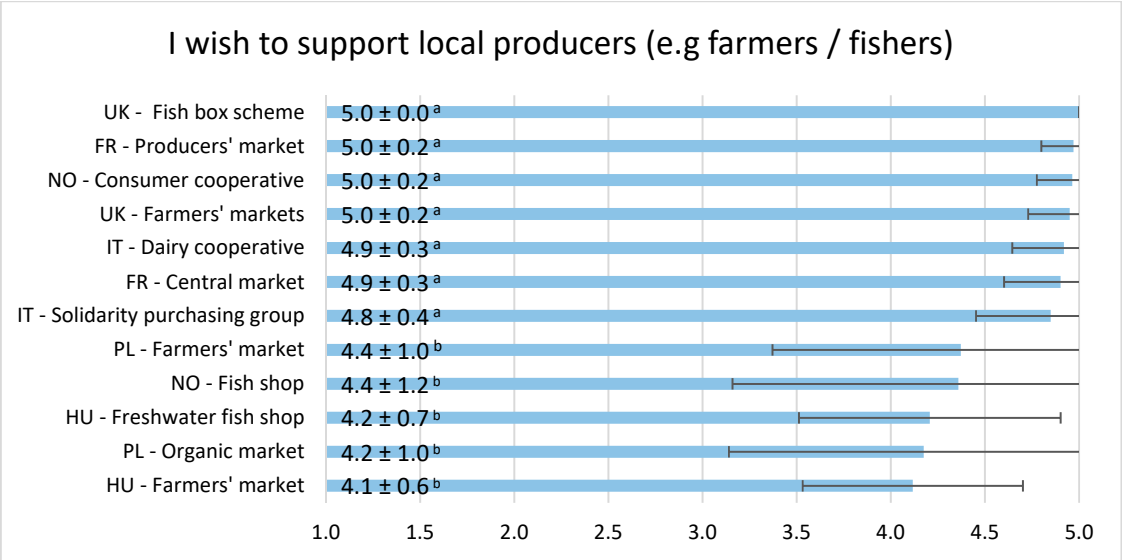


Figure 3. I wish to support local producers (e.g., farmers / fishers) (1 = completely disagree, 5 = fully agree) (N = 582). Mean and standard deviation given. Means with different letters are significantly different at $p < 0.05$ probability level between cases (independent sample T-test).

There was a strong support for local food production, local farmers and fishers across all cases, with the lowest levels in the two Polish Farmers' markets, the fish shops in Norway and Hungary, and the Hungarian Farmers' market. However, all cases scored above 4. Other reasons for choosing the SFSC may have been important and more in the forefront in these cases—in addition to supporting local producers. A consumer at the Norwegian Consumer cooperative expressing her support for local producers as follows: "I care for the farmers getting paid for what they do. That they have the possibility all the time to improve their production—take care of animal welfare, and not all the time be pressured on price" (Consumer 1).

Supporting local producers appears as an explicit value expressed by consumers in several of the cases—often combined with other motivations, such as animal welfare and product quality. The following quote is from the Italian Dairy cooperative case: "I choose to buy from the shop to support them and because I know the animal living conditions as well as the feed and grazing which characterise the cattle" (Consumer 4). Similarly, the possibility to support local producers is emphasised by a consumer at the UK Farmers' market, in addition to food-mile benefits: "I tend to go for local, it isn't just the food-mile side of things, it's also wanting to support farmers who are at least British or ideally from Northern England or Scotland. It's about supporting local producers" (Consumer 5).

Similar reflections were expressed in both the UK cases, first from the UK Farmers' market: "Yes, I would like to see them [farmers' markets] everywhere because it is the way for the basic producer, the farmer, to get more margins. They certainly cannot from the supermarkets" (Consumer 2). "You know it's good food, it's local and that you are helping local producers as opposed to some big supermarket … [I like the fact that it] hasn't been shipped across the world … and you are helping their businesses" (Consumer 5).

Further, examples come from the UK Fish case: "Money spent by local people on local things, enhance the community rather than money disappearing into some multinational company!" (Consumer 2). "Support local fishermen in Amble and the fishing industry generally in the UK" (Consumer 3). Support for local fisheries were not reflected to the same extent in the Norwegian Fish shop case: "But as long as we have prepared the food and it tastes good and you cannot tell that there is any difference, then I have not reflected on whether it is Swedish, Norwegian or English or something. So I guess perhaps in a way that the salmon and the trout, in any case, is Norwegian, for there is so much of it here." (Consumer 3). This consumer took it for granted that the fish she used to eat (especially salmon and trout) was from Norway, and did not reflect much over the provenance of fish products. This lack of awareness about local fish was also brought up by another consumer who compared agricultural- and fish products: 'Look at the restaurants nowadays; they often present it like this: 'We have butter from Røros and we have lamb from Hallingskarvet.' The only thing [when it comes to fish] has to be bacalao (…), but no, I do not remember that it automatically has been presented (…)." She admitted that she was less conscious about the provenance of fish products compared to agricultural products: "But I'll do ask the next time (…) Because I do not really ask about: Who has delivered the fish?" (Consumer 2)

The participants' motivations for supporting local producers and local production were diverse; on the one hand, they related to the social dimension and local development, such as in the two quotes from the UK above (enhance the community, supporting the fishing industry). On the other hand, the support for local producers was as much a matter of transparency and trust and a way to support ethical and environmentally sound food production (such as in the quotes from the Norwegian and Italian consumers). With some exceptions, supporting local producers was viewed as important from a social sustainability perspective while the economic aspect was more contested as will be discussed in more depth in the following section.

4.2. Actors' Perceptions of SFSCs' Contributions to Economic Sustainability

4.2.1. Autonomy and Price Setting

Economic reasons were important for the participation of farmers as well as fishers in the SFSCs. Not least, the possibility to gain higher prices than what could be made from selling through wholesalers in conventional food chains, but farmers also emphasised the possibilities for increased turnover and a security to sell. In many of the SFSCs the producers were free to set their own price on the product, and this was perceived as advantageous by the producers with the potential for added-value on their products. One example of a more autonomous price setting was the Italian dairy cooperative that through direct sales gave the producers the opportunity to independently set a price, which was about 10–15% above the market price. The Norwegian local fish case represents an exception because of governmental regulations guaranteeing the fishers a minimum price set by the co-operative sales organisation. This was in contrast to the UK situation, where the bargaining power was perceived weak by the fishers due to large-scale operations by the merchants who control the distribution and set prices.

In the Hungarian Farmers' market case, which was a hybrid market in the sense that they also included conventional retailers who were buying from larger wholesalers, individual price setting was more limited and smaller producers had to follow the leading price to a strong degree. Hungarian consumers are also more price sensitive; thus, leaving little room for premium price on the products,

although the prices at the market in general were higher than in supermarkets. Furthermore, in the Polish Farmers' market in Płońsk, producers felt the competition on price from local hypermarkets.

4.2.2. Perceptions of Prices

In the customer survey, the respondents were asked the extent to which they find it less expensive to buy from the SFSC than in an ordinary grocery store.

Figure 4 shows differences between the different types of SFSC. The Italian Dairy cooperative was largely perceived as less expensive, which is probably due to the fact that customers in this outlet were being offered special quality products at reasonable prices. Members of the Norwegian Consumer cooperative also to a large extent experienced to be paying less for their products. One main purpose of the Norwegian Consumer cooperative was to supply its members with organic products at affordable prices by removing the intermediaries between farmer and consumer. The traditional markets in Poland and Hungary were also largely perceived as affordable alternatives. The more centrally located city markets and outlets such as the French Central market in Dijon, the Polish Organic market in Warsaw and the Norwegian Fish shop in Sandefjord were, together with the Farmers' market in the UK, considered to be relatively expensive. This may indicate that these markets to a greater extent catered for more affluent segments of consumers. Higher prices in SFSCs may partly be justified by customers due to higher food quality, reflected by better taste in fruit and vegetables, freshness and longer keeping quality also leading to a reduction in food waste.

