



UNIVERSITÀ POLITECNICA DELLE MARCHE
Department of Agricultural, Food and Environmental Sciences (D3A)
PhD in Agriculture, Food and Environmental Sciences - XV (15° edition)
AGR/01 - Agricultural Economics and Rural Appraisal

**THE SHORT FOOD SUPPLY CHAINS' PHENOMENON:
A MULTIDISCIPLINARY APPROACH TO EXPLORE
CONSUMER BEHAVIOUR AND PREFERENCES**

DOCTORAL THESIS

PhD Candidate:

Elisa Giampietri

Supervisor:

Prof. Adele Finco

Co-Supervisors:

Prof. Fabio Verneau

Prof. Teresa Del Giudice

Academic Year 2016-2017

*“And later on, when so many roads open up before you and you don't know
which to take, don't pick one at random; sit down and wait.
Breathe deeply, trustingly, the way you breathed on the day when you came
into the world, don't let anything distract you, wait and wait some more.
Stay still, be quiet, and listen to your heart.
Then, when it speaks, get up and go where it takes you.”*

*“E quando poi davanti a te si apriranno tante strade e non saprai quale
prendere, non imboccarne una a caso, ma siediti e aspetta.
Respira con la profondità fiduciosa con cui hai respirato il giorno in cui sei
venuta al mondo, senza farti distrarre da nulla, aspetta e aspetta ancora.
Stai ferma, in silenzio, e ascolta il tuo cuore.
Quando poi ti parla, alzati e v  dove lui ti porta. ”*

— *Susanna Tamaro, Va' dove ti porta il cuore (Follow Your Heart)*

SUMMARY

| | |
|--|-----|
| INTRODUCTION | 6 |
| CHAPTER 1: EXPLORING CONSUMERS’ ATTITUDE TOWARDS PURCHASING IN SHORT FOOD SUPPLY CHAINS | 34 |
| CHAPTER 2: COMPARING ITALIAN AND BRAZILIAN CONSUMERS’ ATTITUDES TOWARDS SHORT FOOD SUPPLY CHAINS | 54 |
| CHAPTER 3: EXPLORING CONSUMERS’ BEHAVIOUR TOWARDS SHORT FOOD SUPPLY CHAINS | 74 |
| CHAPTER 4: TELLING THE TRUTH ABOUT CONSUMER BEHAVIOUR: A THEORY OF PLANNED BEHAVIOUR PERSPECTIVE TO INVESTIGATE FACTORS INFLUENCING CONSUMER PURCHASE AT SHORT FOOD SUPPLY CHAINS | 106 |

**CHAPTER 5: CONSUMERS’ SENSE OF FARMERS’ MARKETS:
TASTING SUSTAINABILITY OR JUST PURCHASING FOOD?
.....131**

**CHAPTER 6: HETEROGENEITY IN CONSUMERS’
PREFERENCES FOR FARMERS’ MARKETS: A COMPARATIVE
ANALYSIS AMONG ITALIAN AND GERMAN
CONSUMERS.....170**

CONCLUSION.....212

INTRODUCTION

In recent years, decreased consumer confidence in industrialized agri-food systems and enhanced reflexivity of consumers known as “quality turn” have led to the promotion of Alternative Agri-Food Networks (AAFNs) as Short Food Supply Chains (SFSCs). The worldwide flourishing development of SFSCs has motivated a renewed interest for researchers all around the world. However, the majority of such studies, that aimed at processing knowledge in such marketing systems, faced some problems: the wide variety of forms and the difficult access to data hampered an exhaustive and comprehensive assessment of the impacts of SFSCs.

As abovementioned, during the last decades, agriculture and agri-food sector faced some significant changes (Toler et al., 2009). The **industrialization** and **globalization** phenomena, in particular, are mentioned as major reasons of modern food systems’ recognized **unsustainability**.

First of all, Mundler and Rumpus (2012) state that in response to pursuing high-production volumes, high-standardization levels and low-food prices, intensive agriculture and industrial food production exact heavy **environmental costs**, due especially to their strong dependence from fossil energy and massive food wastage. In addition, Reisch et al. (2013) suggest that climate change, water’s pollution, scarcity and eutrophication, soil degradation, and loss of biodiversity

represent only some major environmental problems related to modern food systems.

It is worth noting that farmers' **economic unsustainability**, especially for small farmers, represents another problem linked to conventional longer and standardized food supply chains. Small producers, indeed, commonly suffer from a little bargaining power and are often excluded by globalised systems because of their limited resources and difficulties to combine production, processing and marketing skills. Imposing the existence of many intermediary actors within the supply chain, the mainstream large-scale food systems also drastically undermined **farmers' profitability** over the last years. In addition, as stated by Assefa et al. (2013), "*the last decade, and particularly since the 2007/08 food crisis, food price volatility in world markets has seen an increasing trend. The successive reforms of the Common Agricultural Policy (CAP), which made EU agriculture more market oriented, led to the exposure of EU farmers and consumers to world price uncertainties*". In particular, increased market competition and **price volatility** contributed to significant income losses for small producers, who started to search for alternative profitable solutions. According to Tangermann (2011), volatility is a characteristic feature of agricultural markets and there are all reasons to expect that it will continue to plague them in the future.

Finally, with regard to **social aspects** of food production and provision, among other academics Thorsøe and Kjeldsen (2016) denounced a notable social, physical and temporal **distance between farmers and consumers** throughout the last two decades. In 2013, the European Commission (EU, 2013) declared that, in addition to concerns related to food crises and environmental pollution, to the increasing ethical awareness of social responsibility and of the rising prevalence of malnutrition, and the influence of foods on wellbeing (e.g., diet- and lifestyle-related health problems as diabetes and cardiovascular diseases that significantly increase health costs) have shaken a large proportion of consumers' confidence. In parallel with this, food scandals and scares (e.g. BSE scandal, avian flu, horsemeat scandal) (Forbes et al., 2009) contributed to increase the information asymmetry and consumer distrust and generated new anxieties about food (Thomas and McIntosh, 2013).

According to Meyer et al. (2012), the decreasing of consumer proximity to food production and the increasing gap between producers and consumers contribute to the **erosion of consumer trust**, that grows when the risk of moral hazard prevails along the supply chain (Hobbs and Goddard, 2015). Many authors (Frewer et al., 1996; Ding et al., 2015; Lassoued and Hobbs, 2015) suggest that trust represents a solution for consumer decision making, especially when there is scarcity or lack of knowledge or this is hard to assess, as consumer buyer-seller relationships.

However, several studies (Trobe, 2001; Schneider, 2008; Tregear, 2011; Hartmann et al., 2015) found that the direct interactions between farmers and consumers as well as their repeated encounters can provide consumers with a sense of trust built especially on shared know-how and mutual understanding.

In relation to consumers' necessity to trace food they eat, **their interest in knowing how, where and by whom food is produced** has been increasing over the last years. In line with this, the last two decades registered people's growing skepticism that resulted in a qualitative shift of food habits and consumption patterns (Morris and Buller, 2003) known as **reflexive consumerism** (DuPuis, 2000; Ilbery and Maye, 2005; Sage, 2014; Starr, 2010). Such phenomena, indeed, materialized in a renewed critical and ethical consumer emphasis on notions such as food quality (e.g., seasonality, local origin, naturalness, freshness, organic production) and traceability, but also environmental sustainability, social embeddedness (Hinrichs, 2000; Kirwan, 2004; Sage, 2003), and some renewed farmer-related concerns such as **fairness** (Lusk and Briggeman, 2009) and **trust** (Hobbs and Goddard, 2015). As stated by Ilbery and Kneafsey (2000), nowadays global society witnesses an emphasized "*renaissance of public interest in nature, nostalgia, local culture and culinary heritage*", that highlights a "*renewed interest in so-called authentic, traditional, wholesome and traceable*" food consumption.

Finally, this background deserves a brief mention to post-modern society and consumption patterns within which also marketing field can be recognized since 90s (Manel Hamouda and Abderrazak Gharbi, 2013). Post-modern consumption perspective experienced some changes during the last few decades. Interestingly, the rational consumer left room for an heterogeneous mix of purchasing motivations as: expressing individual ideas and values (e.g., around ethic or environment), communicating mind statements and building a new own identity, until happiness maximization and personal satisfaction through purchasing choices (Cicia et al., 2012).

Given this background, nowadays **more sustainable food systems are required** by consumers to replace the old schemes all over the world. In particular, what mentioned before has contributed to increasingly sparke consumer interest in alternative forms of food provision, e.g., seeking food that can be bought directly from the producer (Holloway and Kneafsey, 2000).

Following consumer demand for more sustainable food products (Morris and Buller, 2003; Ilbery and Maye, 2005), the last two decades registered a rising proliferation of **Short Food Supply Chains (SFSCs)** that are associated with sustainable production, as opposite to global markets that is reliant upon industrial agriculture. As suggested by Galli and Brunori (2013), *“the very concept of SFSCs emerged at the turn of the century”* and *“the point of departure of this debate is that, given that the prevailing trend in the agro-food system*

is the development of 'global value chains' dominated by retailers and characterized by unequal distribution of power between the different actors, long distance trade and industrialized food, SFSCs are analysed and interpreted as a strategy to improve the resilience of the family farms with the support of concerned consumers, local communities and civil society organizations”.

Since the 90s, SFSCs became very popular all over Europe (Kneafsey et al., 2013) and in Italy as well (Marino and Cicatiello, 2012). However, as suggested also by Venn et al. (2006), there is a scarcity of information concerning the breadth and size of the SFSCs population all over the world, due to their extremely heterogeneity in natures and forms; accordingly, the most part of reports and studies focus on case studies that are frequently restricted to a particular region. The works of Brown (2002) and Low and Vogel (2011) represent an attempt to picture the exponential growth in the number of farmers' markets and direct-selling in USA during the last years: estimated FMs passed from about 340 in 1970 to over 3000 in 2001. Focusing on direct selling, that represents one of the major component of SFSCs, nowadays the share of farms, mainly small farms, involved in direct sales is nearly 15% in European Union (EPRS, 2016) and 26% in Italy (ISTAT, 2010), whereas in USA direct-to-consumer sales account for 0.3% of all farm sales (Low et al., 2015).

As recently stated by Mundler and Laughrea (2016), who gather the position of scholars and experts around the world, **SFSCs have**

the potential to enhance the sustainability of conventional food systems, in terms of socio-economic equity and environmental and local development. Accordingly, **SFSCs represent a more sustainable alternative** to highly specialized and resource intensive modern supply chains, that are perceived as untrustworthy and unsustainable by consumers (Wiskerke; 2009; Brunori et al., 2012; Forssell and Lankoski, 2014).

Defining SFSCs is not easy because of their great **heterogeneity**. Even at EU level there was no common definition of **SFSCs** until the new reform of Common Agricultural Policy (CAP 2014-2020). Accordingly, the current EU rural development policy (II Pillar) defined SFSCs for the first time within its Regulation (EU) No. 1305/2013 (article 2), as follows: *“the term short supply chain means 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”*. **Parker** (2005) recognizes the following two characteristics of SFSCs: (1) the reduced geographical distance between production and consumption (i.e., reduced transportation distance known as food miles); (2) a small number of intermediaries between the producer and the consumer.

SFSCs involve geographically localized (rather than global) production, and consist in face-to-face interactions between farmers and consumers (Selfa and Qazi, 2005) who thus can easily interact and

share information (e.g., related to product origin or production process). Short-circuiting the conventional chains, SFSCs automatically reduce the number of commercial intermediaries, as in the traditional forms of past local markets: the number of intermediary actors between farmer and consumer is minimal or ideally nil and, by means of such reconnection between the actors, food is directly identified by and traceable to a farmer (Kneafsey et al., 2013). According to Holloway et al. (2007), repeated personal interactions also promote mutual understanding, and the dialogue exchange can encourage loyal relations (Tregear, 2011; Hartmann et al., 2015) that, in turn, are associated with consumers' rediscovering food and understanding the identities of the producer as directly 'present' in the food they buy. It follows that consumers can make their own value-judgements (De-Magistris et al., 2014) and, as a result, the information exchange is found to reduce information asymmetry and re-establish personal trust (Schneider, 2008; Trobe, 2001). Some authors (Hallett, 2012; Kirwan, 2004) consider SFSCs having an increasing potential since their ability to respectively re-spatialise and re-socialise food (Hallett, 2012), by bringing consumers closer to the origin of food and envisaging a seller who is directly involved in the production process.

In addition, Goodman (2004) suggests that SFSCs embody a more endogenous, territorialized, ethical and ecological approach towards food products. In line with this, such short chains reflect the before

mentioned “quality turn” of consumers who increasingly look for food quality and **traceability** but also tradition and transparency, that are more guaranteed by short circuits instead of global, anonymous industrial production. Thus, by increasing food chain transparency, traceability is expected to increase consumer confidence in the food system (Menozzi et al., 2015).

According to Marsden et al. (2000) and Renting et al. (2003), SFSCs include mainly three different categories:

- *face- to-face initiatives* (e.g. on-farm sales, farm shops, farmers’ markets);
- *spatially proximate initiatives*, in which food is produced and retailed within the specific region of production;
- *spatially extended initiatives*, where products are sold to consumers that are located outside the production area.

With regard to SFSCs’ wide variety of typologies existing all over the world, it is possible to distinguish the following main forms:

- *on farm direct selling*, that represents the simplest form and involves the direct transaction between farmer and consumer;
- *farmers' markets*, that represent markets where agricultural products are directly sold by producers to consumers through a common marketing channel (Ragland and Tropp, 2009);
- forms of partnerships between producers and consumers (often bound by a written agreement), as *Community Supported Agriculture* (CSA) or the Italian *Gruppi di Acquisto Solidale* (GAS). In particular,

GAS represent groups of consumers that together purchase food directly from producers (previously organized in local platforms) and that can benefit from convenient prices due to the absence of sale intermediaries;

- *box schemes*, or home delivering of a pre-determined quantity of food (previously decided by consumers);
- *pick-your-own*, where consumers purchase food directly from the farm, picking the products by themselves;
- collective forms of direct selling (e.g., *fairs, food festivals*).

According to a JRC report (Kneafsey et al., 2013), there is a tendency for SFSCs to sell organic and local products. In relation to products, perishable goods as fruit and vegetables are more suitable for sales at SFSCs (Low and Vogel, 2011; Martinez, 2015), followed by animal products and dairy products and beverages.

Although they are found to envisage a move back to traditional marketing made of face-to-face interactions, nowadays SFSCs represent alternative niches of food production, distribution and consumption. Some authors (Tregear et al., 2007; Aubry and Kebir, 2013; Knezevic et al., 2013; O'Neill, 2014) define SFSCs as expression of cultural capital and consider they can be an engine for territorial development (income growth and territorial value added) both in rural and in peri-urban areas. Their development, indeed, can be considered as an important opportunity for the Italian food sector: SFSCs are particularly suited to the highly fragmentation of Italian

agricultural production, as they involve above all small producers, being also an engine for the promotion of a wide range of traditional, local food which are representative of the territorial different rural tradition, knowledge and culture.

In order to explain their sustainability promise, a brief summary of SFSCs' impacts follows, although the reader may refer especially to the fifth chapter for a more accurate dissertation on this. SFSCs' impact refer to all the three dimensions of sustainability, as stated by the Brundtland Report (United Nations, 1987). First of all, SFSCs contribute to **social sustainability** by ensuring new direct relations between producers and consumers that do not merely concern the economic nature of market exchange: they also actively contribute to both customers' personal gratification (due to the pleasant purchasing atmosphere and purchasing-related cultural and social benefits) and social cohesion and community development, by reconnecting people that share common interests and values (e.g., the preservation of typical products, local knowledge and traditions) and establishing new trust around food.

With regard to **environmental sustainability**, SFSCs reduce the use of input (non-renewable fossil energy, water, fertilizer, etc.), packaging and transports (e.g., products are locally produced and are fresh and seasonally sold), and valorize typical products (i.e., biodiversity).

Finally, SFSCs also contribute to many **economic sustainability** goals as: the creation of new employment in agriculture; the support to farmers' diversification and innovation and the possibility to achieve a good standard of living for farmers and their families; finally, the promotion of local economies and tourism, especially in marginal and rural areas, to retain rural livelihood (DuPuis and Goodman, 2005). In line with this, SFSCs let rural areas retain their autonomy and produce evenly distributed welfare, thus contributing to the economic sustainability of communities. Contrary to standard long food supply chains, where only a small proportion of total added value is captured by primary producers, short chains have the capacity to increase farmers' income by ensuring a fair price for them. To this respect, a recent Eurobarometer survey (EU, 2016) confirms the propensity of European consumers to support local agriculture and economy by purchasing goods at a fair price, in order to strengthen farmer's role in the food chain (EPRS, 2016). Indeed, selling agricultural products directly to consumers enables producers to retain a greater share of the products' market value (through the elimination of intermediaries) and to potentially increase their income. As a consequence, the "iron law" (i.e., the strong dependence) of price is displaced by different considerations that make consumers feel embedded while purchasing (Hinrichs et al., 2004).

However, although the global envisages the unsustainability of modern food sector, many authors consider that the local does not

always imply better performances, especially because of lower volumes, as in terms of energy use, environmental impact and transportation costs (Schlich et al., 2006; Coley et al., 2011).

Food consumption represents also a major issue in sustainability political strategies because of its impacts on environment, economy and society (e.g. public health). Thus, in addition to consumers, SFSCs have spurred the interest of governments. In line with this, the new **European Common Agricultural Policy (CAP) 2014-2020** encourages the promotion of SFSCs for the first time through a specific financial support within its second pillar, in order to provide a publicly funded stimulus for sustainable development. In particular, several measures co-financed by the European Agricultural Fund for Rural Development (EAFRD) will support SFSCs, as explicitly recognized by one of the new six priorities and a thematic sub-programme. In particular, Priority three is related to the promotion of food chain organization, and one of its Focus Areas (3A) specifically refers to the promotion of local markets and short supply circuits in order to improve the competitiveness of primary producers.

Many authors (Govindasamy and Nayga, 1996; Kloppenburg et al., 2000; Toler et al., 2009; Tregear, 2011; Kneafsey et al., 2013; Galli et al., 2015; Hughes and Isengildina-Massa, 2015; Mundler and Laughrea, 2016) found that there is a wide variety of **motivations** that lead consumer to seek for alternative food chains; among other, purchasing products with higher quality standards (freshness,

nutritional value) or produced with a more environmentally-friendly method, pursuing a healthy diet and achieving more direct interactions with the grower, in order to know the origin of food and also to support local agriculture and economy by purchasing products at a fair price.

In this context, SFSCs' growing appeal seems to reflect recent developments in post-modern society and consumption patterns as, in addition to proper food necessity, nowadays consumers seek for food quality and traceability but also ethical and environmental outcomes in the product they buy, in order to maximize their happiness function rather than their utility function.

A related more complete dissertation is available through the following chapters. However, there is still a lack of an extensive and comprehensive assessment of such motivations, in order to process knowledge in such flourishing alternative marketing systems.

The lack of a comprehensive knowledge of consumer perspective and decision making towards SFSCs in Italy has encouraged this research that aims at contributing to the growing literature on such alternative food networks, focusing on the investigation of consumer preferences and behaviour towards purchasing food at SFSCs. In particular, the work explores the importance of some major drivers in influencing consumers' preferences for such alternative sales schemes. Afterwards, based on some preliminary findings, it focuses on investigating some aspects (i.e., sustainability, trust, fairness) more in

depth. This research thesis aims at providing an organic body where every single chapter contributes to have a broader view on the topic as a whole, following the three years long doctoral path.

The research activity followed two main approaches and related methodologies:

1. The explorative analysis of the major determinants of consumer preferences for purchasing food at SFSCs, instead of conventional markets. It was performed through the application of a socio-psychological approach, i.e. the Theory of Planned Behavior (TPB; Ajzen, 1991). TPB represents one of the most popular and widely cited contemporary alternative approach to predict and explain a wide variety of human behaviours (Ajzen, 2015) as consumers' food choices and purchasing preferences (Cook et al., 2002; Verbeke and Vackier, 2005). This research represents the first application ever of TPB to consumer preferences related to SFSCs.

2. Based on the previous qualitative findings related to SFSCs' category in general, this research has investigated more in depth the role of some specific concerns (i.e., sustainability, trust and fairness) in influencing Italian consumers' purchasing preferences for farmers' markets (FMs), that represent a major component of SFSCs (Marino and Cicatiello, 2012). To this purpose, the research turned to behavioural economics, performing a choice experiment (CE) based on an hypothetical market situation and focusing on the two most

common goods sold at SFSCs (i.e., vegetables and fruits) as apples and lettuce.

The use of two different research approaches turns out to be in line with current purchasing motivations that lie in postmodern contemporary consumption and its interdisciplinary nature (Miles, 1999), reflecting the current attempt of researchers who, according to Firat (1991), *“are at the forefront of major leaps in methodological and theoretical movements in this field”*.

Against the background of this research topic there is the aim of providing new knowledge around such alternative supply chains' growing appeal among consumers, in order to explain their recent increasing in number, especially in Italy but not only.

In relation to the first approach, according to Ajzen (2015) the Theory of Planned Behaviour does not rely on the *“overall evaluation or utility of a product or a service”*, but it *“focuses on the specific behaviour of interest”*, providing a comprehensive framework to explain and understand its determinants. On the contrary, with the second approach this research referred to Random Utility Theory (McFadden, 1974) to estimate consumer preferences from a choice experiment, that reminds to Lancaster's (1966) exposition on consumer theory, who states that consumer utility is not derived directly from the goods consumed but from their attributes.

To conclude, the work proceeds with the following six papers that correspond to chapters:

1. ***Exploring consumers' attitude towards purchasing in Short Food Supply Chains.***

Published in 2015 on "Quality - Access to Success", Vol. 16, pp. 135-141

2. ***Comparing Italian and Brazilian consumers' attitudes towards Short Food Supply Chains.***

Published in 2016 on "Rivista di Economia Agraria", Vol. 71(1 - Supplemento), pp. 246-254. doi:10.13128/REA-18644

3. ***Exploring consumers' behaviour towards Short Food Supply Chains.***

Published in 2016 on "British Food Journal", Vol. 118(3), pp. 618 - 631. doi:10.1108/BFJ-04-2015-0168

4. ***Telling the trust about consumer behaviour: a Theory of Planned Behaviour perspective to investigate factors influencing consumer purchase at Short Food Supply Chains.***

5. ***Consumers' sense of Farmers' Markets: tasting sustainability or just purchasing food?***

Published in 2016 on "Sustainability", Vol. 8, 1157. doi:10.3390/su8111157

6. ***Heterogeneity in consumers' preferences for Farmers' Markets: a comparative analysis among Italian and German consumers.***

REFERENCES

Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Process*, 50, 179-211.

Ajzen, I. (2015). Consumer attitudes and behaviour: the theory of planned behaviour applied to food consumption decisions. *Rivista di Economia Agraria*, 70(2), 121-138.

Assefa, T.T., Meuwissen, M.P., Oude Lansink, A.G.P.M. (2013). Literature review on price volatility transmission in food supply chains, the role of contextual factors and the CAP's market measures (No. 4). Working paper.

Aubry, C., Kebir, L. (2013). Shortening food supply chains: A means for maintaining agriculture close to urban areas? The case of the French metropolitan area of Paris. *Food Policy*, 41, 85-93.

Brown, A. (2002). Farmers' market research 1940-2000: An inventory and review. *American Journal of Alternative Agriculture*, 17(04), 167-176.

Brunori, G., Rossi, A., Guidi, F. (2012). On the new social relations around and beyond food. Analysing consumers' role and action in Gruppi di Acquisto Solidale (Solidarity Purchasing Groups). *Sociologia Ruralis*, 52(1), 1-30.

Cicia, G., Cembalo, L., Del Giudice, T., Verneau, F. (2012). Il sistema agroalimentare ed il consumatore postmoderno: nuove sfide per la ricerca e per il mercato. *Economia Agro-Alimentare*, 1, 117-142.

Coley, D., Howard, M., Winter, M. (2011). Food Miles: Time for a Re-Think?. *British Food Journal*, 113 (7), 919-934.

Cook, A.J., Kerr, G.N., Moore, K. (2002). Attitudes and intentions towards purchasing GM food. *Journal of Economic Psychology*, 23, 557-572.

De Magistris, T., Del Giudice, T., Verneau, F. (2015). The effect of information on willingness to pay for canned tuna fish with different corporate social responsibility (CSR) certification: a pilot study. *Journal of Consumer Affairs*, 49(2), 457-471.

Ding, Y., Veeman, M.M., Adamowicz, W.L. (2015). Functional food choices: Impacts of trust and health control beliefs on Canadian consumers' choices of canola oil. *Food Policy*, 52, 92-98.

DuPuis M., Goodman, D. (2005). Should we go home to eat?: toward a reflexive politics of localism. *Journal of Rural Studies*, 21(3), 359-371.

DuPuis, E.M. (2000). Not in my body: BGH and the rise of organic milk. *Agriculture and human values*, 17(3), 285-295.

European Commission (2013). Commission Staff Working Document on Various Aspects of Short Food Supply Chains Accompanying the Document Report from the Commission to the European Parliament and the Council on the Case for a Local Farming a ND Direct Sales Labelling Scheme; European Commission: Brussels, Belgium.

European Commission (2013). Commission Staff Working Document on Various Aspects of Short Food Supply Chains Accompanying the Document Report from the Commission to the European Parliament and the Council on the Case for a Local Farming a ND Direct Sales Labelling Scheme; European Commission: Brussels, Belgium.

European Parliamentary Research Service (2016). Short food supply chains and local food systems in the EU; Marie-Laure Augère-Granier; Members' Research Service. PE 586.650

European Union (2016). Special Eurobarometer 440 European, Agriculture and the CAP January 2016 Report; ISBN 978-92-79-54246-6. doi:10.2762/03171

Firat, A.F. (1991). The consumer in Postmodernity. *NA-Advances in Consumer Research*, 18, 70-76.

Forbes, S.L., Cohen, D.A., Cullen, R., Wratten, S.D., Fountain, J. (2009). Consumer attitudes regarding environmentally sustainable wine: an exploratory study of the New Zealand marketplace. *Journal of Cleaner Production*, 17(13), 1195-1199.

Forsell, S., Lankoski, L. (2014). The sustainability promise of alternative food networks: An examination through “alternative characteristics”. *Agriculture and Human Values*, 32, 63-75.

Frewer, L.J., Howard, J.C., Hedderley, D., Shepherd, R. (1996). What Determines Trust in Information About Food-Related Risks? Underlying Psychological Constructs. *Risk Analysis*, 16(4), 473-486.

Galli, F., Bartolini, F., Brunori, G., Colombo, L., Gava, O., Grando, S., Marescotti, A. (2015). Sustainability assessment of food supply chains: an application to local and global bread in Italy. *Agricultural and Food Economics*, 3(1), 1.

Galli, F., Brunori, G. (2013). Short Food Supply Chains as drivers of sustainable development. Evidence Document. Document developed in the framework of the FP7 project FOODLINKS (GA No. 265287). Laboratorio di studi rurali Sismondi, ISBN 978-88-90896-01-9.