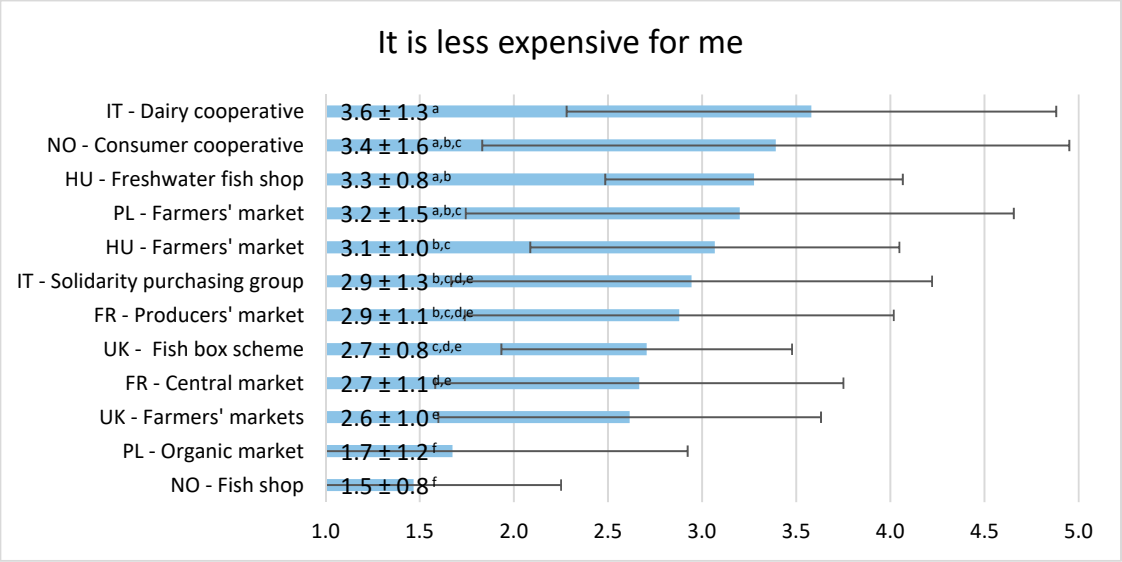


Figure 4. This outlet is less expensive for me. Mean values (1 = completely disagree, 5 = fully agree) (N = 570). Mean and standard deviation given. Means with different letters are significantly different at $p < 0.05$ probability level between cases (independent sample T-test).

4.2.3. Fair Price

The price issue is not without controversy in the cases studied. From the customer survey, as well as the in-depth interviews with producers, retailers and consumers, we found that in some cases the high price of the products was a major barrier for purchase. This was typical for the cases where producers and retailers followed a niche strategy, meaning that they sought to add value through differentiation of products in the market. This was for instance found in markets where producers promoted organic food and speciality products such as at the Central market in Dijon, in the Polish Organic market, BioBazar, as well as at the UK Farmers' market. In the last case, one of the traders explained: "People are so used to paying very little money for chicken, and when you see a chicken that is maybe 15 pounds [£], their jaws sometimes hit the floor, until you explain why it's that price"

(Trader 4). For this reason, these types of markets may attract devoted customers, highly educated or affluent, while excluding other consumer segments.

In some of the cases the relative higher prices were explicitly linked to solidarity among producers and consumers such as in the Italian Solidarity groups and the Norwegian Consumer co-operative. The Italian solidarity purchasing groups are committed to work towards achieving: "a fair and sustainable economy based on rules of justice and respect for people; fairly in the distribution of value; with transparent criteria in the definition of prices". In practice, in these networks producers and consumers decide together and agree the price of the products; and in principle, the price should be lower than the retail price for the same product, as they are ordering very large quantities.

However, these principles are tested from time to time and disputes over price do occur in these networks. As described by the consumers, sometimes, the negotiations over price can lead to disagreement or tensions within the purchasing network; this happens if the price requested by the farmer is questioned by the purchasing group. These negotiations may lead the farmers to stop selling their products through the solidarity purchasing group.

To some extent, these disputes over price have changed the initial meaning of the initiative and one important challenge has been for the participants on both "sides" to get out of their roles as producers and consumers and become "co-producers". The Norwegian Consumer cooperative faces another dilemma regarding pricing of products and support for farmers. The local organic farmers are quite diverse regarding size and the larger farmers may offer the produce at a lower price than the smaller ones. Buying from the larger farmers then gives more vegetables in the bags distributed to the consumers. From a consumer perspective it is not obvious why the amount of vegetables varies while the price of the bag is the same, thus, for the organisers it is challenging to communicate that sometimes there are fewer vegetables in the bag due to price differences between suppliers. Both these cases illustrate how social norms of thrift (acting economically) at the household level can conflict with ethical concerns and evaluations of fairness in the food system. These dilemmas seem especially challenging for the alternative food networks based on solidarity principles between consumers and producers.

4.2.4. Value for Money or the 'Real Costs' of Food

Figure 4 above shows that there are great variations between the SFCSs regarding the extent to which they are perceived as less expensive or not. The freedom that producers in many of the cases perceive to set their own price gives room for premium prices on their products. Eliminating intermediaries allows for higher prices to producers, but prices set in SFSCs may also reflect a willingness to pay for high quality and special services by consumers. In addition to quality dimensions such as freshness and taste, products from these SFSCs are valued for a range of aspects (credence qualities) such as animal welfare, environmentally sound food production and sustenance of small-scale, diversified farms. In the customer survey the respondents were asked to react to a stated claim that buying from this SFSC gives more value for money than in a regular grocery store (Figure 5).

This claim was perceived differently among respondents in the various cases. The respondents in the cooperatives in Italy and Norway strongly agree (score: 4.4) that the SFSC offers more value for money. These two SFSCs also obtained the highest scores on the respondents' perceived cheapness of the SFSC. At the other end, we found the fish shop in Norway that was evaluated as both being expensive (Figure 4) and giving less value for money than in the other SFSCs cases. This was also expressed by one of the consumers in the in-depth interview: "If it had been cheaper and easier to go to (the local fish shop), then I had eaten more local fish." (Consumer 1). The cases with the highest score may reflect that prices in these SFSCs are actually competitive with prices in the regular market, or they may reflect respondents' willingness to pay for special quality of cheese (Italian Dairy cooperative) and organic and local food products (Norwegian Consumer cooperative).

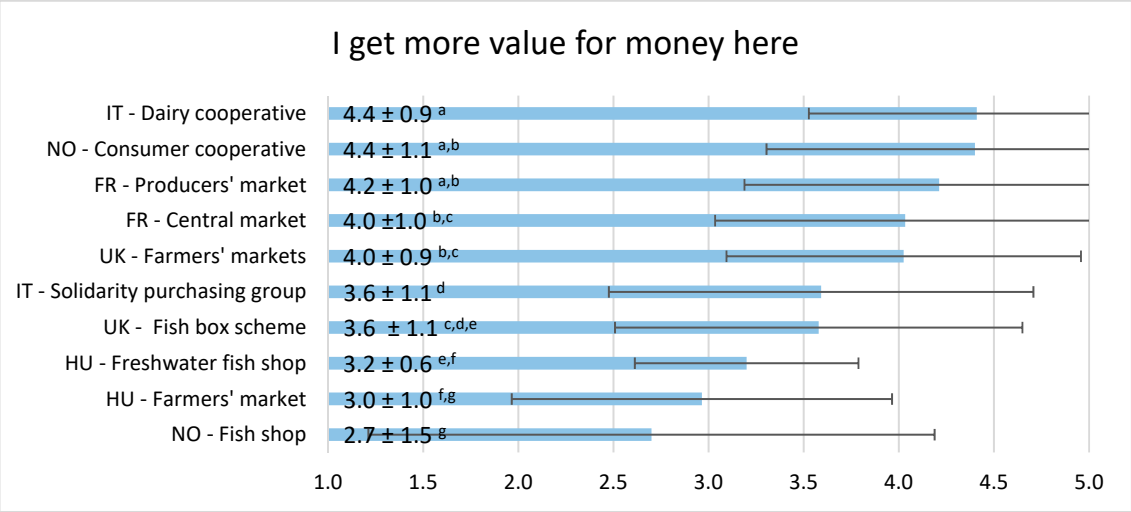


Figure 5. I get more value for money here compared to a typical grocery store (This question was not asked in Poland) (1 = completely disagree, 5 = fully agree) (N = 464). Mean and standard deviation are given. Means with different letters are significantly different at $p < 0.05$ probability level between cases (independent sample T-test).

Although it is evident that the price of food is an important driver for choice for many, there are examples of considerations that the price should reflect the realities behind the food products and the 'true costs' [32] of food produced in line with basic values. Here is an example from a consumer at the UK Farmers' market: "In an ideal world, I would like it to be illegal for food to be sold at less than it costs" (Consumer 2, UK Farmers' market). Another example comes from Italy and reflects a wish to get insights into the realities of food production in order to be able to make informed judgements of the fairness of the prices: "We require a product description to understand the production costs and see if it is compliant to the proposed price" (Consumer 2, Italian Solidarity purchasing group).

SFSCs were by many of the producers seen as economically beneficial, but also as fair and just considering the costs of production and distribution. A higher price on their produce may be justified by the fact that it may be more demanding to produce in line with ethical and environmental standards. The dialogue between producer and consumer that can more easily arise in SFSCs may help promote knowledge about the various costs associated with food production.

4.3. Actors' Perceptions of SFSC's Contributions to Environmental Sustainability

Issues related to the perceived contributions of SFSCs to environmental sustainability include among others the role of SFSCs in mitigating climate change, with focus on transport distances and CO_2 emissions, reducing resource over-use and waste along the supply chain, improving animal welfare standards and strengthening biodiversity [19]. Some of these issues are related more directly to the way food is distributed such as travel distances (carbon footprint, food waste), the need for packaging (freshness, food waste) and seasonality (carbon footprint, food waste). Other issues, such as bio-diversity and animal welfare are more indirectly linked, and rest on assumptions that SFSCs imply closer contact and communication between consumer and producers and that this may increase knowledge about food production and act as a driver for sustainable, local food production.

The customer surveys showed that the respondents to a large extent perceived buying from SFSCs as more environmentally friendly compared with buying food in an ordinary grocery store (Figure 6).

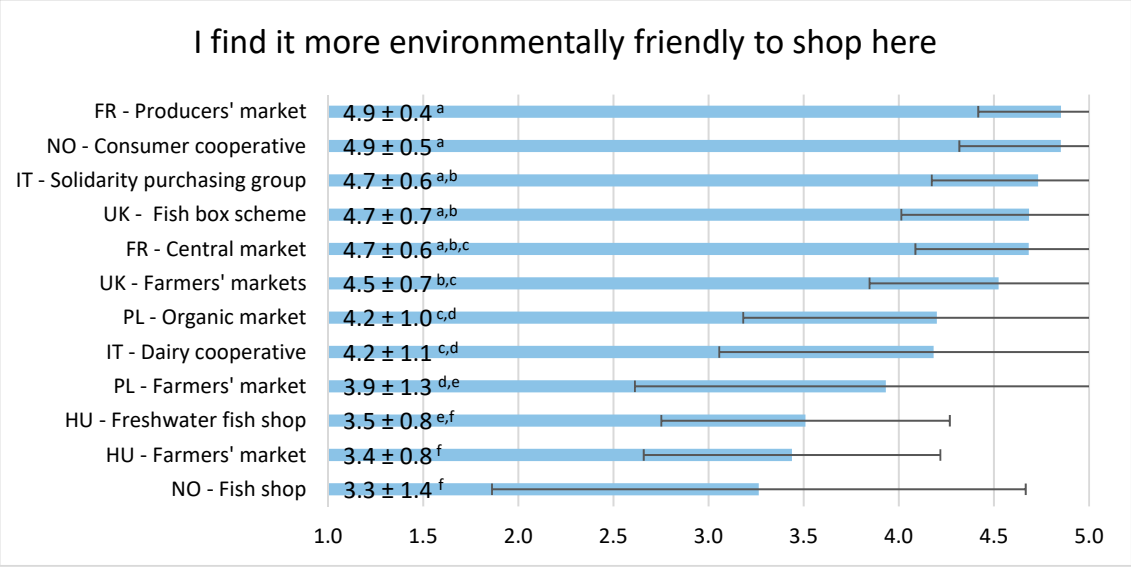


Figure 6. I find it more environmentally friendly to shop here compared to a typical grocery store (1 = completely disagree, 5 = fully agree) (N = 556). Mean and standard deviation given. Means with different letters are significantly different at $p < 0.05$ probability level between cases (independent sample T-test).

Although all the SFSCs scored relatively high on environmental friendliness (from 3.3–4.9), the newer and innovative SFSCs were in the upper end, while the more traditional SFSCs, such as the Polish and Hungarian Farmers' markets and the fish shops in Hungary and Norway scored the lowest. This may be due to differences in the customer bases and in the social function of these SFSCs. The former are organised with an explicit aim of supporting sustainable food production and distribution, and likely to attract environmentally conscious consumers, while the other markets are rooted in traditional ways of food provisioning perhaps attracting more "ordinary" consumers.

The customer survey also showed that use of a car was the main mode of transportation with a few exceptions (Figure 7).

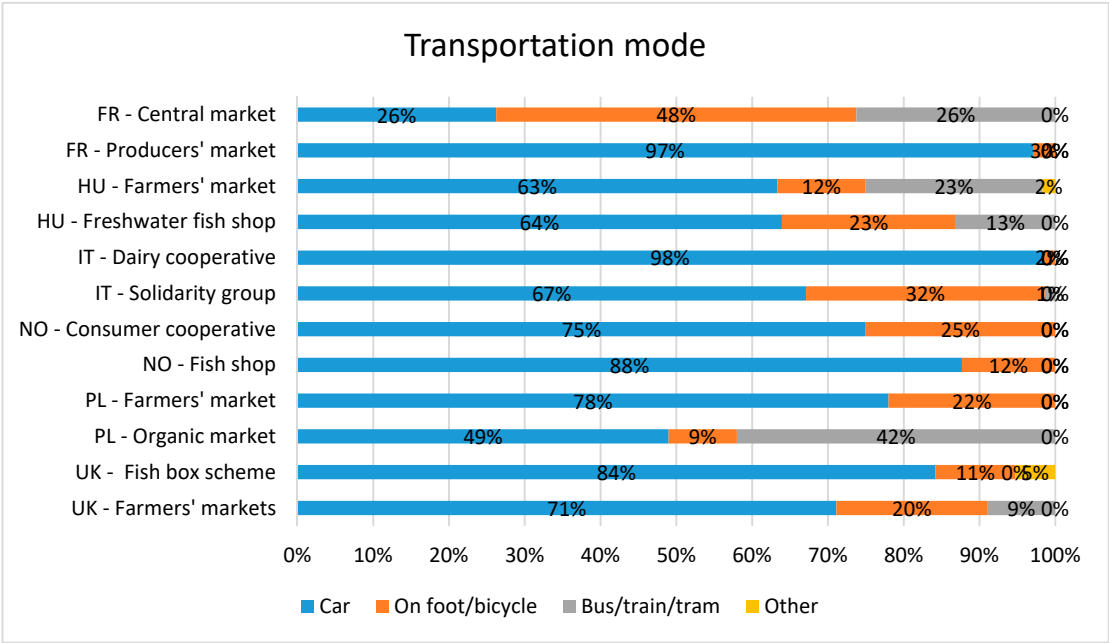


Figure 7. What was your main type of transportation to get here today? (N = 596).