Goodman, D. (2004). Rural Europe redux? Reflections on alternative agro-food networks and paradigm change. *Sociologia ruralis*, 44(1), 3-16.

Govindasamy, R., Nayga Jr, R.M. (1996). Characteristics of farmer-to-consumer direct market customers: An overview. *Journal of Extension*, 34(4).

Hallett, L.F. (2012). Problematizing local consumption: is local food better simply because it's local?. *American International Journal of Contemporary research*, 2(4), 18-29.

Hamouda, M., Gharbi, A. (2013). The postmodern consumer: an identity constructor?. *International Journal of Marketing Studies*, 5(2), 41.

Hartmann, M., Klink, J., Simons, J. (2015). Cause related marketing in the German retail sector: Exploring the role of consumers' trust. *Food Policy*, 52, 108-114.

Hinrichs, C.C. (2000). Embeddedness and local food systems: notes on two types of direct agricultural market. *Journal of rural studies*, 16(3), 295-303.

Hinrichs, C.C., Gulespie, G.W., Feenstra, G.W. (2004). Social learning and innovation at retail farmers' markets. *Rural sociology*, 69(1), 31-58.

Hobbs, J.E., Goddard, E. (2015). Consumers and trust. *Food Policy*, 52, 71–74.

Holloway, L., Kneafsey, M. (2000). Reading the space of the farmers' market: a preliminary investigation from the UK. *Sociologia Ruralis*, 40(3), 285-299.

Holloway, L., Kneafsey, M., Venn, L., Cox, R., Dowler, E., Tuomainen, H. (2007). Possible Food Economies: a Methodological Framework for Exploring Food Production–Consumption Relationships. *Sociologia Ruralis*, 47(1), 1-19.

Hughes, D.W., Isengildina-Massa, O. (2015). The economic impact of farmers' markets and a state level locally grown campaign. *Food Policy*, 54, 78-84.

Ilbery, B., Kneafsey, M. (2000). Registering regional speciality food and drink products in the United Kingdom: The case of PDOs and PGI, *Area*, 32(3), 317-325.

Ilbery, B., Maye, D. (2005). Food supply chains and sustainability: evidence from specialist food producers in the Scottish/English borders. *Land Use Policy*, 22(4), 331-344.

Istituto Nazionale di Statistica - ISTAT (2010). VI Censimento Agricoltura Italia. Available at: <http://dati-censimentoagricoltura.istat.it/Index.aspx>

Kirwan, J. (2004). Alternative strategies in the UK agro-food system: interrogating the alterity of farmers' markets. *Sociologia Ruralis*, 44(4), 395-415.

Kloppenburg, Jr J., Lezberg, S., De Master, K., Stevenson, G., Hendrickson, J. (2000). Tasting food, tasting sustainability: Defining the attributes of an alternative food system with competent, ordinary people. *Human organization*, 59(2), 177-186.

Kneafsey, M., Venn, L., Schmutz, U., Balázs, B., Trenchard, L., Eyden-Wood, T., Bos, E., Sutton, G. (2013). Short Food Supply Chains and Local Food Systems in the EU. A State of Play of Their Socio-Economic Characteristics; European Commission Joint Research Centre: Seville, Spain.

Knezevic, I., Landman, K., Blay-Palmer, A. (2013). Local Food Systems-International Perspectives. Review of literature, research projects and community initiatives. Prepared for the Ontario Ministry of Agriculture, Food and Rural Affairs. Available on line: <http://www.nourishingontario.ca/wpcontent/uploads/2013/07/EUAntipode-FoodHub-LitReview-2013.pdf>.

Lancaster, K.J. (1966). A new approach to consumer theory. *The Journal of Political Economy*, 132-157.

Lassoued, R., Hobbs, J.E. (2015). Consumer confidence in credence attributes: The role of brand trust. *Food Policy*, 52, 99-107.

Low, S., Vogel, S. (2011). Direct and Intermediated Marketing of Local Foods in the United States; U.S. Department of Agriculture, Economic Research Service: Washington, DC, USA.

Low, S.A., Adalja, A., Beaulieu, E., Key, N., Martinez, S., Melton, A., Perez, A., Ralston, K., Stewart, H., Suttles, S., Jablonski, B.B.R., Vogel, S. (2015). Trends in US local and regional food systems: A report to Congress (Administrative Publication No. AP-068). Washington, DC: USDA. Economic Research Service.

Lusk, J.L., Briggeman, B.C. (2009). Food values. *American Journal of Agricultural Economics*, 91(1), 184-196.

Marino, D., Cicatiello, C. (2012). I Farmers' Market: La Mano Visibile del Mercato. Aspetti Economici, Sociali e Ambientali delle Filiere Corte; Franco Angeli: Milan, Italy.

Marsden, T., Banks, J., Bristow, G. (2000). Food supply chain approaches: exploring their role in rural development. *Sociologia Ruralis*, 40(4), 424-438.

Martinez, S.W. (2015). Fresh Apple And Tomato Prices At Direct Marketing Outlets Versus Competing Retailers In The US Mid-Atlantic Region. *Journal of Business & Economics Research (Online)*, 13(4), 241.

McFadden, D. (1974). Conditional logit analysis of qualitative choice behavior. In *Frontiers in Econometrics*; Zarembka, P., Ed.; Academic Press: New York, NY, USA; 1, 105-142.

Menozzi, D., Halawany-Darson, R., Mora, C., Giraud, G. (2015). Motives towards traceable food choice: A comparison between French and Italian consumers. *Food Control*, 49, 40-48.

Meyer, S.B., Coveney, J., Henderson, J., Ward, P.R., Taylor, A.W. (2012). Reconnecting Australian consumers and producers: identifying problems of distrust. *Food Policy*, 37(6), 634-640.

Miles, S. (1999). A pluralistic seduction: Postmodernism at the crossroads. *Consumption, Culture and Markets*, 3, 145-163.

Morris, C., Buller, H. (2003). The local food sector: a preliminary assessment of its form and impact in Gloucestershire. *British Food Journal*, 105(8), 559-566.

Mundler, P., Laughrea, S. (2016). The contributions of short food supply chains to territorial development: A study of three Quebec territories. *Journal of Rural Studies*, 45, 218-229.

Mundler, P., Rumpus, L. (2012). The energy efficiency of local food systems: A comparison between different modes of distribution. *Food Policy*, 37(6), 609-615.

O'Neill, K. (2014). Localized food systems—what role does place play?. *Regional Studies, Regional Science*, 1(1), 82-87.

Parker, G. (2005). *Sustainable Food? Teikei, Co-Operatives and Food Citizenship in Japan and the UK*; University of Reading: Reading, UK.

Ragland, E., Tropp, D. (2009). *USDA National Farmers Market Manager Survey 2006*; Agricultural Marketing Service, USDA: Washington, DC, USA.

Regulation (EU) No 1305/2013 of the European Parliament and of the Council of 17 December 2013 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) and repealing Council Regulation (EC) No 1698/2005.

Reisch, L., Eberle, U., Lorek, S. (2013). Sustainable food consumption: an overview of contemporary issues and policies. *Sustainability: Science, Practice, & Policy*, 9(2), 7-25.

Renting, H., Marsden, T.K., Banks, J. (2003). Understanding alternative food networks: exploring the role of short food supply chains in rural development. *Environment and Planning*, 35(3), 393-411.

Sage, C. (2003). Social embeddedness and relations of regard: alternative 'good food' networks in south-west Ireland. *Journal of Rural Studies*, 19(1), 47-60

Sage, C. (2014). The transition movement and food sovereignty: From local resilience to global engagement in food system transformation. *Journal of Consumer Culture*, 14(2), 254-275.

Schlich, E., Biegler, I., Hardtert, B., Luz, M., Schroder, S., Scroeber, J., Winnebeck, S. (2006). La consommation alimentaire d'énergie finale de différents produits alimentaires: un essai de comparaison. *Courrier de l'environnement de l'INRA*, 53, 111-120.

Schneider, S. (2008). Good, clean, fair: The rhetoric of the slow food movement. *College English*, 70(4), 384-402.

Selfa, T., Qazi, J. (2005). Place, taste, or face-to-face? Understanding producer-consumer networks in "local" food systems in Washington State. *Agriculture and Human Values*, 22(4), 451-464.

Starr, A. (2010). Local food: a social movement? *Cultural Studies ↔ Critical Methodologies*. 10, 479–490.

Tangermann, S. (2011). Policy Solutions to Agricultural Market Volatility: A Synthesis; ICTSD Programme on Agricultural Trade and Sustainable Development, Issue Paper No. 33, ICTSD International Centre for Trade and Sustainable Development, Geneva, Switzerland.

Thomas, L.N., McIntosh, W.A., (2013). "It Just Tastes Better When It's In Season": Understanding Why Locavores Eat Close to Home. *Journal of Hunger & Environmental Nutrition*, 8, 61-72.

Thorsøe, M., Kjeldsen, C. (2015). The Constitution of Trust: function, configuration and generation of trust in alternative food networks. *Sociologia Ruralis*, 56, 157–175.

Toler, S., Briggeman, B.C., Lusk, J.L., Adams, D.C. (2009). Fairness, farmers markets, and local production. *American Journal of Agricultural Economics*, 91(5), 1272-1278.

Tregear, A. (2011). Progressing knowledge in alternative and local food networks: Critical reflections and a research agenda. *Journal of Rural Studies*, 27(4), 419-430.

Tregear, A., Arfini, F., Belletti, G., Marescotti, A. (2007). Regional foods and rural development: the role of product qualification. *Journal of Rural Studies*, 23(1), 12-22.

Trobe, H.L. (2001). Farmers' markets: consuming local rural produce. *International Journal of Consumer Studies*, 25, 181-192.

United Nations (1987). Our Common Future-Brundtland Report; Oxford University: Oxford, UK.

Venn, L., Kneafsey, M., Holloway, L., Cox, R., Dowler, E., Tuomainen, H. (2006). Researching European 'alternative' food networks: some methodological considerations. *Area*, 38(3), 248-258.

Verbeke, W., Vackier, I. (2005). Individual determinants of fish consumption: application of the theory of planned behavior. *Appetite*, 44(1), 67-82.

Wiskerke, J.S. (2009). On places lost and places regained: Reflections on the alternative food geography and sustainable regional development. *International Planning Studies*, 14(4), 369-387.

CHAPTER 1

EXPLORING CONSUMERS' ATTITUDE TOWARDS PURCHASING IN SHORT FOOD SUPPLY CHAINS

Elisa GIAMPIETRI^a, Adele FINCO^a, Teresa DEL GIUDICE^b

^a Department of Agricultural, Food and Environmental Sciences (3A) -
Università Politecnica delle Marche, via Brecce Bianche 60131,
Ancona, Italy

^b Department of Agricultural Sciences - Università degli Studi di
Napoli Federico II, via Università 80055, Napoli, Italy

*Published in 2015 on "Quality - Access to Success", Vol. 16, pp.
135-141.*

ABSTRACT

This work investigates consumers' attitudes that influence the intention to buy food in Short Food Supply Chains (SFSCs), instead of conventional market chains. A review of relevant literature summarizes research concerning SFSCs' meanings and impacts. According to the Theory of Planned Behavior, a survey was carried out among university students in Italy in order to validate a pilot questionnaire and test attitudinal variables having significant effect

on behavioral intention linked to SFSCs' preference. Results show that sustainability, convenience and local development play a key role in the intention that drives short chains' shopping preferences.

KEYWORDS

Short Food Supply Chains, Theory of Planned Behavior, Consumers' Attitudes, Principal Component Analysis

INTRODUCTION

In recent years, intensive agriculture, industrial food production and consumer's new habits have changed the original scenario of food production, distribution and consumption. Furthermore, with the introduction of modern food distribution systems, the direct link farming-food and thus farmers-consumers vanished and the consumer trust declined more and more. Bringing farmers and consumers closer, Short Food Supply Chains (SFSCs) seem to be considered as a sustainable alternative to global markets in terms of economical, social and environmental benefits. In order to meet rising consumer demand, in recent years SFSCs gained a growing foothold across Europe so that nowadays EU rural development strategies (CAP 2014-2020) support SFSCs as one of the new six priorities as well as a thematic sub-programme to which address specific needs. According to this, studying consumers' attitudes towards and intention to purchase in SFSCs become primarily important. Following this vein, this preliminary study aims to explore the attitudinal beliefs that

underlie the growing consumers' interest to purchase in the SFSCs. According to Ajzen's Theory of Planned Behavior, we conducted a pilot survey in order to elucidate which are the most significant variables associated with consumers' attitude, that is a reliable predictor of intention. Finally, a semantic differential was built on the previous variables and a PCA condensed the items into a small set of principal components driving the intention under investigation.

SHORT FOOD SUPPLY CHAINS: A BRIEF REVIEW

In recent years, a renewed interest and a significant growth in alternative agri-food networks (AAFNs) grew as opposite to the conventional markets, creating new direct interactions and relations between producers and consumers that do not merely concern economic nature of market exchange. In this context, the turn to more sustainable farming methods, the creation of local and shorter food supply chains and the reflexive consumerism materialized (Marsden et al., 2000; Morris and Buller, 2003). Short Food Supply Chains (SFSCs) play a key role in such emerging food networks, representing traditional or alternative niches of producing, distributing, retailing, and buying food, compared to the dominating agro-industrial model. SFSCs consist in *face-to-face* interactions between producers and consumers who thus can easily interact and share information on the product origin and its production process, so that consumers can make their own value-judgements (D'Amico et al., 2014a and 2014b; De-

Magistris et al., 2014). Short-circuiting the conventional chains, SFSCs automatically reduce the number of commercial intermediaries, as in the traditional forms of past local markets. These alternative food networks are heterogeneous in nature and practice, including mainly three different categories (Renting et al., 2003): “*face-to-face*” initiatives (e.g. on-farm sales, farm shops, farmers’ markets); “*spatially proximate*” initiatives, in which food is produced and retailed within the specific region of production; finally, “*spatially extended*” initiatives, where products are sold to consumers located outside the production area. Although the multiple forms of short chains (direct selling, box schemes, farmers’ markets, pick-your-own, on-farm sales, consumer cooperatives, direct internet sales, community supported agriculture, e-commerce, etc.), SFSCs can have many impacts (Cicatiello et al., 2012; Brunori and Bartolini, 2013; Galli and Brunori, 2013; Gava et al., 2014; Schmid et al., 2014): i.e. economic sustainability, environmental sustainability, social sustainability, impact on health (food quality and wellbeing), and ethical impact. According to Goodman (2004), SFSCs nowadays embody a more endogenous, territorialized, ethical and ecologically embedded approach towards food products. These circuits are considered to be the most appropriate channels for organic products, local and small-scale production family (Kneafsey et al., 2013). SFSCs also re-socialise and re-spatialise food (Hallett, 2012). In fact, local food can be an engine for territorial development (income

growth and territorial value-added) both in rural and in peri-urban areas (Tregear et al., 2007; Aubry and Kebir, 2013; Knezevic et al., 2013; O'Neill, 2014), becoming expression of cultural capital and rural embeddedness (Hinrichs, 2000; Sage, 2003; Kirwan, 2004). In the post-modern society, market becomes an opportunity to express individual ideas and values (of ethical and environmental nature). According to this, consumption becomes itself a vector for consumer to build a new own identity, to communicate mind statements, to satisfy his own mood and personality, to be recognized and included by other people, until to maximize his own happiness through purchasing choices (Cicia et al., 2012). In line with this, short chains seem to perfectly reflect the “quality turn” of post-modern consumer who increasingly looks for food quality and traceability (Panico et al., 2014; Scozzafava et al., 2014; Verneau et al., 2014) but also tradition and transparency, that are more guaranteed by short circuits in spite of global industrial production. From the side of producers, they can recapture their value in the supply chain in order to increase their income (Verhaegen and Van Huylenbroeck, 2001; Belletti et al., 2010), so that SFSCs can embody a possible solution to the economic sustainability of farm. In addition, new solid loyalty and trust relationships can be built, sharing personal values and ethics including the responsible management of common goods as environmental resources (La Barbera et al., 2014; Migliore et al., 2014). According to this, Ilbery and Maye (2005) argue that SFSCs serve as a means of

saving energy and reducing food miles, of getting biodiversity from farm to plate, of providing social care and improving civic responsibility, and of retaining economic value in a local economy.

DATA AND METHODS

In the field of studies on consumer behavior, different techniques have been proposed and gradually developed. The paper turns to social psychology and the Theory of Planned Behavior (TPB; Ajzen, 1991). TPB is one of the most popular contemporary theory designed to predict and explain a wide variety of human behavior as post-modern consumers' purchasing preferences. According to the TPB, a specific behavior is determined by a combination of intention and perception of control over performing behavior. Furthermore, TPB identifies three global variables (attitude towards the behavior, subjective norm, and perceived behavioral control) that together contribute to the creation of the intention; moreover, behavioral beliefs, normative beliefs and control beliefs are reliable variables predictors. In order to highlight significant attitude beliefs that influence the intention to buy food in Short Food Supply Chains, we carried out a preliminary exploratory research built on a TPB pilot questionnaire, whose items were defined taking into account Ajzen's conceptual and methodological considerations for constructing a TPB questionnaire (Ajzen, 2006). Data were collected in December 2014 by directly interviewing a representative pilot sample (Depositario et al., 2009) of

60 university students (n = 60) from the Faculty of Agricultural Sciences at Università Politecnica delle Marche in Italy. Respondents were asked to express their opinion about SFSCs, eliciting readily accessible attitudinal variables that are necessary to formulate a future questionnaire commensurate with the TPB, in view of further applications. The pilot questionnaire consisted of 12 questions divided into three parts: the first comprising 3 open-ended behavioral questions adapted from TPB and linked to attitudinal investigation, the second part includes a semantic differential designed to investigate all the attitudinal variables, the last section encloses up to 8 socio-demographic questions describing the sample. Of all the students interviewed (Tab.1), 52 percent are female, 90 percent are Italian and 45 percent have already graduated. Approximately 62 percent live in urban areas while 32 percent in rural areas, where the distribution of direct sales' activities is widespread. Finally, 63 percent admitted to go personally grocery shopping and 80 percent buy organic products. As stated before, consumers' attitudes were collected by means of 3 open-ended questions (Tab.2) adapted from the TPB that have been elaborated through a content analysis. These questions are built on the following structure: the first (Q1 - *What do you see as the advantages of buying in local Short Food Supply Chains (SFSCs) during the daily shopping?*) relates to the advantages of SFSCs; the second one (Q2 - *What do you see as the disadvantages of buying in local Short Food Supply Chains (SFSCs) during the daily shopping?*) investigates the

disadvantages; the last one (Q3 - *What else comes to mind when you think about buying in local Short Food Supply Chains (SFSCs) during the daily shopping?*) explores any other aspect of SFSCs meditated by the interviewees. Attitudes have been collected by means of a content analysis since several categories have been identified as variables through deductive extraction (Weber, 1990; Losito, 2007), based both on the exact wording used in the answers and on SFSCs' literature. Moreover, we reported the frequency with which variables appeared in the text suggesting the magnitude of this observation, and we aggregated them into principal components through a logical-semantic approach. On the basis of this explorative pilot survey, we structured all the extracted items in a seven-point semantic differential with anchor points 1 = strongly agree to 7 = strongly disagree. We used a Principal Component Analysis (PCA) with orthogonal (Varimax) rotation, in order to condense consumers' responses from the original 36 items into a smaller set of principal dimensions (PC), according to correlations among items. We also scrutinized all the variables according to their Cronbach's alpha coefficient that measures internal consistency of items in order to gauge their reliability. Alpha coefficient ranges in value from 0 to 1: according to Ajzen, we indicated 0.7 to be an acceptable reliability coefficient.

Table 1. Sample descriptive statistics

| VARIABLE | MEAN (%) | STD. DEV. |
|--------------------------|-----------------|------------------|
| Gender: female | 51,7% | 1,62 |
| Nationality: italian | 90,0% | 2,51 |
| Education: graduated | 45,0% | 2,32 |
| Residence: rural | 31,7% | 2,23 |
| Household net income: | 41,7% | 2,99 |
| Number of household | 43,3% | 1,89 |
| To go personally grocery | 63,3% | 1,21 |
| Buying organic: yes | 80,0% | 1,05 |

RESULTS

A total of 60 interviewees gave complete answers to the behavioral questions. By means of a content analysis, we extracted the most frequently named attitudes associated with consumers' SFSCs shopping intention (Tab. 2), thus condensing them into some principal categories. The three questions (Q1, Q2, Q3) aimed to extrapolate the interviewees' self-revealed variables related to consumers' attitudes. According to the advantages of SFSCs (Q1), product good quality (quality, 37%; freshness, 23%; authenticity, 10%; traceability, 10%), sustainability (economic convenience, 37%; local development, 30%) and the direct relationship between consumers and producers (producer confidence, 13%; product knowledge, 12%) seem to be the most relevant variables' categories. On the contrary, product bad quality (low food control guarantees, 14,3%), short chains' limits (low supply capacity, 35%; long distances, 18%; consumers' lack of time for shopping, 12%) and economic inconvenience (31%) seem to prevent the intention towards buying at SFSCs. Six main categories have been selected inside the third question (Q3), many of which have

already been extracted in the previous set of questions; they are convenience, food quality, sustainability (rural development, 9,8%), local-food valorization (traditions, 7,3%; niche products, 2,4%; local food, 2,4%; rural embeddedness, 2,4%), direct relationships between consumers and producers (friendship, 4,9%; reciprocal trust, 2,4%) and finally short sale aspects (improving sale management, point of sale research, farmers' markets, e-commerce).

Afterwards, we structured a semantic differential on the basis of the categories previously extracted by content analysis from pilot survey. According to correlations, PCA recombined items' dimensions into 7 principal components (Tab.3). Among these, results show that sustainability (SFS; $\alpha = 0,936$), convenience (C; $\alpha = 0,900$) and local development (LD; $\alpha = 0,905$) are found to be the most significant predictors of SFSCs' shopping intention, since they explain up to 57,4% of total variance. Nevertheless, some other important information emerge by means of the other extracted principal components related to consumers' SFSCs shopping attitudes, as future research suggestions: gratifying (G; $\alpha = 0,879$); locality (L; P value = 0,479); pleasantness (P; P value = 0,607); finally, another component (C7) with a strong inverse relationship (P value = -0,151) between its two variables.

According to sustainability (S), that explains about 39 percent of variance, it is characterized by some 8 items expressing both consumers' attitude towards food safety and health care (e.g. safe,

salubrious, qualitative) and consumers’ sensitivity towards the environmental (e.g. sustainable, green) and social (e.g. ethical, satisfying, honest) sustainability of SFSCs.

Table 2. TPB open-ended questions

| QUESTIONS | COMPONENTS | VARIABLES (%) |
|---|-------------------------|--|
| Q1 - What do you see as the advantages of buying in local Short Food Supply Chains (SFSCs) during the daily shopping? | Good quality | quality (37%); freshness (23%); authenticity (10%); traceability (10%) |
| | Sustainability | economic convenience (37%); local development (30%) |
| | Direct relationship | producer confidence (13%); product knowledge (12%) |
| Q2 - What do you see as the disadvantages of buying in local Short Food Supply Chains (SFSCs) during the daily shopping? | Bad quality | low food control guarantees (14,3%); unknown quality (6,1%) |
| | Short chains' limits | low supply capacity (35%); long distances (18%); consumers’ lack of time for shopping (12%) |
| | Economic inconvenience | economic inconvenience (31%) |
| Q3 - What else comes to mind when you think about buying in local Short Food Supply Chains (SFSCs) during the daily shopping? | Convenience | inconvenience (7,3%); convenience (2,4%) |
| | Food quality | quality (19,5%); freshness (7,3%) |
| | Sustainability | rural development (9,8%) |
| | Local food valorization | traditions (7,3%); niche products (2,4%); local food (2,4%); rural embeddedness (2,4%) |
| | Direct relationship | friendship (4,9%); reciprocal trust (2,4%) |
| | Short sale aspects | farmers' markets (4,9%); improving sale management (2,4%); research of point of sale (2,4%); e-commerce (2,4%) |

Social sustainability is related to direct relationships between consumers and producers, in other words the theme of embeddedness that sums up the reciprocal interaction and dialogue exchange among consumers and producers, engine of values sharing and creation of trust and ethical relations. Direct contact also prevents information asymmetry on food safety by means of consumer' acquiring more information on the product and its production process, thus becoming a stimulus to SFSCs affiliation.