More than 90 percent of the respondents in the French Producers' market and Italian Dairy cooperative stated that they came by car. The exceptions from the reliance on car transportation were the French Central market in Dijon and the Polish Organic market in Warsaw where public transport equalled the use of cars. Both these markets are centrally located in relatively large cities, and in Dijon as much as 48 percent stated that they came on foot or by bicycle. These findings resonate with previous studies on SFSCs [19] as well as the quantitative assessments of SFSCs within the Strength2Food project [33].

From the in-depth interviews with consumers, there were few reflections on the importance of transportation to and from the shop. The use of a car was normally explained by the fact that the market, outlet or pick-up point was most easily accessed by car. It was often combined with other needs or errands (such as transport to/from work or school) and the amount of food bought was not easily transported without the use of a car.

An important motivation for buying food from SFSCs is to support environmentally friendly food production (Figure 8).

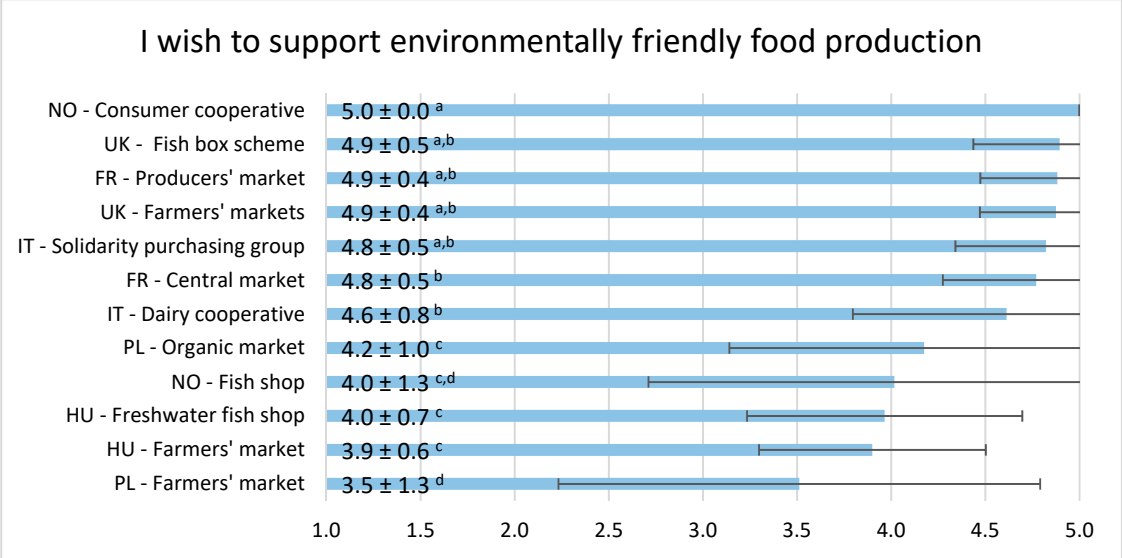


Figure 8. I wish to support environmentally friendly food production. (1 = completely disagree, 5 = fully agree) (N = 576). Mean and standard deviation given. Means with different letters are significantly different at $p < 0.05$ probability level between cases (independent sample T-test).

The figure shows the same pattern between the SFSCs as for the question about environmentally friendly shopping (Figure 6). All 12 cases have high scores (above 3.5) and the newer, innovative SFSCs are at the upper end. From the in-depth interviews with consumers as well as producers and retailers, we found several views on why and how SFSCs enhance environmental sustainability.

4.3.1. Organic and Ethical Food Production and Consumption

The availability of organic food is seen as a valuable asset of the SFSC by consumers across several cases. The Norwegian Consumer cooperative; both the French cases; the Italian Dairy cooperative, the Italian Solidarity purchasing group; the Polish Organic market and the UK Farmers' market were all (fully or partly) promoting organically produced food. This may also explain the high scores of these cases showed in Figure 8. These SFSCs thus have the function of providing organic food that otherwise may be less available to conscious consumers, and not least, for many small-scale organic farmers it is an important sales channel. Several values may be combined in the motivation to participate in a SFSC: "I buy through 'Vestfold Kooperativ' because it is organic, some is bio-dynamic, and you support local producers. There is a thought behind about helping producers to 'come up'. It is fresh products, and there is considerably less plastic wrapping" (Consumer 1, Norwegian Consumer cooperative). Similar

views were expressed by a trader at the UK Farmers' market, when explaining his motivations for participating: "Well, a number of reasons: promoting organic food, promoting local food, and just getting the message across about healthy food production, and how not everything has to be how it is through the supermarket (...). The philosophy of the farm is, sort of, ethical, quality production" (Trader 4, UK Farmers' market).

In the case of the French Central market, producers strongly emphasised avoidance of pesticides and ensuring animal welfare and biodiversity. The consumers at this market also described themselves as committed to these values, e.g., by explicitly going to organic, more expensive producers (partly) to respect environmental concerns. In addition, many of them brought their own bags, reused yogurt pots etc. to reduce waste. Both producers and consumers at this market spoke about their sales/purchases as a way to participate to contribute to making a better world, through responsible consumption.

Awareness of ethical and environmental issues were also at the core of the case of the Italian Solidarity purchasing group: "The main reason is essentially ethical, as was the choice to be organic. For us, ethical means raising awareness among the small producers, who are often sensitive to environmental issues" (Farmer 3, Italian Solidarity purchasing group).

The in-depth interviews with consumers confirm the findings in the customer survey of the perception that products from SFSCs are more environmentally friendly. They often find the supermarket as 'cold, impersonal, saturated with ads', and these products (chain produced, industrial, 'artificial/chemical') are viewed as being opposed to 'hand crafted' products from local farms. With regard to fish as well, consumers value the possibility of sourcing more environmentally friendly alternatives though the SFSC: "Really keen on the fact that it is local and the fact that it is ecologically much more sustainable than fish that's been brought and packaged and flown half way around the world" (Consumer 2, UK Fish case). Another example from Italy, shows how a consumer became familiar with using other types of ingredients, and caring for animal welfare and the environment: "I've learned to cook ingredients that I didn't know before, I use more herbs and spices and I eat more legumes. From a qualitative point of view, now my diet is more rich in vegetables and sustainable; I try to avoid animal suffering and limit environmental impact" (Consumer 5, Italian Solidarity purchasing group).

Some of the choices farmers make, and values they base their production on, also relate to food quality. Credence qualities such as animal welfare, sustainable production practices and farm management (organic food production, rangeland grazing), nature preservation etc. are difficult to communicate to consumers. Food labelling is often promoted as a mean for differentiating quality food in the food market, but this does not necessarily improve the communication between producer and consumer. However, one main finding from the cases studied was the attractiveness of SFSC to producers of quality food, especially organic farmers and producers that aimed at adapting their production to more sustainable and ethical (animal welfare) production practices. They wanted to combine a 'natural embedded production' with a more social embedded distribution of their products in order to promote the qualities of their products in the communication with consumers. Both at the Italian Dairy and the Norwegian Consumer cooperative, farmers explained how their choices in farm management, such as animal breed, grazing and the prominent role of high animal welfare, are connected to the quality of milk and cheese: "In the plains, farms have improved productivity a lot and are more industrialised, while in the mountains we still have traditional stables and feed" (Farmer 5, Italian Dairy cooperative). "Our products are differentiated for animal welfare. The fodder consisting of fresh grass and the breed of cows; in fact, many say that the milk of the Bruna breed is qualitatively better than other breeds. We have Bruna, Pezzata Rossa and mixed breeds. They certainly produce less milk but of better quality. Grazing cows also improves the healthiness of the products from a hygienic point of view because there is a lot of attention to cleanliness of the cows" (Farmer 4, Italian Dairy cooperative).

Similar considerations of environmental and ethical factors in the choice of breeds were reflected among Norwegian farmers: "They are cross-bred of old breeds. [...] Jarlsberg and Telemark are the

main breeds. And they fit well in this management, because we farm extensively with little grain feed, and then it is smart to have animals which are well-suited for that sort of production. And then they are good at transforming grass, and they milk on it, and they are smaller animals, which move easily in the terrain—they are good at grazing, and good mothers—they calve easily. (. . .) It is a breed that belongs to this area, and then it makes sense to use it, really" (Farmer 4, Norwegian Consumer cooperative).

The same farmer keeps 250 hens, which have access to 2 hectares of fenced outdoor area, in addition to the indoor hen house. He compares his egg production to one of the largest producers of organic eggs in Norway. Eggs from both farms are actually sold side-by-side in the same speciality shop: "In the shop, those eggs both appear as 'organic', while within the Debio-regulations, you may have a chicken farm with 7500 hens under one roof—which is a tremendously large industrial production, in my view. And here it is a small chicken farm—so I cannot compete with him on price. But both is 'organic'. But—there is a large difference in animal welfare, in my opinion" (Farmer 4, Norwegian Consumer cooperative). These features of the production are also perceived as influencing the product quality—and problematises differences within certified organic production: "And the consistency [is different], for all of mine go outdoors and eat grass, and I am not so sure if his gets to do that, because when you have that many hens, then you must have 2 hectares of area, for it to be comparable,—and it may not be that they would use that area in the same way, because—if it isn't covered with bushes and trees, they don't dare to go far out onto a field, you know. So when the scale increases, it wouldn't necessarily be the same—even if it is 'Debio [approved]" (Farmer 4, Norwegian Consumer cooperative).

The value of nature and preservation of the local natural area (such as traditionally farmed/cultivated landscape), awareness of the 'terroir' (contextual characteristics of the land), and a wish to support environmentally friendly production in the local area were all high among consumers in several of the cases. This was for example prevalent in the Italian Dairy cooperative case, where traditional use of grazing in the mountain region is central.

4.3.2. Animal Welfare

Animal welfare is expressed as a core value and motivation among all types of actors across the cases studied. For some of the consumers, this was their number one priority: "I would not buy from anywhere where animal welfare was not important . . . animal welfare is the most important thing to me above all else" (Consumer 2, UK Farmers' market). "I have always been very interested about welfare, small abattoirs, that sort of thing, and meat that's killed with as little stress as possible . . . " (Consumer 3, UK Farmers' market). "The main things I would be interested in are that there is good quality of animal welfare, that the animals live outside, are free range and ideally organic" (Consumer 5, UK Farmers' market). The farmers also underlined their care for good animal welfare: "Our pigs grow quite slowly and quite laid-back . . . but it takes a lot of human energy to keep them like that. It's much easier to keep them in a shed, all piled on top of each other, and feed them with shoots and things like that. But that's not what our product is about, really, or how we would like to keep them. So we walk miles, feeding pigs, checking pigs, and everything, and they have a life of luxury" (Trader 2, UK Farmers' market).

In some cases, the value of animal welfare is related to the concept of food quality. For instance: less stress in the animals' lives, as well as in relation to slaughter (transport etc.), is seen as a value in itself, at the same time as it is experienced as having a positive impact on sensory food quality: "One thing is that in small-scale, it is in my opinion easier to succeed with good animal welfare. [. . .] The fact that they are grazing out in the forest in up to five months a year gives a different quality of milk than if they eat silage [. . .] Actually, it is a prerequisite for getting good cheese—that one feeds with hay and not with silage. So—the feeding and animal keeping is designed for high quality—and that will be recognisable in the products" (Farmer 4, Norwegian Consumer cooperative).

The connection between local and direct sourcing and food quality was brought up in the seafood cases as well. Fishers from the UK Fish box case, for example, emphasised that sourcing directly from

the fishers implies that seafood comes straight from the sea and, thus, is fresh, local, seasonal and with 'low stress levels', hence of the greatest quality. For instance, Fisher 2 highlighted that the flesh of farmed fish and live lobsters in holding tanks with elastic bands on their claws generally present high stress levels affecting the quality of the flesh.

4.3.3. Resource Use and Reducing Packaging and Food Waste

Keeping waste at a minimal level and being conscious of the use of resources were central values for many participants in the SFSCs. Some of the farmers really made an effort to find solutions that would reduce waste and environmental impact and at the same time provide high food quality, as for example the farmers from the Italian Solidarity purchasing group selling vegetables, that were harvested the same day or at most the day before. Two farmers do not have refrigerated storage and almost all were organised in such a way as to reduce environmental impact: "For sale, he uses recycled wooden boxes from the sale of other products, and envelopes for organic material" (Farmer 1, Italian Solidarity purchasing group). A Norwegian farmer emphasised the use of local resources and avoidance of long transportation of animal feed: "We buy very little. That is the key to our system. (. . .) We aim at producing everything that animals eat here at the farm. It makes very little sense to transport things from far away" (Farmer 3, Norwegian Consumer cooperative).

Avoidance—or limited use—of plastic food wrapping was an important benefit of participating in a SFSC perceived by consumers: "(. . .) many of the products have substantially less plastic" (Consumer 1, Norwegian Consumer cooperative). Even the way the buying-situation was organised could contribute to making it easier not to waste food: "I like the fact that you can choose the exact number of things you want [at farmers' markets] and put them straight into your bag. I don't like all of the packaging in supermarkets which you struggle to avoid" (Consumer 5, UK Farmers' market).

In some cases, consumers described how participating in a SFSC could help them achieve goals that they had already made for themselves: "I always try to be very careful about not wasting things. It's one of the reasons that I go to the farmers' market, to try not to create as much waste in packaging and so forth. But my habit, for a long, long time, has been not to waste stuff" (Consumer 4, UK Farmers' market). Similar connections between the way of shopping and amount of food waste was described in Italy: "Since I started to do shopping here I give more value to food and I waste much less because I purchase limited amounts of product on a weekly basis" (Consumer 3, Italian Dairy cooperative).

Although environmental sustainability, from the customer surveys, is seen as an important dimension for participation in SFCS in all the 12 cases, we found a difference between the newer, innovative cases, based in the northern and southern European countries, and the more traditional markets in the Eastern Europe. This difference was most apparent in the new innovative cases organised around ethical and social principles, such as for instance the consumer cooperative in Norway, the solidarity group in Italy, the UK Fish box scheme and the French Producers' market. These SFSCSs function as important distribution channels for producers of organic food and agricultural products as well as fish and seafood produced according to sustainable and ethical principles (animal welfare; resource use, bio-diversity etc.). The SFSCs are also seen to reduce food miles and carbon footprints; however, the reliance on car transport for distribution of small amounts of food was less reflected among the participants.