Table 3. Principal Component Analysis

| ITEMS | COMPONENTS | | | | | | |
|---|--------------|--------------|--------|--------|--------|--------|--------|
| | PC 1 | PC 2 | PC 3 | PC 4 | PC 5 | PC 6 | PC 7 |
| SUSTAINABILITY & FOOD SAFETY (SFS) | | | | | | | |
| Safe | 0,800 | 0,264 | 0,144 | -0,035 | -0,056 | 0,130 | 0,126 |
| Salubrious | 0,644 | 0,104 | 0,481 | 0,211 | 0,292 | 0,138 | -0,043 |
| Qualitative | 0,795 | 0,005 | 0,275 | 0,089 | 0,292 | 0,207 | -0,054 |
| Ethical | 0,582 | -0,072 | 0,388 | 0,544 | -0,077 | -0,007 | -0,075 |
| Sustainable | 0,590 | 0,043 | 0,429 | 0,402 | -0,218 | 0,080 | -0,029 |
| Satisfying | 0,642 | 0,001 | 0,292 | 0,561 | -0,031 | 0,089 | -0,151 |
| Green | 0,719 | -0,033 | 0,350 | 0,426 | -0,102 | -0,043 | -0,024 |
| Honest | 0,601 | 0,288 | 0,401 | 0,300 | 0,245 | -0,093 | -0,122 |
| CONVENIENCE (C) | | | | | | | |
| Simple | 0,162 | 0,781 | -0,050 | 0,228 | -0,163 | -0,079 | -0,140 |
| Cheap | 0,183 | 0,582 | 0,077 | 0,186 | -0,225 | 0,156 | 0,347 |
| Easy | 0,140 | 0,723 | -0,073 | 0,243 | -0,131 | 0,284 | 0,028 |
| Relaxing | -0,163 | 0,724 | -0,009 | 0,305 | 0,078 | 0,178 | 0,154 |
| Fast | 0,105 | 0,815 | -0,050 | -0,057 | -0,107 | -0,037 | -0,030 |
| Frequent | 0,064 | 0,852 | 0,279 | -0,086 | 0,217 | 0,048 | -0,009 |
| Usual | 0,105 | 0,795 | 0,375 | -0,002 | 0,211 | 0,094 | 0,077 |
| Convenient | 0,378 | 0,481 | 0,219 | 0,351 | -0,143 | -0,099 | 0,261 |

| ITEMS | COMPONENTS | | | | | | |
|---------------------------------------|--------------|------------|--------------|--------------|--------------|--------------|---------------|
| | PC 1 | PC 2 | PC 3 | PC 4 | PC 5 | PC 6 | PC 7 |
| LOCAL | | | | | | | |
| Useful | 0,346 | 0,097 | 0,626 | 0,220 | 0,041 | 0,432 | -0,081 |
| Local | 0,127 | -0,133 | 0,839 | 0,178 | 0,216 | 0,064 | 0,023 |
| Aware | 0,298 | 0,144 | 0,738 | 0,390 | -0,030 | -0,158 | 0,141 |
| Important | 0,303 | 0,165 | 0,739 | 0,298 | -0,086 | 0,238 | -0,057 |
| Necessary | 0,276 | 0,385 | 0,651 | 0,270 | -0,141 | 0,109 | 0,107 |
| GRATIFYING (G) | | | | | | | |
| Fun | 0,114 | 0,402 | 0,069 | 0,610 | 0,317 | 0,014 | -0,024 |
| Gratifying | 0,254 | 0,162 | 0,523 | 0,624 | -0,023 | 0,177 | -0,055 |
| Stimulating | 0,187 | 0,150 | 0,190 | 0,756 | 0,231 | 0,202 | -0,082 |
| Educational | 0,543 | 0,013 | 0,276 | 0,674 | 0,085 | -0,112 | 0,017 |
| Suggestive | 0,007 | 0,151 | 0,287 | 0,702 | 0,094 | 0,154 | 0,213 |
| LOCALTY (L) | | | | | | | |
| Traditional | 0,086 | 0,070 | 0,120 | 0,037 | 0,823 | -0,040 | 0,154 |
| Niche | 0,040 | -0,184 | -0,113 | 0,271 | 0,671 | 0,126 | 0,067 |
| PLEASANTNESS (P) | | | | | | | |
| Pleasant | 0,173 | 0,356 | 0,182 | 0,257 | 0,104 | 0,738 | 0,123 |
| Good | 0,432 | 0,079 | 0,456 | 0,228 | 0,030 | 0,560 | 0,081 |
| Component 7 (C7) | | | | | | | |
| Seasonal | 0,312 | -0,090 | 0,342 | 0,233 | 0,259 | 0,056 | -0,451 |
| Nostalgic | -0,031 | 0,062 | 0,040 | 0,013 | 0,269 | 0,069 | 0,783 |
| <i>Cronbach's α</i> | <i>0,936</i> | <i>0,9</i> | <i>0,905</i> | <i>0,879</i> | | | |
| <i>P value</i> | | | | | <i>0,479</i> | <i>0,607</i> | <i>-0,151</i> |

Furthermore, convenience (C) principal component (12% variance) is assessed with 8 items expressing both economic convenience (cheap), SFSCs' perceived ease linked to time saving and life simplifying issues (simple, easy, fast, convenient, relaxing), and finally repurchase frequencies and consumer loyalty (frequent, usual). Finally, the third principal component LD (useful; local; aware; important; necessary) is

closely linked to reflexive consumerism, testifying the post-modern consumer's perceived importance in local development. As a matter of fact, encouraging and supporting short circuits (i.e. direct selling or farmers' markets), consumers actively participate in traditional niche markets' value creation and in local products' valorization, getting back some personal gratification.

CONCLUSIONS

This work presents a preliminary study that investigates determinants of post-modern consumers' attitude towards purchasing in SFSCs, instead of mainstream markets. Salient attitudinal variables were elicited by means of direct interviews, during a pre-survey built on a TPB pilot questionnaire. A content analysis with a deductive approach explored all the attitudinal variables self-revealed by 60 Italian university students in December 2014. In addition, a semantic differential has been edited on these variables and then a PCA condensed interviewees' responses from the original 36 items into 7 principal components. In this way, sustainability, convenience and local development are found to be the most significant predictors of SFSCs' shopping intention, since they explain up to 57,4% of total variance. These components are assessed by multiple variables expressing different aspects and relevant information orienting SFSCs' shopping attitudes of post-modern consumer. Additionally, we found other components (gratifying, locality, pleasantness) that

stress some additional information about the attitude under investigation. The identification of the main attitudinal determinants is only a preliminary stage in the study of the intention to purchase in SFSCs; moreover, considering multiple-dimensional complex points such sustainability, convenience and local development, this work embodies an articulate approach that requires some deep further studies of consumer behavior. Since the intention under investigation can be considered an antecedent of behavior, it has many policy implications: for example, the choice of appropriate actions to promote SFSCs, as tailoring communication and marketing strategies among both consumers and farmers. Based on our initial results, further research will survey a more expanded consumers' sample in order to investigate other TPB variables underlying consumers' intention and behavior towards shopping in SFSCs, such as subjective norms and perceived control behavior.

REFERENCES

Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Process*, 50, pg.179-211.

Ajzen, I. (2006). *Constructing a TPB Questionnaire, Conceptual and Methodological Considerations*. Retrieved from: <http://www.people.umass.edu/aizen/pdf/tpb.measurement.pdf>.

Aubry, C., Kebir, L. (2013). Shortening food supply chains: a means for maintaining agriculture close to urban areas? The case of the French metropolitan area of Paris, *Food Policy*, 41, pg.85-93.

Belletti, G., Marescotti, A., Innocenti, S., Rossi, A. (2010). Prezzo giusto e filiera corta: una lettura dell'esperienza dei mercati dei produttori agricoli in Toscana, *Agriregionieuropa*, 23.

Brunori, G., Bartolini, F. (2013). La filiera corta: le opportunità offerte dalla nuova Pac, *Agriregionieuropa*, 35.

Cicatiello, C., Pancino, B., Franco, S. (2012). *Un modello per la valutazione della sostenibilità territoriale delle filiere agroalimentari: struttura e applicazione alla sfera ambientale*. In: I Conferenza AIEAA Verso una bio-economia sostenibile: aspetti economici e sfide di politica economica, 4-5 June 2012 - Trento, Italia. Available on line: <http://purl.umn.edu/124383>.

Cicia, G., Cembalo, L., Del Giudice, T., Verneau, F. (2012). Il sistema agroalimentare ed il consumatore postmoderno: nuove sfide per la ricerca e per il mercato, *Economia Agro-Alimentare*, 1, pg.117-142.

D'Amico, M., Di Vita, G., Chinnici, G., Pappalardo, G., Pecorino, B., (2014a). Short Food Supply Chain and locally produced wines: factors affecting consumer behavior, *Italian Journal of Food Science*, 26 (3), pg.329-334.

D'Amico, M., Di Vita, G., Bracco, S. (2014b). Direct sale of agro-food product: the case of wine in Italy 2014, *Quality - Access to Success*, 15 (1), pg.247-253.

De-Magistris, T., Del Giudice, T., Verneau, F. (2014). The Effect of Information on Willingness to Pay for Canned Tuna Fish with Different Corporate Social Responsibility (CSR) Certification: a Pilot Study, *Journal Of Consumer Affairs*, article first published on line: 8 OCT 2014. doi: 10.1111/joca.12046.

Depositario, D.P.T., Nayga, Jr.R.M., Wu, X., Laude, T.P. (2009). Should students be used as subjects in experimental auctions?, *Economics Letters*, 102, pg.122-124.

Galli, F., Brunori, G. (2013). *Short Food Supply Chains as drivers of sustainable development. Evidence Document*. Document developed in the framework of the FP7 project FOODLINKS (GA No. 265287). Laboratorio di studi rurali Sismondi, ISBN 978-88-90896-01-9.

Gava, O., Bartolini, F., Brunori, G., Galli, F. (2014). *Sustainability of local versus global bread supply chains: a literature review*. In: III AIEAA Conference Feeding the Planet and Greening Agriculture: challenges and opportunities for the bio-economy, 25-27 June 2014, Alghero, Italy.

Goodman, D. (2004). Rural Europe Redux? Reflections on Alternative Agro-Food Networks and Paradigm Change, *Sociologia Ruralis*, 44 (1).

Hallett, L. F. (2012). Problemazing Local Consumption: is Local Food better simply because it's Local?, *American International Journal of Contemporary research*, 4 (2).

Hinrichs, C. (2000). Embeddedness and local food systems: notes on two types of direct agricultural market, *Journal of Rural Studies*, 16, pg.295-303.

Ilbery, B., Maye, D. (2005). Food supply chains and sustainability: evidence from specialist food producers in the Scottish/English borders, *Land Use Policy*, 22, pg.331-344.

Kirwan, J. (2004). Alternative strategies in the UK agro-food system: interrogating the alterity of farmers' markets, *Sociologia Ruralis*, 44 (4), pg.395-415.

Kneafsey, M., Venn, L., Schmutz, U., Balázs, B., Trenchard, L., Eyden-Wood, T., Bos, E., Sutton, G., Blackett, M. (2013). *Short Food Supply Chains and Local Food Systems in the EU. A State of Play of their Socio-Economic Characteristics*. Ipts-Jrc Report, EUR 25911. Available on line: <http://ftp.jrc.es/EURdoc/JRC80420.pdf>. ISBN 978-92-79-29288-0. doi:10.2791/88784.

Knezevic, I., Landman, K., Blay-Palmer, A. (2013). *Local Food Systems - International Perspectives*. Review of literature, research projects and community initiatives. Prepared for the Ontario Ministry of Agriculture, Food and Rural Affairs. Available on line: <http://www.nourishingontario.ca/wp-content/uploads/2013/07/EUAntipode-FoodHub-LitReview-2013.pdf>.

La Barbera, F., Del Giudice, T., Sannino, G. (2014). Are people willing to pay for waste prevention? The moderating role of environmental attitude, *Quality - Access to Success*, 15 (1), pg.213-218.

Losito, G. (2007). *L'analisi del contenuto nella ricerca sociale*. Franco Angeli, Milano.

Marsden, T., Banks, J., Bristow, G. (2000). Food Supply Chain Approaches: exploring their Role in Rural Development, *Sociologia Ruralis*, 40 (4).

Migliore, G., Caracciolo, F., Lombardi, A., Schifani, G., Cembalo, L. (2014). Farmers' participation in civic agriculture: the effect of social embeddedness, *Culture, Agriculture, Food and Environment*, 36 (2), pg.105-117.

Morris, C., Buller, H. (2003). The local food sector. A preliminary assessment of its form and impact in Gloucestershire, *British Food Journal*, 105 (8).

O'Neill, K. (2014). Localized Food Systems - what role does place play?, *Regional Studies, Regional Science*, 1 (1), pg.82-87.

Panico, T., Caracciolo, F., Del Giudice, T. (2014). Quality dimensions and consumer preferences: a choice experiment in the Italian extra-virgin olive oil market, *Agricultural Economics Review*, 15 (2), pg.100-112.

Renting, H., Marsden, T. K., Banks, J. (2003). Understanding alternative food networks: exploring the role of short food supply

chains in rural development, *Environment and Planning*, 35, pg.393-411.

Sage, C. (2003). Social embeddedness and relations of regard: alternative 'good food' networks in south-west Ireland, *Journal of Rural Studies*, 19, pg.47-60.

Schmid, O., Brunori, G., Galli, F., Van De Graaf, P., Ruiz, R. (2014). *Contribution of short food supply chains to sustainability and health*. In: Proceedings of the 11th European IFSA Symposium, 1-4 April 2014 in Berlin, Germany, IFSA-International Farming System Association-Europe Group.

Scozzafava, G., Casini, L., Contini, C. (2014). Analysis of Italian consumer preferences for beef, *New Medit*, 1.

Tregear, A., Arfini, F., Belletti, G., Marescotti, A. (2007). Regional foods and rural development: the role of product qualification, *Journal of Rural Studies*, 23, pg.12-22.

Verhaegen, I., Van Huylenbroeck, G. (2001). Costs and benefits for farmers participating in innovative marketing channels for quality food products, *Journal of Rural Studies*, 17, pg.443-456.

Verneau, F., Caracciolo, F., Coppola, A., Lombardi, P. (2014). Consumer fears and familiarity of processed food. The value of information provided by the FTNS (2014), *Appetite*, 73, pg.140-146.

Weber, R.P. (1990). *Basic Content Analysis*. Sage, Newbury Park, CA. ISBN 9780803938632.

CHAPTER 2

COMPARING ITALIAN AND BRAZILIAN CONSUMERS' ATTITUDES TOWARDS SHORT FOOD SUPPLY CHAINS

Elisa GIAMPIETRI^a, Bárbara Françoise CARDOSO^b, Adele FINCO^a, Fabio VERNEAU^c, Teresa DEL GIUDICE^d, Pery Francisco Assis SHIKIDA^e

^a Department of Agricultural, Food and Environmental Sciences (3A) - Università Politecnica delle Marche, via Brecce Bianche 60131, Ancona, Italy

^b CAPES Foundation, Ministry of Education of Brazil, Process n. BEX 5596/14-9 – SBN, Quadra 02, lote 06, Bloco L, Brasília - DF, Brazil. CEP: 70040-020

^c Department of Political Sciences - Università degli Studi di Napoli Federico II, via Università 80055, Napoli, Italy

^d Department of Agricultural Sciences - Università degli Studi di Napoli Federico II, via Università 80055, Napoli, Italy

^e Universidade Estadual do Oeste do Paraná, Rua da Faculdade 645, Jardim Santa Maria, Toledo/PR, Brazil. CEP: 85903-000

Published in 2016 on “Rivista di Economia Agraria”, Vol. 71(1 - Supplemento), pp. 246-254. doi: <http://dx.doi.org/10.13128/REA-18644>

ABSTRACT

According to the Theory of Planned Behavior, this work investigates consumers' attitudes towards the intention to buy local food in Short Food Supply Chains (SFSCs), carrying out a survey among university students in Italy and Brazil. Results show that sustainability and food safety mostly influence consumers' behavior in both countries. However, the main differences emerged are related to the fact that Italian consumers recognized the SFSCs as a catalyst for new employment opportunities and local development, whereas the role of short chains on life quality and wellbeing is stressed by Brazilian ones.

KEYWORDS

Short Food Supply Chains, Theory of Planned Behavior, Attitudes, Italy, Brazil.

INTRODUCTION

Compared to the past, nowadays the direct link farming-food and farmers-consumers is going to vanish more and more, because of the changed scenario of intensive agricultural and industrial food production and consumers' new habits. However, recent years have

seen a proliferation of a large variety of types of Alternative Agri-Food Networks (AAFNs) such as Short Food Supply Chains (SFSCs). This kind of initiatives are continuously arising not only in European Union but throughout the world as an alternative to globalized agri-food model (Galli and Brunori, 2013). In line with this, at EU level SFSCs will benefit from the new Common Agricultural Policy (CAP) 2014-2020, as one of the new six priorities and a thematic sub-programme of rural development. Nevertheless, in other countries SFSCs have not already attracted a great interest from policy makers and the financial support to them does not exist yet, although they are developed. In addition, in order to forecast the development of these alternative initiatives, exploring consumers' behavior towards SFSCs becomes primarily interesting among both European consumers and the ones from the other countries. This paper turns to social psychology and the Theory of Planned Behavior, in order to elucidate which are the most significant attitudes underlying consumers' intention and behavior towards shopping in SFSCs. In this preliminary study, we conducted a pilot survey on university students in Brazil and in Italy. Here we demonstrate that Brazilian consumers are in favor of SFSCs (showing positive attitudes, similar to Italians), wishing for a public support to enhance these short circuits. Being an emerging country, we expect that in some years Brazil will also support SFSCs, as in EU (Italy), and that policy makers could take into account our results in order to develop SFSCs marketing policies.

AN OVERVIEW ON SHORT FOOD SUPPLY CHAINS

SFSCs nowadays embody a more endogenous, territorialized, ethical and ecologically embedded approach towards food, representing a direct contact (face-to-face) between farmers and consumers (Marsden et al., 2000; Goodman, 2004). Since they re-socialise and re-spatialise food (Hallett, 2012), SFSCs represent a sustainable alternative to long globalized chains in terms of economical, social and environmental benefits (Ilbery and Maye, 2005), having also impacts on ethics, human health and wellbeing. SFSCs exist all over the world in a wide variety of forms: box schemes, farmers markets, on-farm sales, community supported agriculture, pick-your-own, etc. (Renting et al., 2003). In SFSCs producers and consumers can easily interact and share information, including details about the origin of food and the production method, thus reducing information asymmetry and creating loyalty. Being the most appropriate channels for local and small-scale production family (Kneafsey et al., 2013), SFSCs are expression of cultural capital and rural embeddedness (Hinrichs, 2000; Kirwan, 2004) and an engine for territorial development (Tregear et al., 2007).

METHODOLOGY

Designed to predict and explain human behavior in specific contexts, the Theory of Planned Behavior – TPB (Ajzen, 1991) identifies three global variables (attitude towards the behavior, subjective norm, and

perceived behavioral control) that together contribute towards picturing the intention, which is a reliable predictor of behavior.

In order to highlight the most significant attitudes influencing the Italian and Brazilian consumers' intention to buy in SFSCs, on February 2015 we carried out an empirical research built on a TPB questionnaire (Ajzen, 2006). We investigate a representative pilot sample of university students (Depositario et al., 2009) from both the Università Politecnica delle Marche in Italy and the Universidade Estadual do Oeste do Paraná in Brazil.

We distributed 150 on-line questionnaires (via e-mail) in Brazil and 150 in Italy; however, for the analysis we considered only 104 fully completed questionnaires for each country. Based on a previous study (Giampietri et al., 2015), the questionnaire consisted of 14 questions grouped in 4 distinct sections: 3 open-ended questions to elicit readily accessible attitudes that produce the intention to purchase in SFSCs; a seven-points semantic differential (anchor points 1 = strongly agree to 7 = strongly disagree) with 22 items to measure the attitudes; 2 questions to measure the monthly and annual frequency of purchasing in SFSCs; 8 socio-demographic questions to describe both samples.

A content analysis (Weber, 1990; Losito, 2007) has been carried out to collect the different ideas of Italian and Brazilian consumers about the SFSCs; in this way, we identified some items' categories through a deductive extraction, based both on the exact words used in the answers and on the international literature on SFSCs.

Moreover, a Principal Component Analysis (PCA) with orthogonal rotation (Varimax) to condense the semantic differential items into a small set of attitudinal principal components, according to correlations among them. Finally, we scrutinized all the variables according to their Cronbach's alpha coefficient¹ in order to test their reliability.

RESULTS

The most part of the sample are men living in urban area, admitting to go personally grocery shopping, both in Italy and in Brazil (Tab.1). They both have an average of 4 family members and an annual household net income of less than 25,000 €, corresponding to less than R\$75,000. The majority of all the interviewed in Italy are Italians, not graduated. On the other hand, in Brazil the majority of all the interviewed are Brazilians, graduated. In both cases, only a minority (15.4%) of the sample always buys organic products while a majority (65.4% in Italy; 57.7% in Brazil) sometimes buys them.

¹ Cronbach's Alpha ranges in value from 0 to 1: according to Ajzen, we indicated 0.7 to be an acceptable reliability coefficient.

Table 1. Description of Italian and Brazilian Samples

| Variables | ITALY (N = 104) | | | BRAZIL (N = 104) | | |
|--|-----------------|------|--------|------------------|------|---------|
| | (%) | Mean | S.Dev. | (%) | Mean | S. Dev. |
| Gender: female | 47.1 | 0.47 | 0.502 | 46.2 | 0.46 | 0.501 |
| Nationality: Italian/Brazilian | 97.1 | 0.03 | 0.168 | 99.0 | 0.01 | 0.098 |
| Education: graduated | 42.3 | 0.42 | 0.496 | 79.8 | 0.80 | 0.403 |
| Residence: rural | 33.7 | 0.34 | 0.475 | 15.4 | 0.15 | 0.363 |
| Household net income: <25.000€/<R\$75.000 | 49.0 | 1.65 | 0.785 | 52.9 | 1.56 | 0.680 |
| Number of household members: 4 units | 50.0 | 3.73 | 1.184 | 26.9 | 3.36 | 1.365 |
| To go personally grocery shopping: yes | 56.7 | 0.43 | 0.498 | 60.6 | 0.39 | 0.491 |
| Buying organic: never | 19.2 | 2.04 | 0.590 | 26.9 | 2.12 | 0.643 |
| Monthly frequency of SFSCs purchasing | 30.8* | 4.82 | 1.682 | 29.8*** | 5.31 | 1.533 |
| Annual frequency of SFSCs purchasing | 32.7** | 2.71 | 1.629 | 29.8**** | 3.80 | 1.354 |

* *once every 15 days*; ** *every day*; *** *never*; **** *once a month*

Testing the attitudes towards shopping in SFSCs, three questions aimed to extrapolate the interviewees' self-revealed perceptions related to SFSCs' advantages (Q1), disadvantages (Q2) and other characteristics (Q3).

After extracting the most frequently named attitudes elicited by the interviewees, we condensed them into some principal categories (Tab.2). According to the advantages, Good Quality and Food Safety, Sustainability and Development, the Direct Relationship between Farmer and Consumer, and some Supply Characteristics seem to be the most relevant categories. On the other hand, Bad Quality and Food Safety, Short Chains' Limits, and Purchasing Inconvenience are mentioned as the principal disadvantages.

Finally, some other SFSCs aspects have been summarized in the following categories: Product Quality, Sustainability and Development, Typicality (not mentioned by Brazilian consumers), Direct Relationship between Farmer and Consumer and Confidence, and Short Sales' Characteristics. However, the results of this explorative analysis show some differences between the Brazilian and the Italian consumers.

Table 2. TPB open-ended Questions and Content Analysis

| Questions | Categories | Attitudes (% Frequency) | |
|---|---|--|---|
| | | ITALY | BRAZIL |
| Q1. What do you see as the advantages of buying in local Short Food Supply Chains (SFSCs) during the monthly shopping? | Good quality and food safety | Quality (36%); freshness (25%); traceability (14%); genuineness (12%); food safety (10%); healthiness (6%); nutritious (5%); natural product (4%); food control guarantees (3%) | Quality (33%); freshness (24%); traceability (19%); organic (14%); healthiness (10%); preventing future diseases, food safety and genuineness (3%); natural food (3%) |
| | Sustainability and development | Economic convenience (38%); environmental sustainability (22%); local development (22%); local food valorization (15%); honest income for farmers (6%); tradition (2%); transparency (1%); ethics (1%) | Economic convenience (33%); local development (11%); honest income for farmers (7%); social sustainability (6%); family agriculture support (6%); environmental sustainability (5%); local food valorization (3%); tradition (1%) |
| | Direct relationship between farmer and consumer | Reduced distances (16%); farmer knowledge (13%); product knowledge (11%); direct relationships between farmers and consumers (8%); loyalty (3%); food production process knowledge (1%) | Direct relationships between farmers and consumers (19%); product knowledge (17%); food production process knowledge (10%); trust in food and food processing (8%); producer knowledge (5%); reduced distances (4%); new relationships (1%) |
| | Supply characteristic | Seasonality (8%); Alternative Agri-Food Networks (4%); high food supply (3%) | Accessibility easiness (6%); Alternative Agri-Food Networks (4%); high food supply (3%) |
| Q2. What do you see as the disadvantages of buying in local Short Food Supply Chains (SFSCs) during the monthly shopping? | Bad quality and food safety | Low food control guarantees (13%); unknown quality (3%); inappropriate food factory (3%); low food safety (1%) | Lack of food certification (12%); unknown quality (9%); low food control and food safety (8%); low traceability (4%); inappropriate food factory (2%) |
| | Short chains' limits | Supply limits (24%); long distances (14%); fragmented purchases (10%); only seasonal food (8%); lack of marketing strategy (2%); only local food (2%); employment reduction (1%); absence in mainstream markets (1%) | Long distances (29%); only seasonal food (18%); supply limits (12%); accessibility difficulty (13%); fragmented purchases (11%); scarce points of sale and their work times (8%); cash only (7%); no farmers' supports (6%); unsustainability (5%); lack of marketing strategy (5%); absence of food standards (3%); presence |

| Questions | Categories | Attitudes (% Frequency) | |
|--|--|--|--|
| | | ITALY | BRAZIL |
| Q3. What else comes to mind when you think about buying in local Short Food Supply Chains (SFSCs) during the monthly shopping? | | | in mainstream markets (3%); Alternative Agri-Food Networks related problems (3%); only local food (2%); no price negotiation (2%) |
| | Inconvenience | Economic inconvenience (26%); lack of time (9%); low time efficiency (2%) | Inconvenience (19%); lack of time (4%); low time efficiency (3%); price volatility (3%) |
| | Food quality | Quality (15%); food guarantees (4%); freshness (3%); natural food (1%) | Quality (16%); organic (14%); food safety (11%); healthiness (10%); natural food (7%); life quality and wellbeing (5%); freshness (4%); traceability (3%); inappropriate food factory (1%) |
| | Sustainability and development | Rural development (9%); convenience (6%); farmer's valorization (6%); sustainability (6%); new opportunities for young people (1%) | Local and regional development (21%); small farmers and family agriculture support (17%); (no) convenience (12%); farmers valorization (2%); honest income for farmers (2%); sustainability (1%); territorial embeddedness (1%); food and processing innovation (1%) |
| | Typicality | Local food (6%); tradition (6%); seasonality (3%) | |
| | Farmer-consumer direct relationship and confidence | New relationships (7%); reciprocal trust (2%); distance between rural and urban areas (1%) | Direct relationships between farmers and consumers (7%); (no) trust (5%); loyalty (3%) |
| | Short chains' characteristics | Alternative agri-food networks (4%); lack of marketing strategy (2%); uneasiness (1%); improving sale management (1%); no food products (1%) | (no)easiness (8%); alternative agri-food networks (5%); no food products (3%); fragmented purchases (2%); lack of marketing strategy (1%); accessibility difficulty (1%); presence in mainstream markets (1%) |

Among them, the creation of new employment opportunities has been named only by Italians, underlying the role of SFSCs as a catalyst of local development and rural socio-economic regeneration and dynamism, becoming a way to maintain rural livelihood (DuPuis and Goodman, 2005). On the other hand, only Brazilian consumers mentioned some short chains related aspects as: the prevention of future diseases; the life quality and wellbeing; the certification; the organic production; the lack of supports to small farmers and family agriculture; the scarce points of sales and their work times.

According to PCA (Tab.3), results show that sustainability and food safety is found to be the most significant predictor (Principal Component - PC) of consumers' intention towards shopping in SFSCs instead of mainstream markets, since it explains the majority of total variance (40.8% for Italy, 8 items, $\alpha = 0.926$; 34.2% for Brazil, 10 items, $\alpha = 0.916$). This first PC expresses the consumers' sensitivity towards the socio-environmental impacts of SFSCs, their ethical concern and awareness about the role of SFSCs in consumers' food safety and health care. We also observe that the Brazilian consumers seem to be aware of the important role of short circuits in local and regional development so that, actively participating in these short circuits (e.g. on farm direct selling or farmers markets), they get back some personal gratification. Since the second PC is linked respectively to the theme of desirability in Italy (10.9%, 3 items, $\alpha = 0.834$) and gratification in Brazil (11.5%, 4 items, $\alpha = 0.803$), we can notice that

among Italian consumers the theme of desirability is not only linked to the SFSCs related sustainability concern, but it derives also from a sort of personal rewarding granted by the society, so that this aspect can show a proper importance among attitudes. The third PC is related to convenience in both samples (7.7% for Italy, 5 items, $\alpha = 0.801$; 7.8% in Brazil, 2 items, $P = 0.769$). As opposite to the Italians, Brazilians do not care so much about economic convenience, considering only the perceived ease of purchasing in SFSCs that is linked to time saving. The last two PCs count on 2 items in both samples: in Italy, PC4 consists of gratification (5.9%; $P = 0.643$) and PC5 is represented by typicality (4.9%; $P = 0.514$). In Brazil, PC4 consists of typicality (6.1%; $P = 0.452$) and PC5 is represented by a component with an inverse relationship between its two items that are usual and niche (5.6%; $P = -0.096$). According to both Brazilian and Italian consumers, the aspect of gratification derives also from the direct relation between farmers and consumers. Here, the reciprocal interaction is engine of values sharing and creation of trust and ethical relations, promoting the consumers' education about the product and its production process, preventing the information asymmetry on food safety and building long lasting loyalty. Finally, also the typical and traditional aspects of SFSCs seem to be strictly considered by consumers.

Table 3. Principal Component Analysis (PCA) for Italian and Brazilian consumers²

| ITALY | | | | | |
|---------------------------------------|--------------|--------------|--------------|--------------|--------------|
| <i>KMO 0.868</i> | PC1 | PC2 | PC3 | PC4 | PC5 |
| SUSTAINABILITY AND FOOD SAFETY | | | | | |
| green | 0.870 | 0.218 | 0.109 | 0.015 | 0.097 |
| ethical | 0.797 | 0.277 | 0.052 | 0.201 | 0.108 |
| educational | 0.784 | 0.216 | 0.090 | 0.265 | 0.146 |
| sustainable | 0.773 | 0.182 | 0.160 | 0.152 | 0.062 |
| healthy | 0.598 | 0.555 | 0.132 | 0.025 | 0.295 |
| qualitative | 0.553 | 0.636 | 0.136 | -0.072 | 0.223 |
| transparent | 0.492 | 0.381 | 0.386 | -0.029 | 0.312 |
| safe | 0.487 | 0.464 | 0.428 | -0.213 | 0.086 |
| DESIRABILITY | | | | | |
| useful | 0.293 | 0.788 | 0.073 | 0.218 | -0.054 |
| good | 0.409 | 0.739 | 0.089 | 0.216 | 0.083 |
| pleasant | 0.149 | 0.600 | 0.247 | 0.412 | 0.246 |
| CONVENIENCE | | | | | |
| fast | 0.015 | -0.065 | 0.800 | 0.100 | 0.035 |
| cheap | 0.229 | 0.110 | 0.761 | -0.020 | -0.005 |
| easy | 0.148 | 0.089 | 0.728 | 0.209 | -0.040 |
| usual | -0.101 | 0.255 | 0.622 | 0.259 | 0.178 |
| convenient | 0.452 | 0.189 | 0.585 | 0.126 | -0.078 |
| GRATIFICATION | | | | | |
| funny | 0.246 | 0.143 | 0.093 | 0.776 | 0.182 |
| relaxing | 0.021 | 0.101 | 0.455 | 0.725 | 0.084 |
| TYPICALITY | | | | | |
| niche | 0.106 | -0.052 | -0.008 | 0.131 | 0.816 |
| typical | 0.467 | 0.023 | 0.090 | 0.229 | 0.647 |
| <i>Cronbach's α</i> | <i>0.926</i> | <i>0.834</i> | <i>0.801</i> | | |
| <i>P</i> | | | | <i>0.643</i> | <i>0.514</i> |

² According to Cronbach's α , two items for each country have been excluded: *Gratifying* and *Traditional* in Italy, *Convenient* and *Cheap* in Brazil.

| BRAZIL | | | | | |
|---------------------------------------|--------------|--------------|--------------|--------------|---------------|
| <i>KMO 0.810</i> | PC1 | PC2 | PC3 | PC4 | PC5 |
| SUSTAINABILITY AND FOOD SAFETY | | | | | |
| green | 0.832 | 0.045 | -0.040 | 0.047 | -0.028 |
| educational | 0.800 | 0.065 | 0.146 | -0.253 | 0.006 |
| sustainable | 0.789 | 0.175 | 0.048 | 0.001 | -0.025 |
| ethical | 0.762 | 0.113 | 0.046 | 0.046 | 0.088 |
| qualitative | 0.760 | 0.177 | -0.062 | 0.225 | 0.075 |
| healthy | 0.702 | 0.293 | -0.180 | 0.337 | 0.133 |
| transparent | 0.693 | 0.276 | -0.057 | 0.066 | 0.105 |
| good | 0.690 | 0.343 | -0.003 | 0.224 | -0.205 |
| useful | 0.607 | 0.282 | 0.296 | -0.195 | 0.054 |
| gratifying | 0.550 | 0.287 | 0.008 | 0.058 | -0.201 |
| GRATIFICATION | | | | | |
| relaxing | 0.194 | 0.840 | -0.069 | 0.036 | 0.056 |
| funny | 0.363 | 0.701 | 0.232 | -0.088 | -0.073 |
| safe | 0.383 | 0.611 | -0.041 | 0.148 | 0.443 |
| pleasant | 0.530 | 0.609 | 0.013 | -0.011 | -0.354 |
| CONVENIENCE | | | | | |
| easy | -0.012 | -0.047 | 0.889 | 0.146 | -0.077 |
| fast | -0.201 | 0.049 | 0.819 | 0.201 | -0.114 |
| TYPICALITY | | | | | |
| traditional | 0.029 | 0.013 | 0.199 | 0.791 | -0.103 |
| typical | 0.118 | 0.021 | 0.118 | 0.760 | -0.067 |
| USUAL-NICHE | | | | | |
| usual | 0.165 | 0.142 | 0.342 | 0.062 | -0.665 |
| niche | 0.089 | 0.159 | 0.204 | -0.166 | 0.647 |
| <i>Cronbach's α</i> | <i>0.916</i> | <i>0.803</i> | | | |
| <i>P</i> | | | <i>0.769</i> | <i>0.452</i> | <i>-0.096</i> |

CONCLUSIONS

Some relevant differences exist between the two investigated countries, not only regarding to consumers but also in the agricultural

sector. In Italy, this sector is represented mostly by small farmers³ (86%), as opposite to Brazil where large producers count for 52% of farms' total number. According to this, comparing these two different cases can be interesting in order to investigate both consumers' behavior and the policy implications.

The present study investigated the most significant TPB attitudinal variables underlying both Italian and Brazilian consumers' intention and behavior towards shopping in SFSCs. Based on our results, we can notice that in both cases sustainability and food safety are found to be the most significant predictors of consumers' intention towards shopping in SFSCs, instead of mainstream markets. Sustainability is strictly related to the renewed importance of direct interaction between farmers and producers (Giampietri et al., forthcoming 2016). In this context, SFSCs can be perceived as an engine for both local and regional development and local food valorization (Morris and Buller, 2003; O'Neill, 2014) in which modern consumers feel embedded (Sage et al., 2003), getting back some personal gratification. These aspects underline the modern reflexive consumerism (Cicia et al., 2012) that is linked to socio-environmental and ethical concerns and to food safety and health care. In addition, direct contact engenders the reciprocal dialogue exchange and values sharing (trust and ethics), so that consumers can be informed about the product and the production

³ We considered small farmers those having less than 10 hectares of Utilized Agricultural Area in Italy (Italian National Institute of Statistics, 2010) and in Brazil (Brazilian Census of Agriculture, 2006).

process, preventing the information asymmetry related to food quality. However, there are some differences between Italian and Brazilian consumers. In Italy SFSCs are recognized as a catalyst for new employment opportunities, local development and socio-economic regeneration in rural areas, whereas Brazilian consumers light up the role of short chains especially on diseases prevention and on life quality and wellbeing.

However, some other drivers of consumers' intention and behavior emerged from our statistical analysis, linked to personal gratification, economic and time convenience, desirability and some typical and traditional aspects of local food and SFSCs. In contrast with the Italians, Brazilian respondents highlighted the lack of a public support to both small farmers and family agriculture that is necessary to foster further development of SFSCs. As a matter of fact, a specific support for short chains does not exist in Brazil yet. Here, a National Program for Strengthening Family Agriculture (PRONAF) exists, supporting investments, costs and commercialization for familiar agro-industry (but not specifically for short chains). On the contrary, the new CAP supports the SFSCs in Italy, encouraging economic development by means of buy local campaigns and promoting local and regional entrepreneurship. However, in both countries policy makers should tailor their strategies and marketing communication on specific consumers preferences and values linked to SFSCs, as showed in this analysis. This is necessary to avoid the risk of policy misinterpretation

and, consequently, its scarce efficiency and bad performances related to the original aims of supporting SFSCs. Nevertheless, we require some deep further studies of consumers behavior as well as a more heterogeneous sample to investigate.

REFERENCES

Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Process*, 50(2), 179-211.

Ajzen, I. (2006). *Constructing a TPB Questionnaire, Conceptual and Methodological Considerations*.
<http://www.people.umass.edu/aizen/pdf/tpb.measurement.pdf>.

Cicia, G., Cembalo, L., Del Giudice, T., Verneau, F. (2012). Il sistema agroalimentare ed il consumatore postmoderno: nuove sfide per la ricerca e per il mercato. *Economia Agro-Alimentare*, 1, 117-142.

Depositario, D.P.T., Nayga Jr., R.M. , Wu, X., Laude, T.P. (2009). Should students be used as subjects in experimental auctions? *Economics Letters*, 102(2), 122-124.

DuPuis M., Goodman, D. (2005). Should we go home to eat?: toward a reflexive politics of localism. *Journal of Rural Studies*, 21(3), 359-371.

Galli, F., Brunori, G. (2013). *Short Food Supply Chains as drivers of sustainable development*. Evidence Document. Document developed in the framework of the FP7 project FOODLINKS (GA

No. 265287). Laboratorio di studi rurali Sismondi.
http://www.foodlinkscommunity.net/fileadmin/documents_organicresearch/foodlinks/CoPs/evidence-document-sfsc-cop.pdf.

Giampietri, E., Finco, A., Del Giudice, T. (2015). Exploring consumers' attitude towards purchasing in short food supply chains. *Quality - Access to Success*, 16, 135-141.

Giampietri, E., Finco, A., Del Giudice, T. (2016). Exploring consumers' behaviour towards short food supply chains. *British Food Journal*, 118(3), 618-631.

Hallett, L.F. (2012). Problemazing Local Consumption: is Local Food better simply because it's Local? *American International Journal of Contemporary Research*, 4(2), 18-29.

Hinrichs, C. (2000). Embeddedness and local food systems: notes on two types of direct agricultural market. *Journal of Rural Studies*, 16, 295-303.

Ilbery, B., Maye, D. (2005). Food supply chains and sustainability: evidence from specialist food producers in the Scottish/English borders. *Land Use Policy*, 22, 331-344.

Instituto Brasileiro de Geografia e Estatística - IBGE (2006). Brazilian Census of Agriculture 2006. <http://biblioteca.ibge.gov.br/pt/biblioteca-catalogo?view=detalhes&id=749>

Istituto Nazionale di Statistica - ISTAT (2010). 6th Italian Census of Agriculture 2010. <http://dati-censimentoagricoltura.istat.it>

Kirwan, J. (2004). Alternative strategies in the UK agro-food system: interrogating the alterity of farmers' markets. *Sociologia Ruralis*, 44(4), 395-415.

Kneafsey, M., Venn, L., Schmutz, U., Balázs, B., Trenchard, L., Eyden-Wood, T., Bos, E., Sutton, G., Blackett, M. (2013). *Short Food Supply Chains and Local Food Systems in the EU. A State of Play of their Socio-Economic Characteristics*. Ipts-Jrc Report, EUR 25911. <http://ftp.jrc.es/EURdoc/JRC80420.pdf>.

Losito, G. (2007). *L'analisi del contenuto nella ricerca sociale*. Franco Angeli, Milano.

Marsden, T., Banks, J., Bristow, G. (2000). Food Supply Chain Approaches: exploring their role in rural development. *Sociologia Ruralis*, 40(4), 424-438.

Morris, C., Buller, H. (2003). The local food sector. A preliminary assessment of its form and impact in Gloucestershire. *British Food Journal*, 105(8), 559-566.

O'Neill, K. (2014). Localized Food Systems - what role does place play?. *Regional Studies, Regional Science*, 1(1), 82-87.

Renting, H., Marsden, T. K., Banks, J. (2003). Understanding alternative food networks: exploring the role of short food supply chains in rural development. *Environment and Planning*, 35(3), 393-411.

Sage, C. (2003). Social embeddedness and relations of regard: alternative 'good food' networks in south-west Ireland. *Journal of Rural Studies*, 19(1), 47-60.

Tregear, A., Arfini, F., Belletti, G., Marescotti, A. (2007). Regional foods and rural development: the role of product qualification. *Journal of Rural Studies*, 23(1), 12-22.

Weber, R.P. (1990). *Basic Content Analysis*. Newbury Park, California: Sage Publications.

CHAPTER 3

EXPLORING CONSUMERS' BEHAVIOUR TOWARDS SHORT FOOD SUPPLY CHAINS

Elisa GIAMPIETRI^a, Adele FINCO^a, Teresa DEL GIUDICE^b

^a Department of Agricultural, Food and Environmental Sciences (3A) -
Università Politecnica delle Marche, via Brecce Bianche 60131,
Ancona, Italy

^b Department of Agricultural Sciences - Università degli Studi di
Napoli Federico II, via Università 80055, Napoli, Italy

*Published in 2016 on “British Food Journal”, Vol. 118(3), pp. 618 -
631. doi: 10.1108/BFJ-04-2015-0168*

ABSTRACT

Purpose - Investigating the drivers of consumers' behaviour towards purchasing in Short Food Supply Chains (SFSCs) and clarifying their relationships, the paper aims to test the Theory of Planned Behaviour (TPB) in order to predict the behavior under investigation.

Design - The research includes a literature review of SFSCs. To investigate all the variables (attitudes, subjective norms, perceived behavioural control and intention) underlying consumers' behaviour

towards buying in SFSCs, an exploratory survey with a TPB questionnaire and a Principal Component Analysis have been carried out among university students in Italy. Using a system of simultaneous equations, the relationships among variables have been measured to test TPB.

Findings - Findings illustrate that both attitudinal variables (i.e. sustainability, typicality and loyalty), subjective norms and perceived behavioural control play a key role in the consumers' intention, that has a predictive effect on behavior instead of perceived behavioural control.

Value - This paper fulfils the purpose to explain and predict post-modern consumers' preferences towards SFSCs, in order to orient policy strategies supporting SFSCs.

KEYWORDS

Short Food Supply Chains, Theory of Planned Behaviour, Principal Component Analysis, Simultaneous Equations System

INTRODUCTION

The global food system and the mainstream markets are nowadays considered more and more unsustainable (Reisch et al., 2013; Forssell and Lankoski, 2015). Pursuing high-production volumes, high-standardization levels and low-food prices, intensive agriculture and industrial food production exact heavy environmental costs because of massive food wastage and the strong dependence from fossil energy

(Mundler and Rumpus, 2012). Not to mention that, in recent years, food scandals and scares all over the world have resulted in a reduced consumer's confidence (Forbes et al., 2009) so that new sustainable food systems are currently required to replace the old schemes. In addition, with the introduction of modern food distribution systems, the direct link between farming food and thus farmers consumers vanished, the information asymmetry increased and consumer trust declined (Meyer et al., 2012). According to this, the turn to more sustainable farming methods and the creation of local and shorter food supply chains (SFSCs) arose in recent years, in order to meet the rising consumer's demand (Morris and Buller, 2003; Ilbery and Maye, 2005). Reconnecting farmers and consumers (Marsden et al., 2000), SFSCs can be considered as a sustainable alternative to global markets in terms of economical, social and environmental benefits (Brunori and Bartolini, 2013). In recent years, these innovative short circuits have increasingly gained foothold across Europe and consumers themselves play an important role in supporting these initiatives. Following this trend, also the new Common Agricultural Policy (CAP 2014-2020) will support SFSCs as one of the new six priorities of EU rural development as well as a thematic sub programme to which address specific needs. According to this, studying consumers' behaviour towards purchasing in SFSCs becomes of primarily importance. To this end, this paper aims at investigating all the variables (i.e. attitudes, subjective norms (SN) and perceived

behavioural control (PBC)) underlying consumers' intention towards shopping in SFSCs. According to this, the theory of planned behaviour (TPB; Ajzen, 1991) proposes a model which can measure how consumers' intention is guided from the above-mentioned variables. Since intention is assumed to be the immediate antecedent of behaviour, we applied Ajzen's theory to better understand what drives consumers' choice to buy food in SFSCs, in order to improve further empirical studies on consumer's behaviour towards short chains. Nevertheless, the understanding of the factors facilitating the performance of the investigated behaviour can influence both policy makers' decisions and the whole society (as farmers marketing strategies and consumers conscious involvement in SFSCs). A pilot survey has been conducted to investigate attitudes, by means of a semantic differential and a principal component analysis (PCA); SN, PBC, and intention (I) have been also measured through some self-anchoring scales. Finally, a system of simultaneous equations has been performed to test TPB.

LITERATURE REVIEW ON SFSCs

Representing traditional or alternative niches of food production, distribution and consumption, SFSCs play a key role in this emerging scenario, as opposite to the conventional markets. Widely investigated, short chains consist of direct relationships between producers and consumers, thus reducing the number of commercial

intermediaries and food miles (Galli and Brunori, 2013). Producers recapture their value in the supply chain as a consequence, increasing their income (Verhaegen and Van Huylenbroeck, 2001; Belletti et al., 2010). Since producers and consumers can easily interact and share personal values and ethics, including the responsible management of common goods as environmental resources, short chains do not merely concern the economic nature of market exchange but they also generate the so-called consumers' social embeddedness that gratifies consumers in some way (Migliore et al., 2014). By this way, information asymmetry can be reduced and new solid loyalty and trust relationships can be built (D'Amico et al., 2014; De-Magistris et al., 2014). The existing sales schemes show a wide creativity of SFSCs: direct selling, box schemes, farmers' markets, pick-your-own, on-farm sales, consumer cooperatives, direct internet sales, community supported agriculture, and e-commerce. However, there are mainly three different categories (Renting et al., 2003): "face-to-face" initiatives (e.g. on-farm sales, farm shops, farmers' markets); "spatially proximate" initiatives, in which food is produced and retailed within the specific region of production; finally, "spatially extended" initiatives, where products are sold to consumers located outside the production area. Since SFSCs are nowadays widely perceived as a step towards sustainable agriculture, many authors (Roos et al., 2007; Cicatiello et al., 2012; Gava et al., 2014; Bimbo et al., 2015) extensively investigated all the related impacts: economic

sustainability, environmental sustainability, social sustainability, the impact on human health (food quality and wellbeing), and the ethical impact. Strictly connected to organic and local food and traditional small-scale productions (Kneafsey et al., 2013), short chains embody a more endogenous, territorialized, ethical and ecological approach towards food products (Goodman, 2004). Re-socializing and re-specializing food (Hallett, 2012), SFSCs can be an engine for territorial development (income growth and territorial value added) both in rural and in peri-urban areas (Tregear et al., 2007; Aubry and Kebir, 2013; Knezevic et al., 2013; O'Neill, 2014), becoming expression of cultural capital and rural embeddedness (Hinrichs, 2000; Sage, 2003; Kirwan, 2004). In the post-modern society, SFSCs embody the consumer's "quality turn" reflecting recent developments in post-modern consumers, who increasingly look for food quality and traceability (Panico et al., 2014; Scozzafava et al., 2014; Verneau et al., 2014) but also tradition and transparency that are more guaranteed by short circuits in spite of global industrial production.

DATA AND METHODS

In the field of studies on consumer behaviour, different techniques have been proposed and gradually developed. The present study turns to social psychology and the TPB (Ajzen, 1991), proved to be a successful tool to predict and explain a wide variety of human behaviours as post-modern consumers' purchasing preferences and

food choices (Verbeke and Vackier, 2005; Vermeir and Verbeke, 2008) [1]. According to the theory, three global variables (attitude towards the behaviour, SN, and PBC) contribute to the creation of the intention (I), that is assumed to immediately precede a specific human behaviour. Besides this, TPB identifies behavioural beliefs, normative beliefs and control beliefs as reliable predictors of the above-mentioned variables. In addition, sometimes the perception of control over a performing behaviour can be an antecedent of the behaviour.

In December 2014, we built a seven open-ended questions TPB pilot questionnaire, defined taking into account Ajzen's conceptual and methodological considerations (Ajzen, 2006). We conducted a preliminary exploratory research through direct interviews. We asked to a sample of 100 university students to express their opinion about SFSCs, eliciting readily accessible variables about attitude, SN and PBC that, on the whole, produce the intention to behave. Afterwards, all the variables have been collected by means of a content analysis, identifying some item's categories through a deductive extraction (Weber, 1990; Losito, 2007), based both on the exact wording used in the answers and on SFSCs' literature through a logical-semantic approach. Based on this previous survey, a more complete exploratory analysis has been performed.

In January 2015, data have been collected by carrying out a pilot questionnaire on a convenience sample (Ayala et al., 2013) of 120 university students (n=120) (Cholette et al., 2013) from the faculty of

agricultural sciences at Università Politecnica delle Marche in Italy. Of all the students interviewed, the percentage of female and male respondents are nearly equal (Table 1), 97 per cent are Italian, whereas almost 53 per cent are undergraduates.

Table 1. Sample descriptive statistics

| CATEGORIES | ITEMS | FREQUENCY | % | STD. |
|--|--------------|------------------|----------|-------------|
| Gender | Female | 51,9 | 46,4% | 0,501 |
| | male | 60,1 | 53,6% | |
| Nationality | italians | 108,9 | 97,2% | 1,868 |
| | non italian | 3,1 | 2,8% | |
| Education | under- | 59,7 | 53,3% | 1,895 |
| | graduated | 52,3 | 46,7% | |
| Residence | urban | 73,3 | 65,4% | 0,479 |
| | rural | 38,7 | 34,6% | |
| Household net income | <25.000€ | 40,2 | 35,9% | 2,85 |
| | 25.000- | 56,0 | 50,0% | |
| | 50.000- | 9,7 | 8,6% | |
| | >75.000€ | 6,1 | 5,4% | |
| N. of household members | 1 unit | 6,3 | 5,6% | 1,682 |
| | 2 units | 13,7 | 12,3% | |
| | 3 units | 16,9 | 15,1% | |
| | 4 units | 52,8 | 47,2% | |
| | 5 units | 14,8 | 13,2% | |
| | 6 units | 7,4 | 6,5% | |
| To go personally grocery shopping | yes | 62,6 | 55,8% | 0,949 |
| | no | 49,4 | 44,1% | |
| Buying organic | always | 17,2 | 15,3% | 0,88 |
| | sometimes | 73,7 | 65,8% | |
| | never | 21,2 | 18,9% | |

Approximately 65 per cent live in urban areas, while 35 per cent in rural areas where the territorial distribution of direct sales' practices is widespread. Finally, 56 per cent of the interviewees admit to go personally grocery shopping, 15 per cent are habitual consumers of organic food while 66 per cent sometimes buy it.

The above-mentioned questionnaire is divided into three parts: the first enclosing up to eight socio-demographic questions describing the sample; the second part investigating the annual frequency of SFSCs purchase; the last section measuring TPB variables and intention. According to the last section, a seven-point semantic differential with anchor points 1=strongly agree to 7=strongly disagree has been designed to measure all the attitudinal variables derived from the preliminary explorative analysis. In addition, some self-anchoring scales have been used, with anchor points 1=strongly agree to 7=strongly disagree, based on a set of statements on which interviewees had to express their level of agreement, in order to measure SN, PBC and I besides.

In order to summarize the information obtained by both the semantic differential and the self-anchoring scales, a PCA with orthogonal (Varimax) rotation has been consequently performed. According to correlations among items, PCA can easily condense consumers' responses from the original variety of items into a smaller set of principal dimensions that are called principal components (PC). Furthermore, according to their Cronbach's α coefficient, that

measures the internal consistency of items in order to gauge their reliability, all the above mentioned TPB variables have been scrutinized. In addition, the annual frequency of purchasing in SFSCs has been estimated, representing the behaviour under investigation.

Finally, a system of simultaneous equations has been implemented to measure the relationships among attitudes, SN and PBC on intention (2), and between the latter and PBC on the behaviour (BEH) (1). More precisely, the structural scheme of the three-stage least squares regression here adopted can be viewed as a synthesis of Ajzen's TPB for modelling consumers' behaviour towards buying food in SFSCs. Endogenizing the intention (I) to buy in SFSCs and the annual purchase frequency (BEH) of the interviewees, the system consists of the following equations:

$$BEH_i = f(I_i, PBC_i) \quad (1)$$

$$I_i = f(S_i, C_i, T_i, L_i, SN_i, PBC_i) \quad (2)$$

where the endogenous variables are: BEH_i , is behaviour represented by the annual frequency to purchase food in SFSCs of individual i , I_i , is intention to purchase food in SFSCs of the individual I ; and the exogenous variables are: S_i is the general attitude towards the sustainability of buying food in SFSCs, measured by a semantic differential (12 items), C_i the general attitude towards the convenience of buying food in SFSCs, measured by a semantic differential (five items), T_i the general attitude towards the typicality's perceived added value of SFSCs products, measured by a semantic differential (three

items), L_i the general attitude towards the SFSCs' producers loyalty, measured by a semantic differential (two items), SN_i the subjective norms associated with the intention to purchase food in SFSCs of the individual i and PBC_i the perceived behavioural control of the individual i associated with both the intention and the behaviour towards purchasing food in SFSCs.

EMPIRICAL RESULTS AND DISCUSSION

A total of 112 interviewees have given complete answers to the behavioural questions. According to attitudes (Table 2), the interviewees have been asked to describe what they thought about buying in local SFSCs during their annual shopping. Afterwards, a PCA has recombined the original 34 items of the semantic differential into seven PCs. Among these, results show that sustainability (S; $\alpha = 0.952$; 42.3 per cent of total variance), convenience (C; $\alpha = 0.856$; 9.2 per cent of total variance), and gratifying (G; $\alpha = 0.860$; 6.1 per cent of total variance), having the eigenvalue greater than 1, together explain up to 58 per cent of total variance. Nevertheless, some other important information emerges from the other extracted PCs, as food safety (FS; $\alpha = 0.868$), desirable (D; $\alpha = 0.843$), loyalty (L; p-value = 0.790), and typicality (T; $\alpha = 0.709$), that are observed in the literature and could be interesting for further research on consumers' SFSCs shopping attitudes.