5. Discussion

A general assumption is often that SFSCs contribute to social, economic and environmental sustainability [16]. The UN sustainability goal no. 12 about sustainable production and consumption also focus on strengthening food system sustainability via the direct involvement of all actors, from the primary producer to the final consumer, whereby attention is placed on educating the consumer. Previous studies have pointed out that there has been a tendency to romanticise the effects of SFSCs and exaggerate the role of local food production [14,38]. A criticism of existing research is that it has been biased with a blind spot to the problematic sides of SFSCs and AFNs [22,38,39]. This study reflects

SFSC participants' perceptions that are largely positive to SFSCs, but also reveals contradictions in the view of SFSCs and problematic aspects that are less discussed by the participants. Our study makes a significant contribution to existing research primarily because we have applied a broad empirical and methodological approach to SFSCs. Firstly, we have collected data on all three sustainability dimensions that have previously been pointed out as a lack in the research on SFSCs [18,35]. Second, our study complements previous research through a wider range of different types of cases. A large proportion of the research on SFSCs has been aimed at newer forms of organization, so-called AFNs. We have examined both traditional and newer, innovative SFSCs. Third, much of the previous research has been skewed towards Anglo-American conditions, and there has been a lack of contributions especially from Eastern Europe [13,14]. Through our comparative approach with a regional distribution across Europe, we have found significant differences in the importance of SFSCs between west and east. However, the differences are particularly significant between different types of SFSCs that are reflected both in the history of the individual SFSC and the way in which they are organised. Fourth, we have included all type of actors in the value chain and with a special focus on consumers who have been less prominent in the research literature [25]. Finally, we have included both agricultural, fish and seafood products and to our knowledge, there have been few comparative studies on SFSCs. In the following we will discuss the aspects and dimensions of sustainability we have found to be important to SFSC participants and how these differs (1) with the history and organisation of the SFSCs, (2) across regions within Europe and (3) by type of product or sector (agriculture/fishery/aquaculture).

5.1. History and Organisation of SFSCs

The history and mode of organisation play an important role for how sustainability are perceived by the participants. Well established SFSCs such as farmers' markets and local food shops (Central market in France, Local Fish shop in Norway, Dairy cooperative in Italy and Farmers' market in Poland and Hungary), are viewed as local institutions with a long history that is central to the identity of the place. They have their value in maintaining local networks and supporting communication between consumers and producers. For the regular customer, who has visited the market/shop over a long period of years, the SFSCs are important for everyday food provisioning. In addition, the sociability of the SFSCs is important. They function as meeting places where lasting relationships are built, and those are important for local community building. Among some of the more recently initiated SFSCs we found that, in contrast to the traditional SFSCs, by new ways of organisation they aimed at re-building the connection between producers and consumers. The communication to a larger extent was channelled through networks of producers and consumers (e.g., the Norwegian Consumer cooperative, Italian Solidarity groups, the French Producers' market and the UK Fish box scheme). These initiatives may be seen as what in the research literature is termed alternative food networks [39–41], and have a broader scope, related to ethical and political issues such as food sovereignty and sustainable transition of the food system. Thus, these differences in the social organisation of the SFSCs also reflect the participants' motivations and their perceptions on the sustainability dimensions of SFSCs. Results from the customer survey indicate an overall high level of trust and a wish to support local producers. This was especially found in the new and innovative cases with high degree of direct relation between consumer and producer (Figure 3).

The economic sustainability of SFSCs is, according to the producers, valued as beneficial when taking into account premium prices and bargaining power (the autonomy in price setting). This is also confirmed in a quantitative study of SFSC within the Strength2Food project [33]. The perception of prices as fair is often shared among producers and consumers, but not in all instances.

Especially, in the traditional markets, that have an important function as a main distribution channel for the producer and food provisioning channel for consumers, price is a sensitive matter. Consumers in these markets are price conscious, leaving less space for premium prices for producers. Small-scale producers (farmers) in these markets face the competition both from super- and hypermarkets (Farmers'

markets in Poland and Hungary, Central market in France) and from other "professional" retailers present with their stalls at the same markets.

The more newly initiated SFSCs on the other hand have tried to meet this challenge by different strategies and with different motivations. Either by promotion of so-called market niches, such as organic food products (e.g., Polish organic food market, BioBazar) or organic and local specialties (e.g., UK Farmers' market). Producers say that participation in these SFSCs functions as a main distribution channel that gives the producer room for more autonomy in the setting of prices. Consumers on the other hand, may find the prices too high in these markets, as shown in the results from the customer surveys where some of the markets and outlets were perceived as particularly expensive (Figure 4).

Thus, it is a risk that these types of SFSCs may exclude less affluent consumers and, as consequence, these SFSCs may remain niches in the food market [42]. Some of the other newly initiated SFSCs face the issue of autonomy of the producer in a different manner. By focusing on "fair prices", the aim is that the price shall reflect "the real costs" of production and at the same time secure the producer a "fair income". However, the valuation or justification of what is a fair price is not always clear-cut seen from a consumer perspective. Consumers may in these instances face a normative dilemma between the ethical issue of "fair price" and the moral issue of acting economically sensible (managing a tight household budget) [42,43].

Perceptions of environmental sustainability differ also between types of SFSC. We found that SFSCs are perceived as more environmental friendly than distribution through long supply chains. However, this was less important for respondents in the traditional Polish and Hungarian farmers' markets than in for instance the newer more innovative SFSCs such as the French Producers' market, the Norwegian Consumer cooperative and the UK Fish box scheme (Figures 6 and 8). From the in-depth interviews, we similarly found that main motivations among farmers within these innovative SFSCs were related to ethical and environmental values and the possibilities to explicitly communicate these credence qualities to consumers.

In this study we have seen that SFSC may contribute significantly to the food basket of consumers; however, the extent to which these forms of distribution are as effective in resource use as conventional long chains is an open question. The participating producers are often small-scale, multi-functional operations that are perceived as more beneficial regarding animal welfare, resource management, etc. These last elements are not measured here, but regarding environmental sustainability a question remains about the efficiency of direct distribution especially regarding emissions and resource use in SFSCs, as Malak-Rawlikowska et al. also found in results from the quantitative assessments of SFSCs in the Strength2Food project [33].

5.2. Geographical Differences

The results also indicate important geographical differences regarding social sustainability. Especially, participants in Poland, Hungary and Italy expressed a lack of confidence in the general food system, thus, SFSCs in these countries may contribute to the building of trust through 'familiarity' based on networks and personal relations [14]. Regarding economic sustainability for producers in all countries, the SFSCs were considered as important sales channels, which also gave a greater sense of autonomy. However, in countries and regions with less-developed retail sectors, particularly in eastern and southern Europe, SFSCs together with a tradition of self-provisioning also have an economic significance for consumers. Ethical and environmental concerns were on the other hand more strongly expressed by participants in western and southern Europe than in Poland and Hungary. One exception from this was the organic food market, BioBazar, in Warzaw, where consumers specifically visited the market to get products that had 'eco' certificates. However, the motivation was as much to get more safe/healthy products (free from additives, etc.) than for environmental reasons.

5.3. Fish and Agricultural Products

This study included three cases related to distribution of fish products. The Norwegian Fish shop and Hungarian freshwater fish cases represent traditional ways of local distribution of fish. The UK Fish box scheme, a new innovative way of fish distribution, aimed at supporting local fishers and a more sustainable management of the local fisheries. The participants' perceptions of sustainability reflect the general picture of traditional versus new/innovative schemes we have found in general for all the 12 cases. However, in the Norwegian Fish case there was less focus on the local provenance of fish compared to agricultural products. This implies that there is a potential for transferring experiences of good practices especially from the agricultural sector to the fisheries/aquaculture sectors and this again may call for closer co-operation across sectors in further development of SFSCs.

6. Conclusions

The methodological approach used in this study was helpful in providing a broad sample of different types of SFSC, thereby enabling us to look into the diversity of ways in which SFSC's may contribute to social, economic and environmental sustainability.

We have found geographical differences in participants' perceptions of SFSCs across the six countries included in the study, but the way initiatives are organised, traditional versus new, seems to have greater importance for how the participants in the SFSCs perceive sustainability.