According to sustainability (S), in our analysis this attitudinal variable is depicted by some 12 items expressing consumers' attitude towards health care (e.g. salubrious) but also the perceived importance of knowledge transfer (pleasant; educational; aware; satisfying), and both the sensitivity towards the socio-environmental sustainability and ethics related to local development (e.g. ethical; sustainable; green; honest; local; important; necessary). The theme of sustainability is very important for SFSCs (Selfa and Qazi, 2005; Schmid et al., 2014) and it is strictly related to the direct relationship between consumers and producers that is typical in SFSCs (Giampietri et al., 2015), sparking the creation of a room for reflexive consumer praxis (Goodman and Dupuis, 2002). In fact, the direct contact involves the reciprocal interaction and dialogue exchange among the different actors, that can be engine of values sharing such as trust and ethics (La Barbera et al., 2014). Participating in short circuits consumers also feel totally involved in local development so that it can be reasonably pleasant and suggestive for them. Thus, this is the theme of SFSCs embeddedness which is closely linked to reflexive consumerism (Starr, 2010; Sage, 2014), testifying the post-modern consumers' perceived importance of local development as well as socio-economic links. In addition, direct relationships also prevent information asymmetry on food safety by means of consumer' acquiring more information on the product and its production process, thus generating

a consumers' knowledge-related satisfaction and a stimulus to SFSCs affiliation.

Table 2. Attitudes' principal component analysis

| ITEMS | COMPONENTS | | | | | | |
|-----------------------|--------------|--------------|--------------|--------------|--------|--------|--------|
| | PC 1 | PC 2 | PC 3 | PC 4 | PC 5 | PC 6 | PC 7 |
| SUSTAINABILITY | | | | | | | |
| Pleasant | 0,622 | 0,120 | 0,478 | 0,021 | 0,298 | 0,125 | 0,038 |
| Salubrious | 0,596 | 0,067 | 0,105 | 0,464 | 0,333 | 0,077 | 0,250 |
| Ethical | 0,817 | 0,080 | 0,114 | 0,218 | 0,125 | 0,048 | 0,114 |
| Sustainable | 0,767 | 0,198 | 0,033 | 0,158 | 0,109 | -0,018 | 0,104 |
| Satisfying | 0,817 | 0,175 | 0,173 | 0,228 | 0,085 | 0,039 | 0,151 |
| Green | 0,756 | 0,195 | 0,029 | 0,366 | 0,103 | -0,162 | 0,143 |
| Educational | 0,795 | 0,128 | 0,227 | 0,185 | 0,065 | -0,007 | 0,148 |
| Local | 0,587 | -0,058 | 0,056 | -0,094 | 0,510 | 0,175 | 0,304 |
| Aware | 0,714 | 0,114 | 0,245 | 0,097 | 0,256 | 0,103 | 0,012 |
| Important | 0,759 | 0,133 | 0,128 | 0,024 | 0,305 | 0,347 | 0,021 |
| Necessary | 0,616 | 0,236 | 0,171 | 0,076 | 0,221 | 0,490 | -0,091 |
| Honest | 0,627 | 0,178 | 0,285 | 0,336 | 0,090 | 0,210 | 0,211 |
| CONVENIENCE | | | | | | | |
| Simple | 0,147 | 0,818 | 0,248 | 0,046 | 0,011 | 0,101 | -0,033 |
| Cheap | 0,170 | 0,803 | -0,014 | 0,120 | 0,178 | 0,110 | 0,059 |
| Easy | 0,148 | 0,800 | 0,191 | 0,082 | 0,079 | 0,170 | 0,007 |
| Fast | 0,000 | 0,583 | 0,232 | 0,289 | -0,230 | 0,386 | 0,037 |
| Convenient | 0,365 | 0,572 | 0,121 | 0,227 | 0,142 | 0,142 | -0,029 |
| GRATIFYING | | | | | | | |
| Fun | 0,243 | 0,203 | 0,718 | 0,023 | 0,126 | 0,000 | 0,191 |
| Stimulating | 0,535 | 0,166 | 0,583 | 0,125 | 0,028 | 0,121 | 0,161 |
| Relaxing | 0,093 | 0,358 | 0,699 | 0,073 | 0,022 | 0,341 | -0,002 |
| Dynamic | 0,446 | 0,160 | 0,569 | 0,164 | -0,034 | 0,169 | 0,042 |
| Suggestive | 0,404 | 0,063 | 0,632 | 0,058 | 0,248 | 0,136 | 0,213 |
| FOOD SAFETY | | | | | | | |
| Safe | 0,438 | 0,217 | 0,019 | 0,711 | 0,129 | 0,177 | -0,032 |
| Healthy | 0,230 | 0,280 | 0,145 | 0,727 | 0,024 | 0,182 | 0,077 |

| ITEMS | COMPONENTS | | | | | | |
|---------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | PC 1 | PC 2 | PC 3 | PC 4 | PC 5 | PC 6 | PC 7 |
| Transparent | 0,430 | 0,161 | 0,180 | 0,537 | 0,245 | 0,191 | 0,183 |
| Qualitative | 0,527 | 0,017 | 0,094 | 0,616 | 0,328 | 0,054 | 0,131 |
| DESIRABLE | | | | | | | |
| Enjoyable | 0,258 | 0,312 | 0,308 | 0,087 | 0,534 | 0,214 | 0,191 |
| Good | 0,472 | 0,149 | 0,211 | 0,254 | 0,664 | 0,050 | 0,032 |
| Useful | 0,431 | 0,074 | 0,232 | 0,211 | 0,644 | 0,107 | -0,112 |
| LOYALTY | | | | | | | |
| Frequent | 0,042 | 0,360 | 0,125 | 0,116 | 0,124 | 0,788 | 0,139 |
| Usual | 0,132 | 0,298 | 0,220 | 0,314 | 0,148 | 0,744 | 0,096 |
| TYPICALITY | | | | | | | |
| Traditional | -0,008 | 0,045 | 0,175 | 0,283 | 0,327 | -0,046 | 0,644 |
| Niche | 0,167 | -0,080 | 0,104 | -0,030 | -0,067 | 0,181 | 0,816 |
| Typical | 0,389 | 0,097 | 0,283 | 0,059 | 0,115 | -0,018 | 0,668 |
| <i>Cronbach's α</i> | <i>0,952</i> | <i>0,856</i> | <i>0,860</i> | <i>0,868</i> | <i>0,843</i> | | <i>0,709</i> |
| <i>P value</i> | | | | | | <i>0,790</i> | |
| <i>% variance</i> | <i>42,3</i> | <i>9,2</i> | <i>6,1</i> | <i>4,5</i> | <i>3,7</i> | <i>3,2</i> | <i>2,9</i> |

Furthermore, convenience (C) is assessed with five items expressing both economic (cheap; convenient) and individual convenience (simple; easy; fast), that is linked to SFSCs' perceived ease and time saving. Finally, the third PC that is gratifying (G) lights up more emphasis on the pleasantness positive effect that consumers have as a result of their direct involvement in this kind of sustainable activities. This underlies both the playful function (fun; relaxing; suggestive) of purchasing in SFSCs and the stimulating sensation to repurchase (stimulating; dynamic). As a matter of fact, encouraging and supporting short circuits (i.e. direct selling or farmers' markets), consumers actively participate in traditional niche markets' value

creation and in local products' valorization, attaining some personal gratification (Vermeir and Verbeke, 2006). Consumers' gratification also derives from the direct value exchange and social interactions that are strictly inherent in the participation in SFSCs (the so called social embeddedness component) and that are involved in trust and loyalty creation among producers and consumers (Cembalo et al., 2015).

Moreover, SN and PBC have been measured by means of three questions each one (SN1, SN2, SN3 and PBC1, PBC2, PBC3, respectively), while four questions (I1, I2, I3, I4) refer to I (Table 3). Some questions related to SN and PBC have been previously eliminated because they were not significant at all. PCA proves that both SN ($\alpha = 0.832$) and I ($\alpha = 0.905$) are represented by only one principal component, while PBC by two PCs and the first of them (PC1) ($\rho = 0.681$) can be left out.

Moreover, the frequency of their annual shopping in SFSCs ("*How often did you buy in local –SFSCs – last year?*"), among six different possibilities, has been asked to the interviewees. Table 4 shows that most of the interviewees (66.1 per cent) buy in SFSCs more than one day in a month, while a very little part (6.3 per cent) never does this.

Table 3. SN', PBC' and I's principal component analysis

| TPB Variables | QUESTIONS | ITEMS | COMPONENT | |
|--|--|---------------------------------------|-----------|--------|
| | | | PC1 | PC2 |
| Subjective Norms (SN) | (SN1) - Most people who are important to me approve that I prefer to buy in local Short Food Supply Chains (SFSCs) during the annual shopping. | total agree | 0,893 | |
| | (SN2) - Most people who are important to me think that I SHOULD buy in local Short Food Supply Chains (SFSCs) during my annual shopping. | should | 0,849 | |
| | (SN3) - Many people like that I buy in local Short Food Supply Chains (SFSCs) during the annual shopping. | likely | 0,781 | |
| | | <i>Cronbach's α</i> | 0,832 | |
| Perceived Behavioural Control (PBC) | (PBC1) - Buying in local Short Food Supply Chains (SFSCs) during the annual shopping for me is POSSIBLE. | possible | 0,891 | 0,080 |
| | (PBC2) - If I wanted to, I could go grocery shopping in local Short Food Supply Chains (SFSCs). | totally true | 0,823 | -0,171 |
| | (PBC3) - How much control do you believe to have over buying in local Short Food Supply Chains (SFSCs)? | no control | -0,049 | 0,976 |
| | | <i>P value</i> | 0,681 | |
| Intention (I) | (I1) - I intend to buy in local Short Food Supply Chains (SFSCs) for my annual grocery shopping. | likely | 0,918 | |
| | (I2) - I intend to buy in local Short Food Supply Chains (SFSCs) for my annual grocery shopping. | totally true | 0,911 | |
| | (I3) - I plan to buy in local Short Food Supply Chains (SFSCs) for my annual grocery shopping. | total agree | 0,849 | |
| | (I4) - I buy in local Short Food Supply Chains (SFSCs) for my annual grocery shopping. | totally true | 0,849 | |
| | | <i>Cronbach's α</i> | 0,905 | |

Table 4. Annual SFSCs buying frequency

| QUESTION | ITEMS | FREQUENCY | % |
|---|------------------------|------------|---------------|
| How often did you buy in local Short Food Supply Chains (SFSCs) last year? | every day | 34 | 30,4% |
| | one time in a week | 26 | 23,2% |
| | one time every 15 days | 14 | 12,5% |
| | one time in a month | 19 | 17,0% |
| | one time in a year | 12 | 10,7% |
| | never | 7 | 6,3% |
| | <i>Tot.</i> | <i>112</i> | <i>100,0%</i> |

The system estimation results are listed in Table 5. As concerns the behaviour under investigation, significant coefficients for intention and PBC can be observed. While the second has negative influence on the consumers' annual SFSCs purchasing frequency, unlike the traditional approach of the TPB that considers PBC making a significant contribution to the behaviour's prediction, the first one is positively related to the investigated behaviour. According to this result, the existence of a direct relationship between consumers' intention (I) and behaviour (BEH) can be confirmed. With regard to the intention to buy food in local SFSCs, the most important attitudes influencing consumers are sustainability (S), convenience (C), typicality (T) and loyalty (L). They all are statistically significant predictors ($p < 0.10$) of I and, among them, loyalty is the main determinant, proving to be very important for consumers (Gao et al., 2012). Nevertheless, convenience has a negative influence on I, indicating that consumers having a strong propensity to save money are less willing to buy in SFSCs (Wolf et al., 2005). Excluding convenience as a relevant factor to buy food in SFSCs, this also

supports the idea that more attention should be paid on the other variables (as the above-mentioned literature confirms), including consumers' gratification. With regards to this, although our regression does not show any significance, consumer's gratification deserves a prominent role to explain the investigated behaviour, proving both the post-modern consumer's new role as a leading actor in the market exchange and his refusing the passive role in the food system (DuPuis, 2000). In addition, according to Ajzen, SN is found to be an important element indicating that consumers' intention to buy in SFSCs is the result of the consideration of social pressure to perform or not perform that behaviour. According to our previous content analysis, the salient referents that approve or not consumers' engaging in the considered behaviour are mainly family and friends. Furthermore, PBC is found to predict the intention revealing that the individual perceived ease or difficulty in performing the behaviour can considerably affect intention's variance. These confirm that, as a general Ajzen's rule, the more favourable the attitudes and the SN, the greater the PBC, the stronger is consumer's intention to buy in SFSCs. Since this pilot study represents the first application of TPB to SFSCs (without a supporting literature on the application of this theory to this topic), its principal aim is to determine the main variables affecting consumers' intention and therefore it can be considered as a starting point for further studies on consumer behaviour. After all these premises, we have to appreciate the coefficients with caution, considering the

limitations of such a starting research. However, although the analysis employs a sample of university students, our results can be considered on par with those of a more representative sample (Depositario et al., 2009).

Table 5. Influence of TPB's variables on behaviour (BEH) and intention (I)

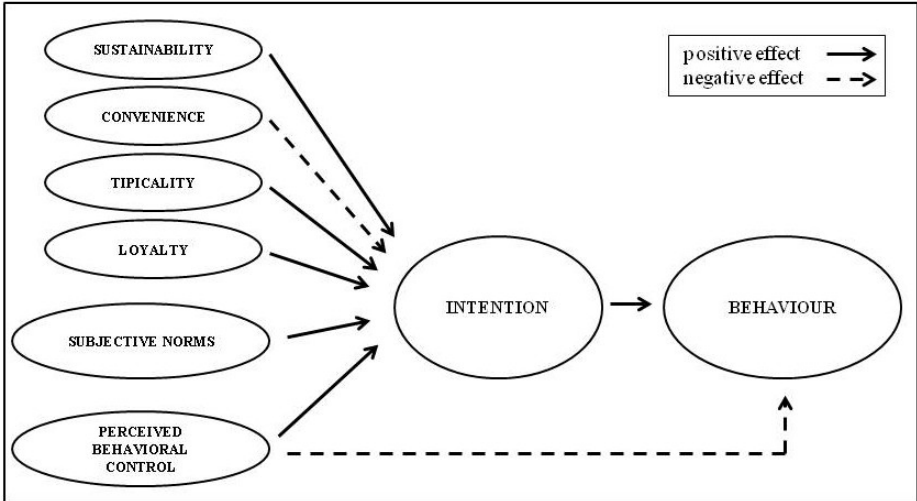
| <i>THREE-STAGE LEAST-SQUARES REGRESSION</i> | | | | | | |
|---|------------|--------------|-------------|---------------------|----------------|----------|
| Equation | Obs | Parms | RMSE | "R-sq" | chi2 | P |
| BEHAVIOUR (BEH) | 112 | 2 | 1.179499 | 0.4513 | 90.70 | 0.0000 |
| INTENTION (I) | 112 | 6 | .6781816 | 0.7254 | 298.38 | 0.0000 |
| <i>Annual SFSCs purchasing frequency (BEH)</i> | | | | <i>COEFFICIENTS</i> | <i>P-VALUE</i> | |
| Intention to buy in SFSCs (I) | | | | 1.010 | 0.000 | |
| Perceived behavioural control to buy in SFSCs (PBC) | | | | -0.055 | 0.634 | |
| Cons | | | | 0.021 | 0.944 | |
| <i>Intention to buy in SFSCs (I)</i> | | | | <i>COEFFICIENTS</i> | <i>P-VALUE</i> | |
| Sustainability (S) | | | | 0.161 | 0.044 | |
| Convenience (C) | | | | -0.109 | 0.082 | |
| Typicality (T) | | | | 0.101 | 0.092 | |
| Loyalty (L) | | | | 0.283 | 0.000 | |
| Subjective Norms (SN) | | | | 0.486 | 0.000 | |
| Perceived Behavioural Control (PBC) | | | | 0.136 | 0.027 | |
| Cons | | | | -0.187 | 0.404 | |

CONCLUSIONS

The purpose of this study is to suggest an empirical model to explain how consumers' intention to purchase food in SFSCs is influenced by some major variables, according to Ajzen's TPB that here has been tested for the first time on SFSCs. Based on a previous explorative survey, this work presents a preliminary study that explores the main

determinants of consumers' intention (I) and behaviour, i.e. attitudes, SN and PBC. Data have been collected in January 2015, by carrying out a TPB questionnaire on a convenience sample of Italian university students (n = 120). A semantic differential has been edited to measure attitudes, ensuing a PCA that condensed interviewees' responses into seven PCs. By means of some self-anchored scales also SN, PBC and I have been measured. As a result, sustainability, convenience and consumers' personal gratification are found to be the most significant elicited attitudes that predict the intention to buy in SFSCs, since they explain up to 58 per cent of total variance. These components, assessed by multiple variables, include different aspects and relevant information orienting SFSCs' shopping attitudes of post-modern consumer. Additionally, some other components have been founded, as food safety (FS), desirability (D), loyalty (L) and typicality (T), stressing some precious, additional information. Finally, using simultaneous equations modelling, Ajzen's model has been empirically tested in order to prove the influence of all the variables on the intention and the behaviour under investigation.

Figure 1. Conceptual model for consumers' food purchase intention and behaviour



Such results (Figure 1) confirm that, among attitudes, consumers' sustainability concern, the typical nature of local food and the loyalty based on the direct contact between producers and consumers have a significant predictive effect on the intention. On the contrary, convenience has a significant but negative effect on intention, proving that SFSCs contrast with consumers' propensity for money and extend post-modern consumer's time saving. In addition, SN and PBC are also considered to be significant predictors of the intention, and the norms above all. As concerns the behaviour under investigation, there are some evidences about the predictive effect of the intention on the consumers' annual SFSCs purchasing frequency, unlike PBC. Overall, according to the theory, R is greater for intention than for behaviour.

Our analysis collects some interesting results, although this is a pilot study: some of them are in line with the analysed literature on the topic while some other show us a new importance and new pathways to study. This is the case of gratification: although this indirectly emerges from our regression as a result of the proved negative effect of convenience, its importance confirms in some way the active role of post-modern consumer in his purchasing choices and it seems to be an interesting attitude to scrutinize. In conclusion, TPB is found to be a good tool to predict consumers' intention towards purchasing in SFSCs. Since the intention under investigation can be considered an antecedent of the behaviour, such previous results can provide a better understanding of factors influencing consumers' preference for SFSCs instead of conventional markets, also engendering many relevant policy implications to the development of SFSCs marketing strategies. In Italy the agri-food sector is mainly dominated by large scale retail trade so the agri-food sector has to restore the direct contact between farmers and consumers, e.g. encouraging the spreading of farmers' markets, in order to increase the added value of agricultural production. According to new CAP's support to SFSCs, appropriate actions could be chosen to promote SFSCs, as tailoring communication and marketing strategies on the above mentioned attitudinal variables, among both consumers and farmers. The knowledge of the drivers of consumers' intention can manage to more proper and effective policy strategies, in order to meet the rising

consumer's demand for more sustainable alternative chains, to increase their interest towards SFSCs and their involvement in such alternative agri-food networks and finally to contribute to the social and economical territorial development, according to new CAP trajectories for the agri-food sector. In addition, these results can be helpful also for farmers to better target their products promotion on consumers' values, aiming for their sustainable role and production, reducing the negative information asymmetry (by means of an enhanced direct link with the consumer) and finally investing more in typical food varieties. Moreover, it looks interesting to see that food safety does not compare among the first components considered by consumers and this highlights how sometimes communication and policy strategies built on SFSCs' safety can misinterpret the reality, being a source of risk in case of scandals. Nevertheless, this work embodies an articulate approach that requires some other deep analysis of consumers' behaviour. Even though this is a starting consumer's analysis, on the basis of our initial results on the intention further study will better investigate the interaction between intention and behaviour. Moreover, we will also analyse consumers' behaviour towards SFSCs by means of a more common behavioural economic approach (Toler et al., 2009) also surveying a more representative sample.

Note

1. For a list of all the applications of the theory of planned behaviour, please see the author bibliographic file (<http://people.umass.edu/aizen/tpbrefs.html>).

REFERENCES

Ajzen, I. (1991), “The Theory of Planned Behaviour”, *Organizational Behaviour and Human Decision Process*, Vol. 50, pp. 179-211.

Ajzen, I. (2006), “Constructing a TPB questionnaire, conceptual and methodological considerations”, available at: <http://www.people.umass.edu/aizen/pdf/tpb.measurement.pdf>.

Aubry, C. and Kebir, L. (2013), “Shortening food supply chains: a means for maintaining agriculture close to urban areas? The case of the French metropolitan area of Paris”, *Food Policy*, Vol. 41, pp. 85-93.

Ayala, G., Baquero, B., Laraia, B.A., Ji, M. and Linnan, L. (2013), “Efficacy of a store-based environmental change intervention compared with a delayed treatment control condition on store customers’ intake of fruits and vegetables”, *Public Health Nutrition*, Vol. 16, No. 11, pp. 1953-1960.

Belletti, G., Marescotti, A., Innocenti, S. and Rossi, A. (2010), “Prezzo giusto e filiera corta: una lettura dell’esperienza dei mercati

dei produttori agricoli in Toscana”, *Agriregionieuropa*, No. 23, pp. 0-0.

Bimbo, F., Bonanno, A., Nardone, C. and Viscecchia, R. (2015), “The hidden benefits of short food supply chains: farmers’ markets density and body mass index in Italy”, *International Food and Agribusiness Management Review*, Vol. 18, No.1, pp. 1-15.

Brunori, G. and Bartolini, F. (2013), “La filiera corta: le opportunità offerte dalla nuova Pac”, *Agriregionieuropa*, No. 35, pp. 0-0.

Cembalo, L., Lombardi, A., Pascucci, S., Dentoni, D., Migliore, G., Verneau, F. and Schifani, S. (2015), “Rationally Local: Consumer participation in Alternative Food Chains”, *Agribusiness*, Vol. 31, No. 3, pp. 330-352.

Cholette, S., Ozluk, O., Ozsen, L. and Ungson, G.R. (2013), “Exploring purchasing preferences: local and ecologically labeled foods”, *Journal of Consumer Marketing*, Vol. 30, No. 7, pp. 563-572.

Cicatiello, C., Pancino, B. and Franco, S. (2012), “Un modello per la valutazione della sostenibilità territoriale delle filiere agroalimentari: struttura e applicazione alla sfera ambientale”, paper presented at the I Conferenza AIEAA Verso una bio-economia sostenibile: aspetti economici e sfide di politica economica, 4-5 Giugno 2012, Trento, Italia, available at: <http://purl.umn.edu/124383>.

D’Amico, M., Di Vita, G., Chinnici, G., Pappalardo, G. and Pecorino, B., (2014), “Short Food Supply Chain and locally produced

wines: factors affecting consumer behaviour”, *Italian Journal of Food Science*, Vol. 26, No. 3, pp. 329-334.

De-Magistris, T., Del Giudice, T. and Verneau, F. (2014), “The Effect of Information on Willingness to Pay for Canned Tuna Fish with Different Corporate Social Responsibility (CSR) Certification: a Pilot Study”, *Journal Of Consumer Affairs*, doi: 10.1111/joca.12046.

Depositario, D.P.T., Nayga, Jr.R.M., Wu, X. and Laude, T.P. (2009), “Should students be used as subjects in experimental auctions?”, *Economics Letters*, Vol. 102, No. 2, pp. 122-124.

DuPuis, E.M. (2000), “Not in my body: rBGH and the rise of organic milk”, *Agriculture and Human Values*, Vol. 17, No. 3, pp. 285-295.

Forbes, S.L., Cohen, D.A., Cullen, R., Wratten, S.D. and Fountain, J. (2009), “Consumer attitudes regarding environmentally sustainable wine: an exploratory study of the New Zealand marketplace”, *Journal of Cleaner Production*, Vol. 17, No. 13, pp. 1195-1199.

Forsell, S. and Lankoski, L. (2015), “The sustainability promise of alternative food networks: an examination through ‘alternative’ characteristics”, *Agriculture and Human Values*, Vol. 32, No. 1, pp. 63-75.

Galli, F. and Brunori, G. (2013), “Short Food Supply Chains as drivers of sustainable development. Evidence Document”, working paper developed in the framework of the FP7 project FOODLINKS

(GA No. 265287). Laboratorio di studi rurali Sismondi, ISBN 978-88-90896-01-9.

Gao, Z., Swisher, M. and Zhao, X. (2012), “A New Look at Farmers' Markets: Consumer Knowledge and Loyalty”, *HortScience*, Vol. 47, No. 8, pp. 1102-1107.

Gava, O., Bartolini, F., Brunori, G. and Galli, F. (2014), “Sustainability of local versus global bread supply chains: a literature review”, paper presented at the III AIEAA Conference Feeding the Planet and Greening Agriculture: challenges and opportunities for the bio-economy, 25-27 June 2014, Alghero, Italy.

Giampietri, E., Finco, A. and Del Giudice, T. (2015), “Exploring consumers’ attitude towards purchasing in short food supply chains”, *Quality - Access to Success*, Vol. 16, No. 1, pp. 135-141.

Goodman, D. (2004), “Rural Europe Redux? Reflections on Alternative Agro-Food Networks and Paradigm Change”, *Sociologia Ruralis*, Vol. 44, No. 1, pp. 3-16.

Goodman, D. and DuPuis, E.M. (2002), “Knowing food and growing food: Beyond the production-consumption debate in the sociology of agriculture”, *Sociologia Ruralis*, Vol. 42, No. 1, pp. 5-22.

Hallett, L.F. (2012), “Problematizing Local Consumption: is Local Food better simply because it’s Local?”, *American International Journal of Contemporary research*, Vol. 2, No. 4.

Hinrichs, C. (2000), “Embeddedness and local food systems: notes on two types of direct agricultural market”, *Journal of Rural Studies*, Vol. 16, No. 3, pp. 295-303.

Ilbery, B. and Maye, D. (2005), “Food supply chains and sustainability: evidence from specialist food producers in the Scottish/English borders”, *Land Use Policy*, Vol. 22, No. 4, pp.331-344.

Kirwan, J. (2004), “Alternative strategies in the UK agro-food system: interrogating the alterity of farmers’ markets”, *Sociologia Ruralis*, Vol. 44, No. 4, pp. 395-415.

Kneafsey, M., Venn, L., Schmutz, U., Balázs, B., Trenchard, L., Eyden-Wood, T., Bos, E., Sutton, G. and Blackett, M. (2013), “Short Food Supply Chains and Local Food Systems in the EU. A State of Play of their Socio-Economic Characteristics”, Ipts-Jrc Report, EUR 25911, available on line at: <http://ftp.jrc.es/EURdoc/JRC80420.pdf>. ISBN 978-92-79-29288-0. doi:10.2791/88784.

Knezevic, I., Landman, K. and Blay-Palmer, A. (2013), “Local Food Systems - International Perspectives”, Review of literature, research projects and community initiatives, paper prepared for the Ontario Ministry of Agriculture, Food and Rural Affairs, available at: <http://www.nourishingontario.ca/wp-content/uploads/2013/07/EUAntipode-FoodHub-LitReview-2013.pdf>.

La Barbera, F., Del Giudice, T. and Sannino, G. (2014), “Are people willing to pay for waste prevention? The moderating role of

environmental attitude”, *Quality - Access to Success*, Vol. 15, No. 1, pp. 213-218.

Losito, G. (2007), *L'analisi del contenuto nella ricerca sociale*. Franco Angeli, Milano.

Marsden, T., Banks, J. and Bristow, G. (2000), “Food Supply Chain Approaches: exploring their Role in Rural Development”, *Sociologia Ruralis*, Vol. 40, No. 4, pp. 424-438.

Meyer, S.B., Coveney, J., Henderson, J., Ward, P.R. and Taylor, A.W. (2012), “Reconnecting Australian consumers and producers: identifying problems of distrust”, *Food Policy*, Vol. 37, No. 6, pp. 634-640.

Migliore, G., Caracciolo, F., Lombardi, A., Schifani, G. and Cembalo, L. (2014), “Farmers’ participation in civic agriculture: the effect of social embeddedness”, *Culture, Agriculture, Food and Environment*, Vol. 36, No. 2, pp. 105-117.

Morris, C. and Buller, H. (2003), “The local food sector. A preliminary assessment of its form and impact in Gloucestershire”, *British Food Journal*, Vol. 105, No. 8, pp. 559-566.

Mundler, P. and Rumpus, L. (2012), “The energy efficiency of local food systems: a comparison between different modes of distribution”, *Food policy*, Vol. 37, No. 6, pp. 609-615.

O’Neill, K. (2014), “Localized Food Systems - what role does place play?”, *Regional Studies, Regional Science*, Vol. 1, No. 1, pp. 82-87.

Panico, T., Caracciolo, F. and Del Giudice, T. (2014), "Quality dimensions and consumer preferences: a choice experiment in the Italian extra-virgin olive oil market", *Agricultural Economics Review*, Vol. 15, No. 2, pp. 100-112.

Reisch, L., Eberle, U. and Lorek, S. (2013), "Sustainable food consumption: an overview of contemporary issues and policies", *Sustainability: Science, Practice, & Policy*, Vol. 9, No. 2, pp. 7-25.

Renting, H., Marsden, T. K. and Banks, J. (2003), "Understanding alternative food networks: exploring the role of short food supply chains in rural development", *Environment and Planning*, Vol. 35, No. 3, pp. 393-411.

Roos, G., Terragni, L. and Torjusen, H. (2007), "The local in the global - creating ethical relations between producers and consumers", *Anthropology of food*, available at: <http://aof.revues.org/489>.

Sage, C. (2003), "Social embeddedness and relations of regard: alternative 'good food' networks in south-west Ireland", *Journal of Rural Studies*, Vol. 19, No. 1, pp. 47-60.

Sage, C. (2014), "The transition movement and food sovereignty: From local resilience to global engagement in food system transformation", *Journal of Consumer Culture*, Vol. 14, No. 2, pp. 254-275.

Schmid, O., Brunori, G., Galli, F., Van De Graaf, P. and Ruiz, R. (2014), "Contribution of short food supply chains to sustainability and health, paper presented at the 11th European IFSA Symposium, 1-4

April 2014 in Berlin, Germany, IFSA-International Farming System Association-Europe Group.

Scozzafava, G., Casini, L. and Contini, C. (2014), “Analysis of Italian consumer preferences for beef”, *New Medit*, Vol. 13, No. 1, pp. 66-72.

Selfa, T. and Qazi, J. (2005), “Place, Taste, or Face-to-Face? Understanding Producer–Consumer Networks in ‘Local’ Food Systems in Washington State”, *Agriculture and Human Values*, Vol. 22, No. 4, pp. 451-464.

Starr, A. (2010), “Local food: A social movement?”, *Cultural Studies - Critical Methodologies*, Vol. 10, No. 6, pp. 479-490.

Toler, S., Briggeman, B.C., Lusk, J.L. and Adams, D.C. (2009), “Fairness, farmers markets, and local production”, *American Journal of Agricultural Economics*, Vol. 91, No. 5, pp. 1272-1278.

Tregear, A., Arfini, F., Belletti, G. and Marescotti, A. (2007), “Regional foods and rural development: the role of product qualification”, *Journal of Rural Studies*, Vol. 23, No. 1, pp. 12-22.

Verbeke, W. and Vackier, I. (2005), “Individual determinants of fish consumption: application of the theory of planned behavior”, *Appetite*, Vol. 44, No. 1, pp. 67-82.

Verhaegen, I. and Van Huylenbroeck, G. (2001), “Costs and benefits for farmers participating in innovative marketing channels for quality food products”, *Journal of Rural Studies*, Vol. 17, No. 4, pp. 443-456.

Vermeir, I. and Verbeke, W. (2006), “Sustainable food consumption: exploring the consumer ‘attitude - behavioral intention’ gap”, *Journal of Agricultural and Environmental Ethics*, Vol. 19, No. 2, pp. 169-194.

Vermeir, I. and Verbeke, W. (2008), “Sustainable food consumption among young adults in Belgium: Theory of Planned Behaviour and the role of confidence and values”, *Ecological Economics*, Vol. 64, No. 3, pp. 542-553.

Verneau, F., Caracciolo, F., Coppola, A. and Lombardi, P. (2014), “Consumer fears and familiarity of processed food. The value of information provided by the FTNS (2014)”, *Appetite*, Vol. 73, pp. 140-146.

Weber, R. P. (1990), *Basic Content Analysis*. Sage, Newbury Park, CA. ISBN 9780803938632.

Wolf, M.M., Spittler, A. and Ahern, J. (2005), “A profile of farmers’ market consumers and the perceived advantages of produce sold at farmers’ markets”, *Journal of Food Distribution Research*, Vol. 36, No. 1, pp. 192-201.

CHAPTER 4

TELLING THE TRUST ABOUT CONSUMER BEHAVIOUR: A THEORY OF PLANNED BEHAVIOUR PERSPECTIVE TO INVESTIGATE THE DETERMINANTS OF CONSUMER PURCHASE AT SHORT FOOD SUPPLY CHAINS

Elisa GIAMPIETRI^a, Fabio VERNEAU^b, Teresa DEL GIUDICE^c, Adele FINCO^a

^a Department of Agricultural, Food and Environmental Sciences (3A) - Università Politecnica delle Marche, via Brecce Bianche 60131, Ancona, Italy

^b Department of Political Sciences - Università degli Studi di Napoli Federico II, via Università 80055, Napoli, Italy

^c Department of Agricultural Sciences - Università degli Studi di Napoli Federico II, via Università 80055, Napoli, Italy

ABSTRACT

To better understand the success and the spreading in number of short food supply chains (SFSCs) in Italy, this study investigates consumer motivations and behaviour with regard to such alternative agri-food networks using the Theory of Planned Behaviour (TPB). In addition to common TPB variables, this paper studies the role of consumers' trust

towards purchasing in SFSCs. In addition, also the role of consumer rural background and fair-trade related preference toward the behaviour have been investigated. An online survey was conducted on a convenience sample of 260 consumers in Italy. A structural equation modeling (SEM) confirm the role of trust as direct antecedent of consumer intention to purchase food at SFSCs, as well as the best-supported attitudes, subjective norms and perceived behavioural control in the standard TPB. The behaviour is found to be influenced by consumer rurality and fair trade purchasing habit. These evidences are interesting in order to suggest farmers' marketing strategies in the direction of ethical and trust-related forms of consumption.

KEYWORDS

Trust; short food supply chains (SFSCs); consumer behaviour; Theory of Planned Behaviour (TPB)

INTRODUCTION

Nowadays, there is an intense movement in the debate on consumer trust in food choice, since a series of scandals (Forbes et al., 2009) and the progressive industrialization and globalization of long agri-food supply chains have been challenging the agri-food sector over the last decades (Toler et al., 2009), increasing consumer skepticism about food quality and safety. Although product or process certification as well as labelling sometimes succeed in solving this problem, sometimes they fail in this attempt. According to this, it is worth

considering that customers often do ignore or misinterpret the meaning of specific certifications (Grunert, 2005). In addition, the perception of some food attributes, by their very nature, cannot be identified through a system of certification, as in the case of Short Food Supply Chains (SFSCs) that boast some proper credence characteristics (Migliore et al., 2015). These alternative circuits of food provision (e.g., farmers markets or on farm direct selling) increasingly gained ground all over Europe and in Italy as well (Kneafsey et al., 2013; Marino and Cicatiello, 2012) in recent years, representing a sustainable alternative to global chains in terms of economic, social and environmental benefits (Giampietri et al., 2016a; Mundler and Laughrea, 2016). This is in line with the nowadays critical and ethical consumerism that is connected to the environmental and health impacts of food consumption choices (Banterle et al., 2012). SFSCs notoriously reconnect farmers and consumers (Kirwan, 2004), and direct interactions between the actors are found to provide consumers with a sense of trust that affect consumer purchasing decision in relation to short chains (Holloway and Kneafsey, 2000).

To better understand the success and the spreading in number of such alternative agrifood networks, based on two previous explorative surveys, this study explores the influence of the main determinants of consumer intention and behaviour, as required by the Theory of Planned Behaviour (TPB) (i.e., attitudes, subjective norms and

perceived behavioural control). In addition, the paper provides useful information about the role of consumer trust as well as consumer residential area and fair trade consumption habit in order to predict and explain SFSCs-related purchasing decisions.

BACKGROUND

In developing our conceptual framework, we draw on a previous work and the theory of planned behaviour by Ajzen (1991). TPB has its roots in social-psychology and represents one of the most widely cited alternative approach to understand and predict human behaviour. To this end, this theory does not rely on the utility evaluation of a product or a service, but it focuses on the specific behaviour of interest, providing a comprehensive framework to explain and understand its determinants (Ajzen, 2015). TPB predictive power has been already demonstrated in relation to food purchase and consumption decisions (Cook et al., 2002; Verbeke and Vackier, 2005; Louis et al., 2007; Smith et al., 2008). However, to the best of our knowledge, only little use of TPB has been applied to investigate consumers' preferences for buying food at SFSCs (Giampietri et al., 2015; Giampietri et al., 2016b). TPB central premise is that a precise behaviour is a function of the intention (INT) to perform it and the perceived behavioral control (PBC). The stronger these two determinants, the more likely the behavioural performance would be. Furthermore, the intention is determined by the combination of three factors as attitudes (ATT),

subjective norms (SN), and perceived behavioural control with respect to the behaviour in question, and these are influenced by behavioural, normative and control beliefs, respectively. The more favorable ATT and SN and the greater PBC, the more likely a consumer intention to engage in the behaviour. Furthermore, some other factors can be considered as additional determinants of the intention within the TPB original framework as in the case of past behaviour and self-identity (Carfora et al., 2016), risk perception (Lobb et al., 2007) or trust (Mazzocchi et al., 2008).

In relation with the open debate on consumer increased distrust, during the last years we assisted to the decreasing of consumer proximity to farming (Thorsøe and Kjeldsen, 2016) and the consequent increasing attention in gaining new knowledge about food that we eat, e.g., where and how it is produced and by whom, known as “quality turn” (DuPuis, 2000; Goodman, 2004).

Accordingly, nowadays food safety and quality against the backdrop of the agrifood sector represent a black box for consumers, especially for those who live in urban areas that, by their very nature, are quite far from the production process and have lost their control over food. It is worth noting that the erosion of consumer confidence grows when the risk of moral hazard along the food chain prevails, in the first place affecting customers’ loyalty towards the seller and/or the brand and creating food safety concerns (Hobbs and Goddard, 2015).

Interestingly, trust represents a solution for all the situations that are characterized by increasing complexity and lack of knowledge, as in the case of consumer trust in food and buyer-seller relationships (Frewer et al., 1996; Lassoued and Hobbs, 2015). Nowadays, the necessity to rebuild and strengthen consumer trust between consumption and farming represents one of the main challenges in the marketing field. According to Ding et al. (2015), trust, especially toward farmers (instead of retailers), is a complex and hard-to-measure concept and plays an important role in decision-making when the information is scarce or hard to assess, as the food purchasing process. Therefore, customers' trust can have a role to successfully solve their loss of knowledge and control over the supply chain, driving food choices, especially in the case of SFSCs.

Fostering the reconnection between producers and consumers, by means of reducing the number of actors and distances along the supply chain (Marsden et al., 2000; Parker, 2005), SFSCs are found to significantly contribute to many social, environmental and economic sustainable goals related to the agri-food sector (Ilbery and Maye, 2005; Forssell and Lankoski, 2014). Many authors (Trobe, 2001; Schneider, 2008; Tregear, 2011; Hartmann et al., 2015) found that the direct interactions between farmers and consumers as well as their repeated encounters can provide consumers with a sense of trust built especially on shared know-how and mutual understanding (Meyer et al., 2012). Indeed, the typical SFSCs' face-to-face initiatives (Renting

et al., 2003) let producers and consumers interact, share and exchange information related to both food products and production process and their personal values (O’Kane and Wijaya, 2015), reducing the information asymmetry and establishing new solid loyalty. In this framework, trust becomes a substitute for full knowledge (Grebitus et al., 2015) and its role in influencing consumer food choice and purchasing decision seems to be increasingly important nowadays.

In order to examine consumer motivations for purchasing food at SFSCs instead of conventional markets, the present study examine the impact of trust on intention to purchase at SFSCs, comparing an extended TPB model with a classic TPB framework. In addition, the paper also considers the role of consumers residential area and fair trade purchasing habit in influencing their behaviour.

DATA AND METHODOLOGY

The methodology used is based on an empirical analysis carried out in Italy during the first semester of 2016. We assessed an extended TPB construct to investigate the determinants of consumer purchasing habits related to short food supply chains as market locations. To this purpose, we implemented an online survey among a convenience sample of 260 Italian respondents that affirmed to commonly purchase food at SFSCs, as farmers’ markets (46%) or on farm directly (43%), while the remaining 11% prefer other forms of SFSCs as solidarity purchasing groups. We administered the survey as an online

questionnaire that we pre-tested among a small sample (25 participants) in December 2015 and only minor changes were made based on this. The questionnaire included three sections: the first section asked respondents to state their purchasing habits related to SFSCs in terms of buying frequency. The second section included five series of agree/disagree statements, including three questions (e.g. items) each, to measure TPB variables. Finally, the third section incorporated some socio-demographic questions describing the sample.

Relating to section number two, the above-mentioned statements were measured using 1-7 point self-anchored scales (1 = strongly disagree; 7 = strongly agree) that aimed at assessing trust (TRU) toward purchasing food at SFSCs as well as components of TPB as respondents' attitudes (ATT), subjective norms (SN), perceived behavioural control (PBC), and intention (INT), respectively.

Three adjective pairs were used to measure attitudes as follows: "Purchasing food at SFSCs is *not gratifying – gratifying; unpleasant – pleasant; not satisfying – satisfying* to me"; composite reliability was 0.91.

Subjective norms were assessed through the following 7-point *strongly disagree – strongly agree* three items: "Most people who are important to me would approve on my purchasing food at SFSCs instead of conventional markets"; "Most people who are important to me want that I purchase food at SFSCs instead of conventional

markets”; “Most people who are important to me think that I should purchase food at SFSCs instead of conventional markets”. The composite reliability was 0.91.

To measure PBC the following 7-point *totally false – totally true* three items were used: “Purchasing food at SFSCs is easy to me”; “If I wanted to I could easily purchase food at SFSCs”; “Purchasing food at SFSCs depends entirely on me”; composite reliability was 0.73.

The intention to purchase food at SFSCs instead of conventional markets was measured using those 7-point *strongly disagree – strongly agree* three items: “I intend to purchase food at SFSCs for the next month”; “I plan to purchase food at SFSCs next month”; “I am willing to buy food at SFSCs next month”; composite reliability was 0.91.

Finally, based on Hartmann et al. (2015), with adjustments, the additional variables of trust was measured by the following 7-point *totally false – totally true* three items: “I perceive purchasing at SFSCs to be reliable”; “Purchasing at SFSCs appears trustable to me”; “I trust in purchasing food at SFSCs”; composite reliability was 0.92.

In order to verify the role of trust on predicting consumer purchase at SFSCs, we integrated TRU to the original three TPB main antecedents of INT and we hypothesized that such variable has an influence on consumer intention that, in turn, represents an antecedent of consumer behaviour. In addition, our model benefits by the inclusion of two additional constructs in terms of behavioural explanatory variable, i.e.

consumer residential area (*Resid*) and fair trade purchasing habit (*FairTrade*).

Finally, we performed descriptive analysis using SPSS version 17, whereas the extended TPB model described in this study was tested using the structural equation modeling (SEM) approach supported by STATA version 13. By means of our extended TPB model, we tested the role of some latent variables (i.e. exogenous or independent variables) in influencing some observed variables (i.e. endogenous or dependent variables): in particular, we tested the influence of exogenous variables as ATT, SN, PBC and TRU on INT that, in turn, mediates (i.e. INT is also considered an endogenous variable) their influence on the endogenous variable BEH. SEM let us explore the relations among all these variables that identify our model. We considered the following indices to measure the goodness of fit for our model: χ^2 (chi-square), Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI)⁴, and the Root Mean Square Error of Approximation (RMSEA)⁵ with 90% confident level.

⁴ To consider the model having an acceptable fit we refer to cut-off values of .90 or more for CFI and TLI (Bentler, 1990; Tucker and Lewis, 1973) whereas the threshold value for RMSEA is of .05 or less (Browne and Cudeck, 1992). In addition, values less than .08 of Standardized Root Mean Squared Residual (SRMR) are considered acceptable (Hu and Bentler, 1999). In relation to χ^2 , it is worth considering values having a probability of more than .05; however, we consider some other indices too, since this index tends to be deeply affected by sample size (Barbaranelli, 2007).

⁵ In particular, we used RMSEA to measure the explained variance of dependent variables (i.e. endogenous variables).

RESULTS

Before analyzing our extended TPB model, we report some descriptive statistics of the sample in Table 1. In order to elicit the frequency of their purchasing at SFSCs (BEH), respondents were also asked the following question “*How often do you usually buy in local Short Food Supply Chains (SFSCs)?*” and results are shown in table 2.

Table 1 - Sample descriptive statistics

| Categories | Items | N. Obs. |
|-----------------------------------|------------------------|---------|
| Gender | female | 143 |
| | male | 117 |
| Age (years) | 18-30 | 133 |
| | 31-40 | 65 |
| | 41-50 | 32 |
| | 51-65 | 26 |
| | more than 65 | 4 |
| Nationality | italian | 256 |
| | other | 4 |
| Education level | primary school | 1 |
| | lower secondary school | 13 |
| | upper secondary school | 79 |
| | university degree | 167 |
| Residential area | urban | 186 |
| | rural | 74 |
| N. of household members | 1 | 28 |
| | 2 | 48 |
| | 3 | 56 |
| | 4 | 97 |
| | 5 or more | 31 |
| Average year income (€) | less than 25.000€ | 100 |
| | 25.000-50.000€ | 120 |
| | 50.000-75.000€ | 27 |
| | more than 75.000€ | 13 |
| Occupation | student | 102 |
| | employee | 136 |
| | retired worker | 6 |
| | unemployee | 16 |
| To go personally grocery shopping | no | 101 |
| | yes | 159 |

| | | |
|-------------------|------------------------------|-----|
| Buying organic | No | 72 |
| | Yes | 188 |
| Buying fair trade | No | 131 |
| | Yes | 129 |
| SFSCs' forms | on farm direct sale | 112 |
| | farmers' market | 119 |
| | pick-your-own | 7 |
| | box schemes | 7 |
| | Solidarity Purchasing Groups | 10 |
| | online sale | 5 |

Table 2 - Consumers' annual SFSCs purchasing frequency (BEH)

| Question | Items | N. Obs. |
|---|--------------------|---------|
| How often do you usually buy in local Short Food Supply Chains (SFSCs)? | (1) once a year | 51 |
| | (2) more than once | 56 |
| | (3) once a month | 24 |
| | (4) more than once | 51 |
| | (5) once a week | 51 |
| | (6) more than once | 27 |

As afore mentioned, we measured all the variables of our extended model by means of three items each. Table 3 shows variables related descriptive statistics and the Cronbach's α^6 reliability coefficient, whose the high values indicate an high internal consistency of the items.

Table 3 - TPB variables' scales and descriptive statistics

| Variables (scales) | N. items | Cronbach's α |
|-------------------------------------|----------|---------------------|
| Attitudes (ATT) | 3 | 0.91 |
| Subjective Norms (SN) | 3 | 0.91 |
| Perceived Behavioural Control (PBC) | 3 | 0.73 |
| Trust (TRU) | 3 | 0.92 |
| Intention (INT) | 3 | 0.91 |

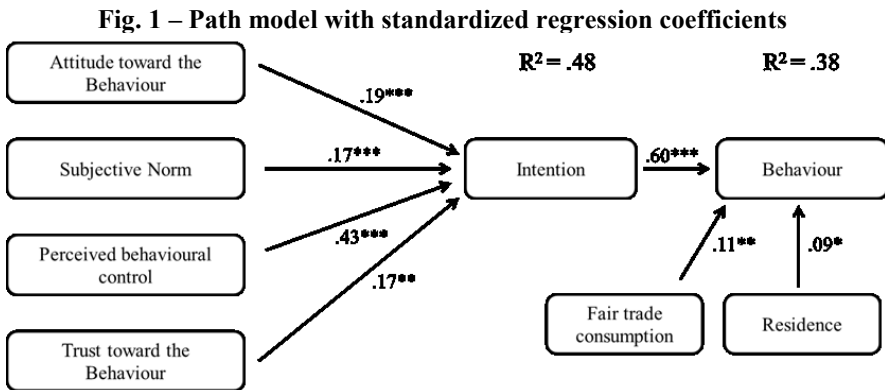
⁶ According to Ajzen, we indicated 0.7 to be an acceptable reliability coefficient.

Table 4 reports the correlations among the investigated variables and also their mean and standard deviation. According to correlations, INT shows the strongest positive correlation with PBC and trust, while intention and PBC are the strongest correlates of BEH. In addition, all mean values are clearly above the scale mean (on a 1-7 point scale), showing that the interviewees boast highly positive attitude (5.28), subjective norms (4.67), trust (5.37), and intention (4.78) toward purchasing in such investigated alternative markets. However, the mean value for PBC is lower (4.48), compared to other variables, showing a lower respondents' self-confidence to engage in SFSCs-related purchase, despite their high and positive attitude and trust toward SFSCs purchase (Al-Swidi et al., 2014).

The traditional TPB model (i.e. the one that does not consider trust as antecedent of the intention) shows the following good fit to the data: $\chi^2 = 167.91$; RMSEA (90% confidence interval) = 0.063 (0.049-0.076); CFI = 0.961; TLI = 0.951; SRMR = 0.072. Findings indicate significant effects ($p < 0.01$) of ATT, SN and PBC on consumer intention to buy in SFSCs; in addition, both the intention, residential area and fair trade consumption show a considerable predictive power on the behaviour. Overall, 46% and 39% of INT and BEH variance is explained by this model, respectively.

However, all the Goodness-of-fit statistics highlight that the extended TPB model fits the data better than the traditional one. Accordingly, $\chi^2 = 230.99$; RMSEA (90% confidence interval) = 0.058 (0.046-0.069);

CFI = 0.963; TLI = 0.955; SRMR = 0.072. Overall, 48% and 38% of the intention and behavioural variance is respectively explained by our expanded TPB model. ATT, SN, PBC and trust are all significant positive antecedents of intention; in particular, PBC represents the main predictor of INT (.43), followed by ATT (.19), as shown in Figure 1. Furthermore, the behaviour is significantly determined by the intention (.60), followed by fair-trade consumption habit (.11) and the residential area (.09).



Note: *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$

Table 4 - Correlations and descriptive findings between variables

| | 1. | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 1. INT | 4.78 (1.50) | | | | | | | |
| 2. ATT | 0.323** | 5.28 (1.56) | | | | | | |
| 3. SN | 0.410** | 0.168** | 4.67 (1.55) | | | | | |
| 4. PBC | 0.482** | 0.142* | 0.272** | 4.48 (1.35) | | | | |
| 5. TRU | 0.476** | 0.342** | 0.401** | 0.385** | 5.37 (1.11) | | | |
| 6. BEH | 0.578** | 0.294** | 0.229** | 0.379** | 0.255** | 3.29 (1.69) | | |
| 7. Resid | -0.003 | 0.262** | -0.028 | 0.028 | 0.073 | 0.088 | 0.28 (0.45) | |
| 8. FairTrade | 0.242** | 0.102 | 0.210** | 0.091 | 0.261** | 0.248** | 0.005 | 0.50 (0.50) |

Note: Mean (Standard Deviation) for each variable on the diagonal

CONCLUSION AND DISCUSSION

In order to contribute to explain the reasons why short food supply chains (SFSCs) have largely gained ground in Italy in recent years, this paper aims at testing an extended framework of the theory of planned behaviour (TPB) to explain food purchases at SFSCs (e.g. farmers' market). In particular, this study scrutinizes the role of consumer trust in determining their purchases in such alternative food chains. To this purpose, an online questionnaire administered to a convenience sample of Italian consumers assessed standard TPB variables (e.g. attitudes, subjective norms, perceived behavioural control, intention) and the additional trust with respect to buying food at SFSCs. Results show that TPB framework can be a useful framework to understand consumer behaviour related to shopping at SFSCs, and especially to explain the intention that drives it.

Compared to the original TPB framework that does not consider trust as an antecedent of intention, indeed, the provided extended model shows better goodness-of-fit statistics, although explained variance is quite the same between models. All the investigated variables, as attitudes, subjective norms, perceived behavioural control and trust, have positive effect on intention, explaining 48% of its variance. In particular, perceived behavioural control has the largest effect on intention, followed by attitudes and subjective norms. Finally, trust shows a moderate impact on consumer intention. It follows that the easier for consumers to shop at SFSCs, the more their intention will

increase. Similarly, the more consumers' attitudes are positive towards SFSCs and they trust in food purchases at SFSCs and people who are important to them (i.e. social referents as family, friends) approve that they purchase in such alternative agri-food networks, the more consumers' intention to perform it will increase. Furthermore, intention has a good predictive effect on consumer behaviour (.60), higher than what assessed in many other studies on food consumption as Verbeke and Vackier (2005) in fish consumption or Kim et al. (2003). On the contrary, perceived behavioural control is found to have no direct effect on behaviour; this is consistent with TPB literature (Conner et al., 2002) whereas, since there are no previous analysis testing TPB on SFSCs, this research does not find comparable findings with respect to the investigated topic. Similarly, also consumer trust toward purchasing food at short chains has no direct effect on consumer actual purchase, thus intention mediates its effect on behaviour. In addition to intention, purchasing fair trade products (that is correlated with the investigated behaviour, i.e., 0.25) and living in a rural area positively influence consumers' purchase at SFSCs, explaining 38% of the behavioural variance. Although the explained variance related to behaviour proves to be quite minor than for intention, this is also in line with the previously cited literature related to TPB application to food consumption (Ajzen, 2015). In relation to fair trade consumption, our findings confirm the strong connection between consumers involvement and active participation

in different forms of SFSCs and sustainable dimensions and ethical consumerism (Grunert et al., 2014). Based on our evidences, consumer trust is relevant when deciding where to buy food and we can suppose that it can lead to positive behavioural effects when it exists. According to Holloway and Kneafsey (2000), following these findings it is possible to assume that, by reinforcing consumer trust towards SFSCs, also people intention to purchase in such alternative agri-food networks will increase, encouraging their development in line with current European sustainability trajectories for the agrifood sector. As stated by many authors (Marsden et al., 2000; Trobe, 2001; Hunt, 2007; Schneider, 2008; Meyer et al., 2012), trust can be established and reinforced through SFSCs' direct encounters between producer and consumer that facilitate the information exchange. Central to this alternative networks are face-to-face interactions that, indeed, let consumers being more informed and consequently more trusting (e.g., about food and production process), increasing transparency along the food chain and reducing asymmetric information. Since trust tends to offset negative perceptions associated with food purchasing decision (Ding et al. 2015), it can drive loyalty and new solid relationships between producers and consumers (Hartmann et al., 2015), overcoming consumer confusion and fostering SFSCs purchasing frequency and development. In line with the literature on SFSCs, we can interestingly assume that such alternative chains can successfully overtake modern consumers' loss

of confidence in food provision systems; however, we have found trust reliability being very high (.92) and this seems to be a controversial aspect, especially in case of high risks (e.g. food quality scares and scandals). Further research will investigate, on a more representative sample, the link between trust and behaviour, in order to suggest a way to overcome the gap between intention and behaviour (Armitage and Conner, 2001).