This has some implications both in the way SFSCs are studied and how policies are designed. First of all; development of SFSCs must to a large extent be understood in relation to the social and political context in each country. SFSC is largely a heterogeneous phenomenon, but at the same time this study shows that, along the social sustainability dimension, regardless of the way in which they are organised, both the consumer and the producer perceive that SFSC contributes to closer communication and increased collaboration which strengthens local identity and community building. The research literature point out that SFSCs can be socially exclusive first and foremost attracting the urban middle classes of consumers [40]. This study shows a more nuanced picture where SFSCs face different challenges. The traditional SFSCs endorse the role as a first-hand provider of regular, fresh food products, while for the newer types of SFSCs the challenge lies in expanding and attracting other consumers than the middle classes. Finally, this study nuances the environmental importance that is often attributed to SFSCs. First, there are differences between the types of SFSC to the extent that environmental issues are seen as important for the participants. Second, issues such as the environmental footprint of small-scale, direct food distribution and food provisioning should be addressed to raise awareness of how to improve the effectiveness and environmental sustainability of European short food supply chains.

Acknowledging the diversity within SFSCs and their strengths and challenges with regard to sustainability, is important to direct policy measures as well as innovation towards enhancing the contributions of SFSCs to sustainability. This article is based on an explorative approach for the investigation of the qualitative as well as quantitative survey material. However, we suggest to perform further statistical analyses of the data material in order to investigate potential differences in consumer perceptions of SFSCs along the geographical dimension, categories of cases and products or other variables not studied in this article.

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Appendix A

Customer Survey Questionnaire

(1) Interview case location: (case selected by interviewer, the customers did not need to answer this)

(2) Since when have you been shopping here? Year: _____

(3) How often do you shop here? *Please select appropriate (A, B or C) and indicate number of visits on average, or if your first visit, select D.*

- ○ Times a week _____
- ○ Times a month _____
- ○ Times a year _____
- ○ First time

In this survey we want to know more about travel habits of customers who come to buy food here. Based on information provided by you in questions 2–6 we will calculate Carbon FootPrint, which is a measure of the total emission of Greenhouse Gases.

(4) What was your main type of transportation to get here today?

- ○ Car
- ○ On foot/bicycle
- ○ Bus/train/tram
- ○ Taxi
- ○ Other

(5) What was your point of departure for the shopping trip?

- ○ From home
- ○ From workplace/school
- ○ Other _____

(6) What is your usual travelling pattern and distances you travel to buy food here (approximately km)?

	% of Travels for Each of the Alternatives (A,B,C)	**Distance Travelled [km]**	**Number of Stops for Alternative B**
A. I make the trip only for shopping here	_____	_____	X
B. Shopping here is only one among my planned stops on the way.	_____	_____	_____
C. Stopping passing by on my way from work, school or other	_____	_____	X

A: Here, we ask for the distance the customer travel on the occasions where the customer come from home and go back only for the sake of buying food "here". This means the total distance both ways from the starting point (e.g., home) and back (home or work etc.)

B: Here, we ask for the distance the food travel on the occasions where the customer has one or more other errands. Thus, we ask the customer to estimate the total distance travelled from the starting point (home) and back, including all the other errands on the way. We also ask for number of stops.

C: Here, we will measure only the distance from the shop and home on the occasions where the customer stop when passing by the shop for instance from work/school or other. Thus, we ask the customer to estimate the distance from the shop to home/final destination (one way).

(7) What type of products have you bought and how much do they weight in total? (kg)

- □ Products bought
- □ Fruits or berries
- □ Vegetables
- □ Cheese
- □ Other dairy products
- □ Fish (fresh or processed)
- □ Meat (fresh or processed)
- □ Cereal products (bread, bakery, grains, etc.)
- □ Semi-prepared foods
- □ Beverages
- □ Other

Total weight of the food purchased in kg _____

(8) Compare shopping here with buying food from a typical grocery store. To what extent do you agree with the following statements? (from 1 "I completely disagree" to 5 "I fully agree") Compared to a typical grocery store:

	1. Completely Disagree	**2. Somewhat Disagree**	**3. Neither Agree Nor Disagree**	**4. Somewhat Agree**	**5. Fully Agree**	**No Opinion**
I get products which are more fresh	□	□	□	□	□	□
I get products which are more healthy (good for my health)	□	□	□	□	□	□
The selection of products that I look for is not as good here as in a typical grocery store	□	□	□	□	□	□
I get more value for money here	□	□	□	□	□	□
I find it more environmentally friendly to shop here	□	□	□	□	□	□
I find it more pleasant to shop here	□	□	□	□	□	□
I get more information about the food products here	□	□	□	□	□	□
I get unique food products here that I cannot buy in a typical grocery store	□	□	□	□	□	□
I only do some supplementary shopping here (compared) to what I buy in a typical grocery store	□	□	□	□	□	□

(9) How important are the following reasons why you shop here? Please state to what extent you agree with the following statements (from 1 "I completely disagree" to 5 "I fully agree") I shop here because …

	1. Completely Disagree	2. Somewhat Disagree	3. Neither Agree Nor Disagree	4. Somewhat Agree	5. Fully Agree	No Opinion
It is convenient for me	□	□	□	□	□	□
This business is innovative and creative	□	□	□	□	□	□
I trust this outlet/shop	□	□	□	□	□	□
I wish to support environmentally friendly food production	□	□	□	□	□	□
This outlet/shop has a good reputation	□	□	□	□	□	□
I wish to support local producers (e.g., farmers/fishers)	□	□	□	□	□	□
It offers high quality products	□	□	□	□	□	□
It is less expensive for me	□	□	□	□	□	□
I get traditional food here	□	□	□	□	□	□

(10) How did you first learn about this outlet/shop/market? (You can choose more than one).

- □ Media (Newspaper, radio, TV)
- □ Family, friends, colleagues
- □ Flyers, posters etc.
- □ Social Media (Facebook, Twitter, Instagram etc.)
- □ By chance/passing by
- □ Other _____

(11) Gender

- ○ Female
- ○ Male

(12) Year of birth _____

- ○ Wish not to say

(13) What was your highest level of education completed?

- ○ Primary/lower secondary
- ○ Upper secondary (including short-cycle tertiary education)
- ○ Tertiary
- ○ Other, please specify _____

(14) Number of persons in the household

Adults 18 years or more _____
Children under 18 years old _____

(15) What is your households' monthly net income? (gross income minus taxes) (Local answering alternatives with 6–7 income categories given)

- ○ Category 1
- ○ Category 2
- ○ Category 3
- ○ Category 4
- ○ Category 5
- ○ Category 6
- ○ Don't wish to tell