REFERENCES

Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Process*, 50, 179-211.

Ajzen, I. (2015). Consumer attitudes and behaviour: the theory of planned behaviour applied to food consumption decisions. *Rivista di Economia Agraria*, 70(2), 121-138.

Al-Swidi, A., Mohammed Rafiul Huque, S., Haroon Hafeez, M., Noor Mohd Shariff, M. (2014). The role of subjective norms in theory of planned behavior in the context of organic food consumption. *British Food Journal*, 116(10), 1561-1580.

Armitage, C.J., Conner, M. (2001). Efficacy of the theory of planned behaviour: a meta-analytic review. *British Journal of Social Psychology*, 40, 471-499.

Banterle, A., Cavaliere, A. Ricci, E.C. (2012). Food Labelled Information: An Empirical Analysis of Consumer Preferences. *International Journal on Food System Dynamics*, 3(2), 156-170.

Barbaranelli, C. (2007). *Analisi dei dati. Tecniche multivariate per la ricerca psicologica e sociale*. Milano: Led.

Bentler, P.M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, 107, 238-246.

Browne, M.W., Cudeck, R. (1992). Alternative ways of assessing model fit. *Sociological Methods Research*, 21, 230-258.

Carfora, V., Caso, D., Conner, M. (2016). The role of self-identity in predicting fruit and vegetable intake. *Appetite*, 106, 23-29.

Conner, M., Norman, P., Bell, R. (2002). The theory of planned behavior and healthy eating. *Health Psychology*, 21(2), 194.

Cook, A.J., Kerr, G.N., Moore, K. (2002). Attitudes and intentions towards purchasing GM food. *Journal of Economic Psychology*, 23, 557-572.

Ding, Y., Veeman, M.M., Adamowicz, W.L. (2015). Functional food choices: Impacts of trust and health control beliefs on Canadian consumers' choices of canola oil. *Food Policy*, 52, 92-98.

DuPuis, E.M. (2000). Not in my body: BGH and the rise of organic milk. *Agriculture and Human Values*, 17, 285-295.

Forbes, S.L., Cohen, D.A., Cullen, R., Wratten, S.D., Fountain, J. (2009). Consumer attitudes regarding environmentally sustainable wine: an exploratory study of the New Zealand marketplace. *Journal of Cleaner Production*, 17(13), 1195-1199.

Forssell, S., Lankoski, L. (2015). The sustainability promise of alternative food networks: an examination through “alternative” characteristics. *Agriculture and Human Values*, 32(1), 63-75.

Frewer, L.J., Howard, J.C., Hedderley, D., Shepherd, R. (1996). What Determines Trust in Information About Food-Related Risks? Underlying Psychological Constructs. *Risk Analysis*, 16(4), 473-486.

Giampietri, E., Finco, A., Del Giudice, T. (2015). Exploring consumers’ attitude towards purchasing in short food supply chains. *Quality - Access to Success*, 16(1), 135-141.

Giampietri, E., Koemle, D., Yu, X., Finco, A. (2016). Consumers’ Sense of Farmers’ Markets: Tasting Sustainability or Just Purchasing Food?. *Sustainability*, 8(11), 1157

Giampietri, E., Finco, A., Del Giudice, T. (2016b). Exploring consumers’ behaviour towards short food supply chains. *British Food Journal*, 118(3), 618 - 631.

Goodman, D. (2004). Rural Europe Redux? Reflections on Alternative Agro-Food Networks and Paradigm Change. *Sociologia Ruralis*, 44(1), 3-16.

Grebitus, C., Steiner, B., Veeman, M. (2015). The roles of human values and generalized trust on stated preferences when food is labeled with environmental footprints: Insights from Germany. *Food Policy*, 52, 84–91.

Grunert, K.G. (2005). Food quality and safety: consumer perception and demand. *European Review of Agricultural Economics*, 32(3), 369-391.

Grunert, K. G., Hieke, S., Wills, J. (2014). Sustainability labels on food products: consumer motivation, understanding and use. *Food Policy*, 44, 177-189.

Hartmann, M., Klink, J., Simons, J. (2015). Cause related marketing in the German retail sector: Exploring the role of consumers' trust. *Food Policy*, 52, 108-114.

Hobbs, J.E., Goddard, E. (2015). Consumers and trust. *Food Policy*, 52, 71–74.

Holloway, L., Kneafsey, M. (2000). Reading the Space of the Framers' Market: A Case Study from the United Kingdom. *Sociologia Ruralis*, 40, 285–299.

Hu, L., Bentler, P.M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: a Multidisciplinary Journal*, 6(1), 1-55.

Hunt, A.R. (2007). Consumer interactions and influences on farmers' market vendors. *Renewable Agriculture and Food Systems*, 22, 54-66.

Ilbery, B., Maye, D. (2005). Food supply chains and sustainability: evidence from specialist food producers in the Scottish/English borders. *Land Use Policy*, 22(4), 331-344.

Kim, K., Reicks, M., Sjoberg, S. (2003). Applying the theory of planned behavior to predict dairy product consumption by older adults. *Journal of Nutrition Education and Behavior*, 35(6), 294-301.

Kirwan, J. (2004). Alternative strategies in the UK agro-food system: interrogating the alterity of farmers' markets. *Sociologia Ruralis*, 44(4), 395-415.

Kirwan, J. (2006). The interpersonal world of direct marketing: Examining conventions of quality at UK farmers' markets. *Journal of Rural Studies*, 22, 301-312.

Kneafsey, M., Venn, L., Schmutz, U., Balázs, B., Trenchard, L., Eyden-Wood, T., Bos, E., Sutton, G., Blackett, M. (2013). Short Food Supply Chains and Local Food Systems in the EU. A State of Play of their Socio-Economic Characteristics, Ipts-Jrc Report, EUR 25911. Available on line at: <http://ftp.jrc.es/EURdoc/JRC80420.pdf>. ISBN 978-92-79-29288-0. doi:10.2791/88784.

Lassoued, R., Hobbs, J.E. (2015). Consumer confidence in credence attributes: The role of brand trust. *Food Policy*, 52, 99-107.

Lobb, A.E., Mazzocchi, M., Traill, W.B. (2007). Modelling risk perception and trust in food safety information within the Theory of Planned Behaviour, *Food Quality and Preference*, 18, 384-395.

Louis, W., Davies, S., Smith, J., Terry, D. (2007). Pizza and pop and the student identity: the role of referent group norms in healthy and unhealthy eating. *The Journal of Social Psychology*, 147, 57-74.

Marino, D., Cicatiello, C. (2012). *I Farmers' Market: La Mano Visibile del Mercato. Aspetti Economici, Sociali e Ambientali delle Filiere Corte*; Franco Angeli: Milan, Italy.

Marsden, T., Banks, J., Bristow, G. (2000). Food Supply Chain Approaches: exploring their Role in Rural Development. *Sociologia Ruralis*, 40(4), 424-438.

Mazzocchi, M., Lobb, A., Traill, W.B., Cavicchi, A. (2008). Food scares and trust: a European study. *Journal of Agricultural Economics*, 59(1), 2-24.

Meyer, S.B., Coveney, J., Henderson, J., Ward, P.R., Taylor, A.W. (2012). Reconnecting Australian consumers and producers: identifying problems of distrust. *Food Policy*, 37(6), 634-640.

Migliore, G., Schifani, G., Cembalo, L. (2015). Opening the black box of food quality in the short supply chains: effects of conventions of quality on consumer choice. *Food Quality and Preference*, 39, 141-146.

Mundler, P., Laughrea, S. (2016). The contributions of short food supply chains to territorial development: A study of three Quebec territories. *Journal of Rural Studies*, 45, 218-229.

O'Kane, G., Wijaya, S.Y. (2015). Contribution of Farmers' Markets to More Socially Sustainable Food Systems: A Pilot Study of a Farmers' Market in the Australian Capital Territory (ACT), Australia. *Agroecology and Sustainable Food Systems*, 39, 1124-1153.

Parker, G. (2005). *Sustainable Food? Teikei, Co-Operatives and Food Citizenship in Japan and the UK*; University of Reading: Reading, UK.

Renting, H., Marsden, T.K., Banks, J. (2003). Understanding alternative food networks: exploring the role of short food supply chains in rural development. *Environment and Planning*, 35(3), 393-411.

Schneider, S. (2008). Good, Clean, Fair: The Rhetoric of the Slow Food Movement. *College English*, 70, 384-402.

Smith, J.R., Terry, D.J., Manstead, A.S., Louis, W.R., Kotterman, D., Wolfs, J. (2008). The attitude-behavior relationship in consumer conduct: the role of norms, past behavior, and self-identity. *The Journal of Social Psychology*, 148, 311-334.

Thorsøe, M., Kjeldsen, C. (2016). The Constitution of Trust: Function, Configuration and Generation of Trust in Alternative Food Networks. *Sociologia Ruralis*, 56, 157–175.

Toler, S., Briggeman, B.C., Lusk, J. L., Adams, D.C. (2009). Fairness, farmers markets, and local production. *American Journal of Agricultural Economics*, 91(5), 1272-1278.

Tregear, A. (2011). Progressing knowledge in alternative and local food networks: Critical reflections and a research agenda. *Journal of Rural Studies, Subjecting the Objective-Participation, Sustainability and Agroecological Research*, 27, 419-430.

Trobe, H.L. (2001). Farmers' markets: consuming local rural produce. *International Journal of Consumer Studies*, 25, 181-192.

Tucker, L.R., Lewis, C. (1973). A reliability coefficient for maximum likelihood factor analysis, *Psychometria*, 38, 1-10.

Verbeke, W., Vackier, I. (2005). Individual determinants of fish consumption: application of the theory of planned behavior. *Appetite*, 44(1), 67-82.

CHAPTER 5

CONSUMERS' SENSE OF FARMERS' MARKETS: TASTING SUSTAINABILITY OR JUST PURCHASING FOOD?

Elisa GIAMPIETRI^a, Dieter B. A. KOEMLE^b, Xiaohua YU^b, Adele FINCO^a

^a Department of Agricultural, Food and Environmental Sciences (3A) - Università Politecnica delle Marche, via Brecce Bianche 60131, Ancona, Italy

^b Department of Agricultural Economics and Rural Development, Georg-August University of Goettingen, Platz der Göttinger Sieben 5, 37073 Goettingen, Germany

*Published in 2016 on "Sustainability", Vol. 8, 1157.
doi:10.3390/su8111157*

ABSTRACT

Sustainable food consumption has attracted widespread attention over the last decades by scholars, policy makers and consumers. In line with this, farmers' markets (FMs) have the potential to encourage sustainable agricultural production and consumption. By reducing the number of actors and distances along the food chain, these alternative

food systems foster the reconnection between farmers and consumers and contribute to different social, economic and environmentally sustainable goals. This paper provides insights into how consumers' sustainability concerns are related to their motivation for shopping at FMs. By means of a choice experiment, we analyze the determinants of consumers' preferences for buying apples at FMs. We are particularly interested in understanding how attitudes towards the three sustainability dimensions are related to consumer preferences in this context. We find that consumer attitudes towards direct contact with producers, contributing to farmers' income, and environmental benefits, can be directly related to product characteristics that are specific to FMs.

KEYWORDS

Sustainability; farmers' markets; choice experiment; consumers; willingness to pay

INTRODUCTION

Food purchases at short food supply chains (SFSCs) are increasing all around the world and in Italy as well, being considered a more sustainable alternative to highly specialized, resource intensive modern agri-food supply chains [1–3]. The European Commission [4] declared that food crises, environmental pollution, the increasing awareness of social responsibility as well as the perception of the rising prevalence of malnutrition and the influence of foods on

wellbeing have both shaken a large proportion of consumers' confidence and increased their interest in knowing how, where and by whom food is produced. Following consumer demand for more sustainable food products, the last two decades registered a rising proliferation of SFSCs, especially farm's direct sales and farmers' markets (FMs) [5]. As recently stated by Mundler and Laughrea [6], who gather the position of scholars and experts around the world, SFSCs have the potential to enhance the sustainability of conventional food systems, in terms of socio-economic equity and environmental and local development. Drawing a comprehensive assessment of SFSCs' benefits in terms of sustainability is even more important nowadays [7], not only to help farmers to improve their marketing strategies but specially to spur and support policy makers to further develop SFSCs. Accordingly, the European Common Agricultural Policy 2014–2020 has adopted the promotion of SFSCs and local food within the II Pillar to provide a publicly funded stimulus for sustainable development. However, a lack of reliable market data prevents a clear identification of both the growing appeal of SFSCs and the role of sustainability concerns in consumers' preferences. We hypothesize that sustainability concerns are becoming more important in influencing consumer purchasing behavior. This paper aims at investigating how the three dimensions of sustainability (i.e., economic, social, environmental) are relevant for forming consumers' preferences when purchasing apples. Following this objective, this

article aims at determining whether consumers' preferences for some SFSCs' distinctive aspects (e.g., local food origin or direct interaction between farmers and consumers) are reflected in willingness-to-pay (WTP) [8]. Purchasing preference and WTP are expected to vary according to the different aspects of sustainability. Since fresh fruits and vegetables account for most direct sales to consumers [9–11] we focused on a specific product, i.e., apples. In addition, we chose FMs to represent SFSCs, since they are a widely known, major component of SFSCs in Italy [10]. Examining consumer motivations for shopping at FMs, our paper contributes to the growing literature [12,13] studying the alternative food chains movement in which the sustainability perception of consumers forms a key component. In particular, our study explores the role of perceived sustainability dimensions of FMs in influencing consumer purchasing preferences for such alternative food circuits. The article proceeds with a summary of the literature on SFSCs' sustainability impacts and consumer attitudes towards purchasing in these Alternative Agri-Food Networks (AAFNs). After this, we present the choice experiment (CE) and estimate the WTP for apples that are sold at FMs and we conclude with a discussion of our findings.

BACKGROUND

In line with this, various authors [6,14–16] suggest that “SFSCs have all the qualities to improve the sustainability of food systems” ([6], p. 218) especially considering distribution and consumption, in line with

consumers' "quality turn" (i.e., increasing demand for better food quality and safety) [17,18].

Envisaging both the reduced geographical distance (i.e., transportation distance between production and consumption known as food miles) and a small number of intermediaries between the producer and the consumer [19], SFSCs contribute to preserve both economic activities in areas with climatic and geographical constraints (e.g., by maintaining food production and processing) and the culture and identity of those places. Accordingly, food production can be an interesting resource for the renewal of local economies [20]. In addition, the ethical (e.g., encouraging local food security, social responsibility) and health dimensions (e.g., attention to nutrition and traceability aspects, promoting food safety, seasonality of production) of sustainability are also considered as characteristics of SFSCs, even if they are more implicit rather than explicit [21]. In some cases (i.e., direct selling and farmers' market) SFSCs involve direct contact between the farmer and the end-user of products by means of face-to-face interactions [22].

FMs refer to markets where agricultural products are directly sold by producers to consumers through a common marketing channel [23]. Bringing consumers closer to the origin of food and envisaging a seller who is directly involved in the production process, FMs are considered to have an increasing potential to respectively re-spatialise and re-socialise food [24,25]. Moreover, it is worth noting that FMs

represent not only a potential for the revalorization of rural areas (e.g., by maintaining rural communities and employment in remote areas) [26] but also an engine for new opportunities to peri-urban agriculture, which is threatened by urban sprawl in many countries [27,28].

As stated in the Brundtland Report [29], sustainable development is seen in terms of three dimensions that aim at achieving people's higher quality of life (e.g., considering social aspects as happiness and well-being) and welfare (by means of economic equity or income distribution through employment and inclusion for instance), also reaching environmental benefits (e.g., reducing the overuse of natural resources such as energy or water) [30].

Farmers' markets contribute to social sustainability through several mechanisms. Ensuring the direct contact between the actors, FMs actively contribute to reconnect people sharing a set of common values and interests around food [31], such as the preservation of typical products and local knowledge, practices and traditions. A key characteristic of FMs is the capacity to encourage the dialogue exchange between farmers and consumers, giving the consumers the opportunity to re-discover food, agricultural production and the people involved. This embedded information, if successfully provided, could potentially convince consumers to assign a premium price to products that are sold at FMs [32]. Furthermore, enhanced information such as the increased traceability conveyed to consumers may contribute to reduce the information asymmetry and help to re-establish trust

relations along the supply chain [33,34]. Trust itself becomes a major factor to create new loyalty toward purchasing at FMs, conditioning future purchasing choices and gaining and keeping a stable customer flow. With regard to environmental sustainability, FMs contribute by reducing the use of non-renewable fossil energy [35,36] or protecting traditional plant varieties and animal breeds through the valorization of typical traditional products. Therefore, environmental awareness serves as a motivating factor for consumers to purchase their food at FMs as it may provide them with a sense of co-responsibility towards sustainable agricultural management. Many authors [28,37,38] found that people are willing to pay a premium price for locally produced food. Therefore, while promoting local production, FMs sustain the local food system and contribute to many economic sustainability goals such as (1) supporting new employment and a good standard of living for farmers and their families [39,40]; (2) stimulating local economies; and (3) encouraging farm's economic diversification [41]. Consequently, these locally based systems let rural areas retain their autonomy and produce evenly distributed welfare, thus contributing to the economic sustainability of rural communities. Contrary to standard long food supply chains, where only a small proportion of total added value is captured by primary producers, FMs have the capacity to increase farmer income [42,43] if the farmer identifies and serves market niches offering price premiums over the mass markets [44]. Thus, improving farmer remuneration depends on consumers'

willingness to pay a premium for products purchased and sold in short chains [45]. Consumers have been found to recognize the added value of these niche products that have the capacity to convey multiple attributes and appealing symbols (e.g., origin, quality, tradition, history) related to the territory [46]. As a consequence, the “iron law” (i.e., the strong dependence) of price while purchasing at FMs is displaced by different considerations that make consumers feel embedded. Accordingly, consumers’ contextual embeddedness (with all the above mentioned notions conveyed in the product) can evoke positive sensations [47–49] and convince consumers to purchase at FMs and pay even more for these products. In addition to price considerations, consumers’ preferences for FMs can be driven by fairness related aspects, such as the equal distribution of benefits in the supply chain and altruism toward small farmers [50]. If customer satisfaction is a necessary condition [51], on the other hand, farmers increase their efforts to establish and meet consumers’ preferences [52]. Although price is clearly an important factor in order to sustain the farming livelihood, it does not represent the only consideration for farmers: they also recognize the significance of reciprocal connection and personal relations established by FMs.

DATA AND METHODS

By means of an online survey that was sent to 503 Italian consumers, this experimental study investigated consumers’ preferences and their WTP for buying apples at FMs. The survey contained a choice

experiment (CE) in which consumers made choices between Golden Delicious apples with varying levels of price (PRI) and damage (DAM) (e.g., blemishes on the surface) and differing in the point of sale (POS), the local origin (LO), and the production method (PM). The choice of a reference product for the study fell on apples that represent a very common fruit (consumption is about 20 kilos per capita per year, in Italy [53]), available all year long in all markets both as locally and organic apples [54,55]. In particular, we used Golden Delicious apples because they are recognizable to most consumers and widely produced in Italy: with 2.2 million tons produced in 2013, Italy represents the fifth largest producer worldwide after China (39.7 million tons), USA (4 million tons), Turkey (3.1 million tons) and Poland (3 million tons), being the second major producer in EU-28 (FAO, 2016).

CEs have been used in many disciplines, such as environmental economics and valuation [56], health economics [57], food choice [58,59], public goods valuation [60], and transportation to elicit preferences of respondents [61]. The root of CE design and analysis lies in Lancaster's [62] exposition on consumer theory, who states that consumer utility is not derived directly from the goods consumed, but from their attributes. In a CE, a questionnaire is designed in which consumers are asked to make choices between alternative products. These alternatives are characterized by their specific attributes, each of which can take a varying range of levels. The central assumption

then is that consumers choose their favorite product, given the product attributes. These attributes also include the product price. In market good evaluations, such as the present study, adding a “would not buy any” option adds realism to the purchasing scenario, as the consumer can always opt out of buying the offered products in real life.

The experimental design is the heart of CEs. It assures that all the available alternatives in the CE are orthogonal and can therefore be estimated efficiently [61]. We generated an orthogonal design in R and used the mix-and-match method to generate alternatives [63,64]. We used two alternatives in each choice set, and added “would not buy any” as a third option to each choice set. That way, respondents can easily opt out of the purchase in case they prefer the status quo of not buying any apples. The smallest orthogonal design for our given attributes and levels included 18 choice sets; then we used the blocking algorithm provided by Aizaki [63] to split the choice sets into three groups of six each. The analytical tool used to estimate preference from CE data is the random utility function [65], which describes utility U as a sum of an observable part V and a random error term ε . V is assumed to be a linear-additive function of estimable utility weights and product attributes, combined with individual specific characteristics of respondents. The respondent is expected to maximize this utility function when making his choices by incorporating all the offered attributes into his decision. The multinomial logit model (MNL) assumes the error is independently

and identically distributed according to an extreme value type 1 distribution [66]. The probability of choosing product i out of a range of products 1 to J is then described as follows:

$$P(y_i = 1) = \frac{\exp(V_i)}{\sum_{j=1}^J \exp(V_j)}$$

Model selection is conducted by using likelihood-ratio (LR) tests to compare nested models. We started with a model that contained all interactions among CE's attributes and sustainability dimensions and then successively removed interactions that were not significant according to a Wald test. Then, we ran a LR test of the new, restricted model and the original model that contained all interactions. We chose the model that required the least parameters to be estimated, while still maintaining an insignificant LR test. An extension of MNL is the Random Parameters Logit (RPL) model, which comes with the assumption that parameters follow a pre-defined distribution, instead of being fixed [67]. This takes into account unobserved preference-heterogeneity within the sample. We included results from the RPL model for comparison. All estimations were done in R using the package `mlogit` [68].

In this study, data were generated through a computer assisted web interviewing procedure in a sample of 503 Italian respondents from the Norstat online panel (<http://www.norstatgroup.com>). The questionnaire was developed on the basis of insights from the academic literature on consumers' attitudes towards purchasing in

SFSCs [69] and pre-tested with a smaller online sample (20 respondents). It also incorporated statements regarding consumers' perception of the above mentioned three sustainability dimensions (i.e., society, economy and environment). In particular, the questionnaire consisted of the following four sections: the first investigating consumer purchasing behavior and awareness about SFSCs; the second comprising the choice experiment; the third enclosed up to three questions investigating consumer awareness of the three pillars of sustainable development related to FMs; and finally, the last section pictured the socio demographic profile of the interviewees. In relation to the third section, we represented the three dimensions of sustainability (economic, social, and ecological) by three distinct questions (Table 1). The economic sustainability was represented by the 7-point Likert scale question "*By shopping at farmers' markets, I can contribute to support farmers' income*" where 1 meant "entirely disagree" and 7 meant "entirely agree". Similarly, social sustainability was indicated by the following question: "*The direct contact with farmers is important to me when purchasing food*". Finally, we framed the question about ecological–environmental sustainability in the context of the major reason for buying organic food. Using a single choice question, respondents had the opportunity to respond: "*it is safer than conventional food*" (private good aspect) or "*it is more environmentally sustainable than conventional food*" (public good aspect) or "*I don't buy organic food*". The interactions

between the replies to those statements and consumers’ preferences for CE attributes have been investigated in order to explain the role of sustainability concerns on FMs’ growing success and appeal among consumers.

Table 1. Interaction variables

| Variable | Description | Measure |
|-----------------------------------|---|--|
| farminc | By shopping at farmers’ markets, I can contribute to support farmers’ income. | 7-point likert scales (1 = entirely disagree, 7 = entirely agree) |
| directcontact | The direct contact with farmers is important to me when purchasing food. | 7-point likert scales (1 = entirely disagree, 7 = entirely agree) |
| personal health (PH, base) | | |
| environmental sustainability (ES) | What is your major reason for buying organic food? | This is a unique question with three possible answers, as shown in Figure 3c |
| “I don’t buy organic food” (DBO) | | |

In the CE, consumers were asked to imagine buying one kilo (i.e., four pieces) of Golden Delicious apples. As mentioned above, each respondent had to work through six choice sets. In each choice set (Table 2), consumers had to choose between two different kilos of apples described by a set of attributes.

There was also a no-choice option (status quo; option C) in order to reproduce a more realistic purchase situation without forcing decision makers to select among the two available alternatives [67].

Table 2. Example of a choice set eliciting Italian consumers' preferences for apples (1 kilo that corresponds to four pieces) purchased at FMs

| Product Attribute | Option A | Option B | Option C |
|--------------------|--------------------|-------------------|-----------------------------|
| Point of sale | From the farmer | From the shelf | Neither A or B is preferred |
| Locally grown | Unknown | Locally grown | |
| Damage | Two damaged apples | One damaged apple | |
| Production method | Organic | Conventional | |
| Price (euros/kilo) | 1.59 | 1.29 | |

Note: Options A and B represent two different descriptions for 1 kg of Golden Delicious apples. Please choose the option (A, B or C) that you would prefer to purchase.

We used choice experiments to examine the impact these five attributes have upon consumers' preference when buying apples, in order to better understand what is behind their preference for purchasing at farmers' markets.

We chose attributes based on scientific literature about SFSCs. In particular, the chosen five attributes (Table 3) were focused on investigating if the choice to purchase at FMs was a matter of proximity with the producer (POS), a matter of origin (LO) [70], a matter of food authenticity (DAM), a matter of production method (PM) [55,70,71] or a matter of price (PRI). POS is related to the purchasing place and refers to FMs' "spatial proximity" definition [22,32]. LO describes where the product was grown [72–74]: if the product was grown in the same region where it was sold, we defined it as locally grown. Even if there are other measures of quality (e.g., taste, color, size), we chose the damage level (DAM) [2]. DAM describes how many apples, among the four pieces representing 1 kilo,

have some minor damage (i.e., blemishes) on the surface. Accordingly, we assumed that the presence of the damage is a common feature for local production, related to products' authenticity and naturalness. In conclusion, PM describes whether the product is produced organically or conventionally and finally PRI represents the price of the product in €/kg.