(16) General comments _____

References

1. IPES Food. *Towards a Common Food Policy for the European Union. The Policy Reform and Realignment That Is Required to Build Sustainable Food Systems in Europe*; IPES Food: Brussels, Belgium, 2019.
2. IPCC. *Climate Change and Land. An IPCC Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security, and Greenhouse Gas Fluxes in Terrestrial Ecosystems*; The Intergovernmental Panel on Climate Change: Geneva, Switzerland, 2019.
3. Meybeck, A.; Gitz, V. Sustainable diets within sustainable food systems. *Proc. Nutr. Soc.* **2017**, *76*, 1–11. [CrossRef] [PubMed]
4. European Food Safety Authority (EFSA). *Food Safety in the EU. Survey Requested by the European Food Safety Authority (EFSA) and Co-ordinated by the European Commission, Directorate-General for Communication*; European Commission: Brussels, Belgium, 2019.
5. European Parliament. *Report on Fair Revenues for Farmers: A Better Functioning Food Supply Chain in Europe*; European Parliament: Brussels, Belgium, 2009.
6. European Environment Agency (EEA). *Perspectives on Transitions to Sustainability, No. 25*; Publications Office of the European Union: Luxembourg, 2017.
7. Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). *Global Assessment Report on Biodiversity and Ecosystem Services*; IPBES: Paris, France, 2019.
8. High Level Panel of Experts (HLPE). *Food Losses and Waste in the Context of Sustainable Food Systems. A Report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security*; Secretariat HLPE: Rome, Italy, 2014.
9. Canfora, I. Is the Short Food Supply Chain an Efficient Solution for Sustainability in Food Market? *Agric. Agric. Sci. Procedia* **2016**, *8*, 402–407. [CrossRef]
10. EIP-AGRI. *EIP-AGRI Focus Group: Innovative Short Food Supply Chain Management. Final Report*; European Commision: Brussels, Belgium, 2015.
11. Kneafsey, M.; Venn, L.; Schmutz, U.; Balázs, B.; Trenchard, L.; Eyden-Wood, T.; Bos, E.; Sutton, G.; Blackett, M. *Short Food Supply Chains and Local Food Systems in the EU. A State of Play of Their Socio-Economic Characteristics*; European Commision: Brussels, Belgium, 2013.
12. Southerton, D.; Welch, D. After Paris: Transitions for Sustainable Consumption. *Sustain. Sci. Pract. Policy* **2019**, *15*, 31–44.
13. Ponte, S. Convention theory in the Anglophone Agro-food literature: Past, present and future. *J. Rural Stud.* **2016**, *44*, 12–23. [CrossRef]
14. Spilková, J.; Perlín, R. Farmers' markets in Czechia: Risks and possibilities. *J. Rural Stud.* **2013**, *32*, 220–229. [CrossRef]
15. Kumar, V.; Wang, M.; Kumari, A.; Akkaranggoon, S.; Garza-Reyes, J.A.; Neutzling, D.; Tupa, J. Exploring short food supply chains from Triple Bottom Line lens: A comprehensive systematic review. In Proceedings of the International Conference on Industrial Engineering and Operations Management, Bangkok, Thailand, 5–7 March 2019.
16. Augére-Granier, L.-M. *Short Food Supply Chains and Local Food Systems in the EU*; European Parliamentary Research Service, EPRS: Brussels, Belgium, 2016.

17. Marsden, T. From post-productionism to reflexive governance: Contested transitions in securing more sustainable food futures. *J. Rural Stud.* **2013**, *29*, 123–134. [CrossRef]
18. Galli, F.; Brunori, G. *Short Food Supply Chains as Drivers of Sustainable Development. Evidence Document*; FP7 Project FoodLinks—European Commision: Brussels, Belgium, 2013.
19. Mundler, P.; Laughrea, S. The contributions of short food supply chains to territorial development: A study of three Quebec territories. *J. Rural Stud.* **2016**, *45*, 218–229. [CrossRef]
20. Sharp, J.S.; Smith, M.B. Social capital and farming at the rural–urban interface: The importance of nonfarmer and farmer relations. *Agric. Syst.* **2003**, *76*, 913–927. [CrossRef]
21. Wiskerke, J.S. On places lost and places regained: Reflections on the alternative food geography and sustainable regional development. *Int. Plan. Stud.* **2009**, *14*, 369–387. [CrossRef]
22. Hinrichs, C.C. Embeddedness and local food systems: Notes on two types of direct agricultural market. *J. Rural Stud.* **2000**, *16*, 295–303. [CrossRef]
23. Kirwan, J. The interpersonal world of direct marketing: Examining conventions of quality at UK farmers' markets. *J. Rural Stud.* **2006**, *22*, 301–312. [CrossRef]
24. Sage, C. Social embeddedness and relations of regard: Alternative 'good food' networks in south-west Ireland. *J. Rural Stud.* **2003**, *19*, 47–60. [CrossRef]
25. Tregear, A. Progressing knowledge in alternative and local food networks: Critical reflections and a research agenda. *J. Rural Stud.* **2011**, *27*, 419–430. [CrossRef]
26. Torjusen, H.; Lieblein, G.; Vittersø, G. Learning, communicating and eating in local food-systems: The case of organic box schemes in Denmark and Norway. *Local Environ.* **2008**, *13*, 219–234. [CrossRef]
27. Peters, R. *Local Food and Short Supply Chains*; European Network for Rural Development (ENRD)/European Commision: Brussels, Belgium, 2012.
28. Gorton, M.; Salvioni, C.; Hubbard, C.J.E. Semi-subsistence Farms and Alternative Food Supply Chains. *Euro Choices* **2014**, *13*, 15–19. [CrossRef]
29. Wittman, H.; Beckie, M.; Hergesheimer, C. Linking local food systems and the social economy? Future roles for farmers' markets in Alberta and British Columbia. *Rural Sociol.* **2012**, *77*, 36–61. [CrossRef]
30. Brown, C.; Miller, S. The impacts of local markets: A review of research on farmers markets and community supported agriculture (CSA). *Am. J. Agric. Econ.* **2008**, *90*, 1298–1302. [CrossRef]
31. Kneafsey, M.; Holloway, L.; Cox, R.; Dowler, E.; Venn, L.; Tuomainen, H. *Reconnecting Consumers, Producers and Food: Exploring Alternatives*; Berg Publishers: Oxford, UK, 2008.
32. O'Kane, G.J.P. What is the real cost of our food? Implications for the environment, society and public health nutrition. *Public Health Nutr.* **2012**, *15*, 268–276. [CrossRef]
33. Malak-Rawlikowska, A.; Majewski, E.; Wąs, A.; Borgen, S.O.; Csillag, P.; Donati, M.; Freeman, R.; Hoàng, V.; Lecoeur, J.-L.; Mancini, M.C. Measuring the Economic, Environmental, and Social Sustainability of Short Food Supply Chains. *Sustainability* **2019**, *11*, 4004. [CrossRef]
34. Schmitt, E.; Galli, F.; Menozzi, D.; Maye, D.; Touzard, J.-M.; Marescotti, A.; Six, J.; Brunori, G. Comparing the sustainability of local and global food products in Europe. *J. Clean. Prod.* **2017**, *165*, 346–359. [CrossRef]
35. Vecchio, R. Local Food at Italian Farmers' Markets: Three Case Studies. *Int. J. Sociol. Agric.* **2010**, *17*, 122–139.
36. Stevenson, G.W. Agrifood systems for competent, ordinary people. Presidential address: Joint Meetings of the Agricultural, Food and Human Values Society and the Association for the Study of Food and Society, Madison, Wisconsin, 5–8 June 1997. *Agric. Hum. Values* **1998**, *15*, 199–207. [CrossRef]
37. Kjærnes, U.; Harvey, M.; Warde, A. *Trust in Food: A Comparative and Institutional Analysis*; Palgrave Macmillan: Basingstoke, UK, 2007.
38. Born, B.; Purcell, M. Avoiding the local trap: Scale and food systems in planning research. *J. Plan. Educ. Res.* **2006**, *26*, 195–207. [CrossRef]
39. Goodman, D.; DuPuis, E.M. Knowing food and growing food: Beyond the production–Consumption debate in the sociology of agriculture. *Sociol. Rural.* **2002**, *42*, 5–22. [CrossRef]
40. DuPuis, E.M.; Goodman, D. Should we go "home" to eat?: Toward a reflexive politics of localism. *J. Rural Stud.* **2005**, *21*, 359–371. [CrossRef]
41. Renting, H.; Marsden, T.K.; Banks, J. Understanding Alternative Food Networks: Exploring the Role of Short Food Supply Chains in Rural Development. *Environ. Plan. A* **2003**, *35*, 393–411. [CrossRef]

42. Vittersø, G.; Jervell, A.M. Direct markets as multiple consumption spaces: The case of two Norwegian collective marketing initiatives. *Int. J. Sociol. Agric. Food* **2011**, *18*, 54–69.
43. Miller, D. *A Theory of Shopping*; Cornell University Press: Ithaca, NY, USA, 1998.



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