Table 3. List of attributes used in a choice experiment on sustainability and willingness to pay for apples with Italian consumers

| Apples Attributes | Attribute Levels | Description | Dummy Variable Name |
|------------------------|---------------------------|--|---------------------|
| Point of sale (POS) | Farmer | The farmer hands you the apples directly | (base) |
| | Seller | A seller who is not necessarily involved in the production hands you the apples directly | seller |
| | Shelf | You pick the apples up from a shelf (e.g., in a supermarket) | shelf |
| Local origin (LO) | Yes | Product is locally grown | localyes |
| | No | Product is grown outside the selling region | localno |
| | Unknown | Origin not known to the consumer | (base) |
| Damage (DAM) | 0 | All apples are perfect (=no damage) | (base) |
| | 1 slightly damaged apple | One damaged apple (=light damage) | Light |
| | 2 slightly damaged apples | Two damaged apples (=moderate damage) | Moderate |
| Production method (PM) | Organic | Product was produced according to EU standards on organic farming (no synthetic chemical inputs allowed in production and postharvest treatment) | organic |
| | Conventional | Product was produced in a conventional | (base) |

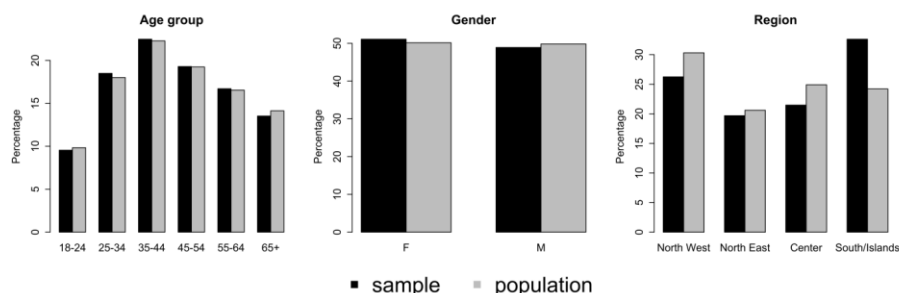
| Apples Attributes | Attribute Levels | Description | Dummy Variable Name |
|--------------------|------------------|--|---------------------|
| | | manner (only legally binding restrictions on production methods apply) | |
| Price (euros/kilo) | 1.29 | | |
| | 1.59 | | |
| | 1.99 | | |

RESULTS

4.1. Descriptive Statistics

In early January 2016, we collected a sample of 503 Italian consumers older than 18 years of age. Sampling quotas were set based on age group, gender, and four NUTS1 regions (i.e., major socio economic regions within the European nomenclature of territorial units for statistics) that are North East, North West, Center, South and Islands. Overall, our sampling frequencies match the population of Italy well, as can be seen in Figure 1, with a slight overrepresentation of the South and Islands region at the cost of some underrepresentation of the other three regions.

Figure 1. Italian population and sampling distribution of age, gender, and region



Respondents, described in Table 4, were screened out if they (1) had not purchased food at a FM within the last year; and (2) if they were not responsible for food purchases within their household.

Table 4. Descriptive statistics of the sample

| Categories | Items | N. Obs |
|--|-------------------------|---------------|
| Education level | Compulsory school | 50 |
| | A-levels/Apprenticeship | 258 |
| | University degree | 195 |
| Residence | Rural area | 121 |
| | Urban area | 382 |
| Household net income (per month, after taxes) | <1000 € | 64 |
| | 1000–3000 € | 316 |
| | 3000–4000 € | 84 |
| | 4000–5000 € | 22 |
| | >5000 € | 17 |
| Golden Delicious apples' annual purchasing frequency | Never | 17 |
| | Less than once a month | 97 |
| | Once a month | 115 |
| | Twice a month | 113 |
| | Once a week | 134 |
| | More than once a week | 27 |

In addition, we also asked respondents to elicit which product they mainly purchased at FMs (respondents could choose up to five different product categories), as shown in Figure 2.

A second line of results regards our questions about sustainability. As Figure 3a,b shows, both Likert-scale questions are heavily skewed to the right, suggesting that consumers, on average, agree with the statements being presented. Consumers mostly agree that by shopping at FMs they can contribute to support farmers' income. In addition, for most consumers who have shopped at FMs within the last year, the direct contact with farmers is important. Interestingly, as

Figure 3c shows, the major reason for buying organic food is the environmental sustainability concern, not necessarily the health aspect.

Figure 2. Products mainly bought at FMs

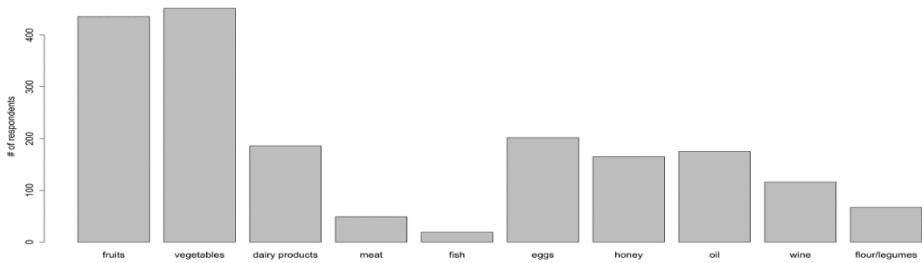
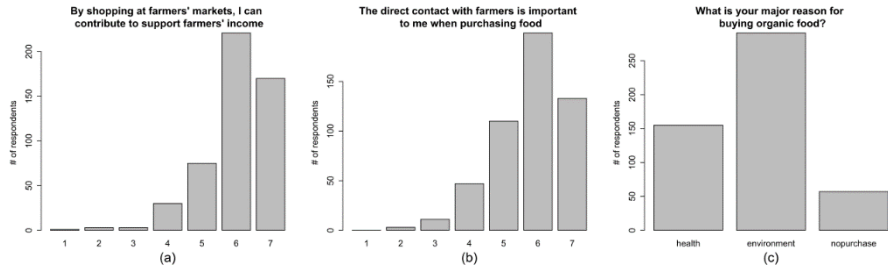


Figure 3. Responses to two 7-point Likert-scale (1 = entirely disagree, 7 = entirely agree; panels (a,b,c) a three category question about the three dimensions of sustainability)



4.2. Choice Experiment Analysis

Finally, we present the results of the choice experiment (Table 5) and the marginal willingness-to-pay estimates for the main effects (Table 6). Table 5 shows the parameter estimates of our models. In the RPL

models, all main effects, except for price, were modeled as random, normally distributed, parameters.

With regard to the main effects-only models, we can see that both MNL (model 1) and RPL (model 3) similarly show that respondents preferred local and organic apples and preferred to purchase them directly from the farmer. In addition, the price attribute had a significant and negative effect on consumer choice probability (−0.81 for MNL and −0.90 for RPL), showing that respondents preferred paying a lower price. Finally, undamaged apples were, on average, preferred to apples that showed any kind of damage.

Table 5. Multinomial logit and random parameters logit models - main effect only models are (1) and (3), respectively; models with interactions are (2) and (4), respectively - for apples (Golden Delicious) in Italy estimated from choice experiment data (see Tables 1 and 3 for variable descriptions and dummy coding scheme)

| | Dependent Variable: CHOICE | | | | | |
|--------------------------|----------------------------|------------------------|-----------------------|----------------------|------------------------|----------------------|
| | MNL | | | RPL | | |
| | (1) | (2) | (3) | (4) | | |
| | Main Effects-Only | With Interactions | Main Effects-Only | With Interactions | | |
| | | Mean (SE) | Std. Dev. (SE) | Mean (SE) | Std. Dev. (SE) | |
| <i>Random Parameters</i> | | | | | | |
| localno | −0.045 (0.070) | −0.332 (−0.382) | −0.065 (0.074) | 0.029 (−0.361) | −0.385 (−0.416) | 0.095 (−0.362) |
| localyes | 0.725 *** (0.080) | −0.891 * (−0.456) | 0.730 *** (0.084) | 0.122 (−0.280) | −0.942 * (−0.485) | 0.163 (−0.278) |
| seller | −1.635 *** (0.079) | −0.630 (−0.400) | −1.698 *** (0.095) | 0.326 (−0.311) | −0.715 * (−0.414) | 0.418 (−0.295) |
| shelf | −1.882 *** (0.083) | −0.756 * (−0.421) | −1.930 *** (0.095) | 0.076 (−0.367) | −0.807 * (−0.455) | 0.090 (−0.365) |
| light | −0.394 *** (0.070) | −0.404 *** (−0.070) | −0.401 *** (0.071) | 0.135 (−0.341) | −0.422 *** (−0.075) | 0.336 (−0.313) |
| moderate | −0.869 *** (0.090) | −0.892 *** (−0.091) | −0.869 *** (0.095) | 0.654 ** (−0.272) | −0.902 *** (−0.097) | 0.590 ** (−0.285) |
| organic | 0.439 *** (0.070) | −0.380 (−0.433) | 0.439 *** (0.074) | −0.114 (−0.337) | −0.396 (−0.446) | −0.093 (−0.352) |

| | Dependent Variable: CHOICE | | | | |
|---|----------------------------|------------------------|-----------------------|-------------------|------------------------|
| | MNL | | RPL | | |
| | (1) | (2) | (3) | (4) | |
| | Main Effects-Only | With Interactions | Main Effects-Only | With Interactions | |
| | | Mean (SE) | Std. Dev. (SE) | Mean (SE) | Std. Dev. (SE) |
| <i>Random Parameters</i> | | | | | |
| <i>Nonrandom Parameters</i> | | | | | |
| price | -0.812 *** (0.132) | -1.820 *** (-0.373) | -0.901 *** (0.159) | | -1.928 *** (-0.390) |
| localno:direct contact | | 0.048 (-0.066) | | | 0.053 (-0.071) |
| localyes:direct contact | | 0.322 *** (-0.078) | | | 0.346 *** (-0.082) |
| localyes:farm inc | | -0.037 (-0.071) | | | -0.049 (-0.074) |
| seller:direct contact | | -0.181 *** (-0.069) | | | -0.181 ** (-0.071) |
| shelf:direct contact | | -0.201 *** (-0.072) | | | -0.204 *** (-0.077) |
| organic:farm inc | | 0.163 ** (-0.069) | | | 0.168 ** (-0.071) |
| organic:ES | | -0.062 (-0.140) | | | -0.066 (-0.145) |
| organic:DBO | | -1.236 *** (-0.230) | | | -1.284 *** (-0.233) |
| price:direct contact | | 0.319 *** (-0.055) | | | 0.334 *** (-0.058) |
| price:farm inc | | -0.108 ** (-0.055) | | | -0.118 ** (-0.053) |
| price:ES | | -0.196 ** (-0.083) | | | -0.199 ** (-0.082) |
| price:DBO | | -0.612 *** (-0.134) | | | -0.629 *** (-0.136) |
| ASC— purchase (Base: No- Purchase) | 4.397 *** (0.246) | 4.462 *** (-0.249) | 4.604 *** (-0.312) | | 4.691 *** (-0.327) |
| Observations | 3018 | 3018 | 3018 | | 3018 |
| Log Likelihood | -2636.918 | -2592.037 | -2635.855 | | -2590.743 |

| Dependent Variable: CHOICE | | | | | |
|--------------------------------|-------------------|-------------------|-------------------|-----------|----------------|
| MNL | | | RPL | | |
| (1) | (2) | (3) | (4) | | |
| Main Effects-Only | With Interactions | Main Effects-Only | With Interactions | | |
| | | Mean (SE) | Std. Dev. (SE) | Mean (SE) | Std. Dev. (SE) |
| <i>Random Parameters</i> | | | | | |
| McFadden Pseudo R ² | 0.175 | | | 0.177 | |

Note: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

We now turn to the results from the estimated models with interactions. We particularly focus on the more parsimonious MNL model (model 2). We found that, compared to opting out, purchasing a product provides positive utility, i.e., the alternative specific constant (ASC) is positive and significant. Relating to main effects, compared to not knowing the origin of the food, knowing that it was produced locally led to a negative part-worth utility, (-0.891) on average, contrary to the MNL model with main effects only (i.e., model 1). The point of sale was also considered important by respondents on average: compared to having the apples handed over by the farmer directly (that represented the reference level for the point of sale attribute), picking them from a shelf was associated with a negative part-worth utility (-0.756). As expected, apples with "no damage" were significantly preferred to packages holding one or two damaged apples. The ordering of part-worth utilities in the logit model (one apple: -0.404 > two apples: -0.892) is intuitive, and identical in the RPL model. Contrary to model 1, organic production (as opposed to conventional production), on average, had no significant influence on

choice probability, and the price parameter is negative and significant as expected (-1.820).

In addition to the standard procedure of analyzing CEs based on random utility theory, we examined how certain consumer characteristics related to sustainability would affect purchase decisions. To do this, we included the answers to these three questions (Table 1) in the choice models by interacting them with certain main attributes. The Likert-scale questions were coded continuously, while the question about ecological sustainability was dummy-coded.

Focusing on the respondents captured by the interactions, consumers who found that the direct contact with farmers is important also preferred local food (0.322) compared to food whose origin of production is not known. As expected, respondents who found direct contact more important would prefer to get the product directly handed over by the farmer, as opposed to a seller (-0.181) or picking it from the shelf (-0.201). While organic farming was not significant at the average level, respondents who had a higher level of interest in supporting farmers' income were more likely to choose apples from organic production (0.163). Those respondents who answered that they would not buy organic food were also less likely, in the choice experiment, to choose organic products (-1.236).

Both the MNL and the RPL model showed similar results, apart from the significant main effect of the "seller" attribute in the RPL model. In addition, only the estimated standard deviation of the "two apples

damaged” attribute was significant at the 5% level. A LR test confirmed that there was no significant difference between the two models (p -value = 0.9203). We therefore continue our analysis using the more parsimonious MNL model.

In Table 6, we present the marginal willingness to pay (mWTP) for the attributes under investigation, including the 90% two-sided Krinsky and Robb confidence bounds.

Table 6. Marginal willingness to pay (Euros/kg) for apple attributes estimated from a choice experiment (MNL results only shown)

| Attribute | Marginal WTP | Std. Error | Confidence Bounds | |
|--------------|--------------|------------|-------------------|-------|
| | | | 5% | 95% |
| localyes | -0.49 | 0.23 | -0.85 | -0.10 |
| shelf | -0.42 | 0.31 | -1.00 | -0.04 |
| littledamage | -0.22 | 0.07 | -0.36 | -0.14 |
| moddamage | -0.49 | 0.13 | -0.74 | -0.35 |

Compared to not knowing the product origin, local production decreases the WTP by € 0.49. Also, compared to having the apples handed over from the farmer, picking them from the shelf leads to a decrease of € 0.42. If a single apple shows slight damage, the WTP decreases € 0.22, while two damaged apples lead to a decrease in WTP of € 0.49.

DISCUSSION AND CONCLUSION

This study analyzes consumer preferences towards purchasing in alternative chains, such as farmers’ markets that can represent a solution to current sustainability issues of the dominant food system

[75]. However, shopping at farmers' markets can, a priori, be assumed to be desirable but not preferred by consumers, so studying what is behind buying preferences represents a key issue in order to draw a new consumer profile to improve and support FMs' marketing and policy strategies.

In particular, we focused on examining the role of sustainability dimensions (i.e., economic, environmental, social) in influencing food purchasing preferences, investigating whether consumers, who hold the view that supporting farmers' income and the direct contact with producers are important, as well as contributing to environmental sustainability by means of purchasing organic food, were more likely to purchase apples at FMs.

In this respect, the investigated sample of 503 Italian consumers, on average, revealed a great concern around sustainability issues. Firstly, they assigned great importance to direct contact with producers on average. Interestingly, they also stated that the major reason to buy organic food, that is commonly related to short food supply chains [5], is the environmental sustainability impact of this production instead of health-related benefits, as opposed to the majority of reasons found in the literature [76–78]. This is in line with the increasing reflexivity of consumers [22] towards the environmental protection (e.g., production of environmentally-friendly externalities, biodiversity preservation) and valorization. Moreover, our results show a noteworthy consumer awareness about the positive influence of buying at FMs on

supporting farmers' income, which is consistent with similar studies [79,80]. However, our results denied a blind adherence to fairness as confirmed by consumers' lower WTP; in addition, respondents with a higher level of interest related to fairness (i.e., economic sustainability) stated that they were more likely to choose organic food for the benefit (i.e., environmental sustainability) of contributing to farmers' economic situation.

Somewhat surprisingly, among the attributes that we considered, the production method was, on average, not significant in explaining consumers' choice probability to purchase apples at FMs, as opposed to local origin, point of sale, product damage and price. Related to the negative effect of local food origin, meaning geographical proximity of production and retailing places, our evidence is in line with avoiding the local trap (i.e., the assumption that the local is desirable), as stated by Born and Purcell [81]. However, local origin proved to be significant and positive for consumers who considered direct contact to be a very important factor. Our findings let us speculate that local origin, that generally represents a key characteristic for consumer preferences [74,79], may play a subordinate role for consumers after they established direct interactions with producers, that represent a kind of guarantee even for food origin (e.g., traceability) [25].

Respondents who thought that direct contact with the producer was more important when buying apples at FMs also preferred to shop from the producer [82] instead of a common seller, showing a higher

WTP for this. This evidence strengthens the strategic role of direct interactions in designing an overall shopping atmosphere that is proper for farmers' markets [22,32,83]. Therefore, being part of the social sustainability of these alternative food systems, our results demonstrate that this aspect not only is important to consumers, but it also drives their preferences. As stated by some other studies [84,85], consumers derive some cultural and social benefits from direct contact with farmers. For instance, FMs enable consumers to get closer to producers or to gain new knowledge about products since producers can also describe food characteristics. Furthermore, Hinrichs [48], in his study, found that consumers at FMs particularly enjoyed the pleasant atmosphere of such colorful open-air markets, considered as trendy arenas for consumption and entertainment. Moreover, according to other similar studies [86], our findings suggest that consumers prefer to buy apples with no damage and, accordingly, the more apples were damaged, the less respondents were willing to pay for these products when purchasing at FMs.

In conclusion, exploring the sustainability dimensions relevant for consumer choice [87], our results suggest that there may be a big potential for supporting FMs. Accordingly, this paper indicates some interesting considerations to complement more generic marketing and promotion of FMs. For instance, given the increasing overall trend towards considering the social dimensions of sustainable consumption [31,88,89], the role of FMs' face-to-face interactions can be turned

into a marketing tool to both influence consumers' lifestyle and achieve farmers' market competitiveness. However, some limitations of our study must be kept in mind: (1) findings must be interpreted given the assumptions of utility theory; (2) the experiment was hypothetical in nature. Therefore, an extension of this study could be conducted using different methods, such as experimental auctions or revealed preference methods. Finally, we argue that more efforts in incentivizing FMs' buying campaigns should be made by policy makers in order to augment the potential sustainable benefits on society and to incentivize territorial economic growth and sustainable development.

REFERENCES

1. Forssell, S.; Lankoski, L. The sustainability promise of alternative food networks: An examination through “alternative” characteristics. *Agric. Hum. Values* **2014**, *32*, 63–75.
2. Morris, C.; Buller, H. The local food sector: A preliminary assessment of its form and impact in Gloucestershire. *Br. Food J.* **2003**, *105*, 559–566.
3. Wiskerke, J.S.C. On Places Lost and Places Regained: Reflections on the Alternative Food Geography and Sustainable Regional Development. *Int. Plan. Stud.* **2009**, *14*, 369–387.
4. European Commission. *Commission Staff Working Document on Various Aspects of Short Food Supply Chains Accompanying the Document Report from the Commission to the European*

- Parliament and the Council on the Case for a Local Farming a ND Direct Sales Labelling Scheme*; European Commission: Brussels, Belgium, 2013.
5. Kneafsey, M.; Venn, L.; Schmutz, U.; Balázs, B.; Trenchard, L.; Eyden-Wood, T.; Bos, E.; Sutton, G. *Short Food Supply Chains and Local Food Systems in the EU. A State of Play of Their Socio-Economic Characteristics*; European Commission Joint Research Centre: Seville, Spain, 2013.
 6. 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.
 7. Di Vita, G.; Chinnici, G.; D’Amico, M. Sustainability of olive oil production in Sicilian marginal agricultural areas. *Calitatea* **2015**, *16*, 118.
 8. Lawless, L.J. R.; Drichoutis, A.; Nayga, R.; Threlfall, R.T.; Meullenet, J.-F. *Identifying Product Attributes and Consumer Attitudes that Impact Willingness-to-Pay for a Nutraceutical-Rich Juice Product*; University Library of Munich: Munich, Germany, 2012.
 9. Low, S.; Vogel, S. *Direct and Intermediated Marketing of Local Foods in the United States*; U.S. Department of Agriculture, Economic Research Service: Washington, DC, USA, 2011.

10. Marino, D.; Cicatiello, C. *I Farmers' Market: La Mano Visibile del Mercato. Aspetti Economici, Sociali e Ambientali Delle Filiere Corte*; Franco Angeli: Milan, Italy, 2012.
11. Martinez, S.W. Fresh apple and tomato prices at direct marketing outlets versus competing retailers in the U.S. mid-atlantic region. *J. Bus. Econ. Res.* **2015**, *13*, 241.
12. Gallardo, R.K.; Olanie, A.; Ordóñez, R.; Ostrom, O. The Use of Electronic Payment Machines at Farmers Markets: Results from a Choice Experiment Study. *Int. Food Agribus. Manag. Rev.* **2015**, *18*, 79-104.
13. Carroll, K.A.; Bernard, J.C.; Pesek, J.D.J. Consumer Preferences for Tomatoes: The Influence of Local, Organic, and State Program Promotions by Purchasing Venue. *J. Agric. Resour. Econ.* **2013**, *38*, 379.
14. Ilbery, B.; Maye, D. Food supply chains and sustainability: Evidence from specialist food producers in the Scottish/English borders. *Land Use Policy* **2005**, *22*, 331–344.
15. Jarosz, L. The city in the country: Growing alternative food networks in Metropolitan areas. *J. Rural Stud.* **2008**, *24*, 231–244.
16. Lehtinen, U. Sustainability and local food procurement: a case study of Finnish public catering. *Br. Food J.* **2012**, *114*, 1053–1071.
17. DuPuis, E.M. Not in my body: BGH and the rise of organic milk. *Agric. Hum. Values* **2000**, *17*, 285–295.

18. Goodman, D. Rural Europe Redux? Reflections on Alternative Agro-Food Networks and Paradigm Change. *Sociol. Rural.* **2004**, *44*, 3–16.
19. Parker, G. *Sustainable Food? Teikei, Co-Operatives and Food Citizenship in Japan and the UK*; University of Reading: Reading, UK, 2005.
20. Mazzocchi, C.; Sali, G. Sustainability and Competitiveness of Agriculture in Mountain Areas: A Willingness to Pay (WTP) Approach. *Sustainability* **2016**, *8*, 343.
21. Galli, F.; Bartolini, F.; Brunori, G.; Colombo, L.; Gava, O.; Grando, S.; Marescotti, A. Sustainability assessment of food supply chains: an application to local and global bread in Italy. *Agric. Food Econ.* **2015**, *3*, 1-17.
22. 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.
23. Ragland, E.; Tropp, D. *USDA National Farmers Market Manager Survey 2006*; Agricultural Marketing Service, USDA: Washington, DC, USA, 2009.
24. Hallet, L. Problematizing Local Consumption: Is Local Food better simply because it's Local? *Am. Int. J. Contemp. Res.* **2012**, *2*, 18-29.

25. Kirwan, J. Alternative Strategies in the UK Agro-Food System: Interrogating the Alterity of Farmers' Markets. *Sociol. Rural.* **2004**, *44*, 395–415.
26. Murdoch, J. Networks—A new paradigm of rural development? *J. Rural Stud.* **2000**, *16*, 407–419.
27. Aubry, C.; Kebir, L. Shortening food supply chains: A means for maintaining agriculture close to urban areas? The case of the French metropolitan area of Paris. *Food Policy* **2013**, *41*, 85–93.
28. Schneider, M.L.; Francis, C.A. Marketing locally produced foods: Consumer and farmer opinions in Washington County, Nebraska. *Renew. Agric. Food Syst.* **2005**, *20*, 252–260.
29. United Nations. *Our Common Future—Brundtland Report*; Oxford University: Oxford, UK, 1987.
30. Kuhlman, T.; Farrington, J. What is Sustainability? *Sustainability* **2010**, *2*, 3436–3448.
31. O’Kane, G.; Wijaya, S.Y. Contribution of Farmers’ Markets to More Socially Sustainable Food Systems: A Pilot Study of a Farmers’ Market in the Australian Capital Territory (ACT), Australia. *Agroecol. Sustain. Food Syst.* **2015**, *39*, 1124–1153.
32. Marsden, T.; Banks, J.; Bristow, G. Food Supply Chain Approaches: Exploring their Role in Rural Development. *Sociol. Rural.* **2000**, *40*, 424–438.

33. Meyer, S.B.; Coveney, J.; Henderson, J.; Ward, P.R.; Taylor, A.W. Reconnecting Australian consumers and producers: Identifying problems of distrust. *Food Policy* **2012**, *37*, 634–640.
34. Zagata, L.; Lostak, M. In Goodness We Trust. The Role of Trust and Institutions Underpinning Trust in the Organic Food Market. *Sociol. Rural.* **2012**, *52*, 470–487.
35. Coley, D.; Howard, M.; Winter, M. Local food, food miles and carbon emissions: A comparison of farm shop and mass distribution approaches. *Food Policy* **2009**, *34*, 150–155.
36. Pretty, J.N.; Ball, A.S.; Lang, T.; Morison, J.I. L. Farm costs and food miles: An assessment of the full cost of the UK weekly food basket. *Food Policy* **2005**, *30*, 1–19.
37. Darby, K.; Batte, M.T.; Ernst, S.; Roe, B. Decomposing Local: A Conjoint Analysis of Locally Produced Foods. *Am. J. Agric. Econ.* **2008**, *90*, 476–486.
38. Loureiro, M.L.; Hine, S. Discovering Niche Markets: A Comparison of Consumer Willingness to Pay for Local (Colorado Grown), Organic, and GMO-Free Products. *J. Agric. Appl. Econ.* **2002**, *34*, 477–487.
39. Kloppenburg, J., Jack; Lezberg, S.; De Master, K.; Stevenson, G.; Hendrickson, J. Tasting food, tasting sustainability: Defining the attributes of an alternative food system with competent, ordinary people. *Hum. Organ.* **2000**, *59*, 177–186.

40. Tudisca, S.; Di Trapani, A.; Sgroi, F.; Testa, R. Socio-economic assessment of direct sales in Sicilian farms. *Ital. J. Food Sci.* **2015**, *27*, 1K.
41. Hughes, D.W.; Isengildina-Massa, O. The economic impact of farmers' markets and a state level locally grown campaign. *Food Policy* **2015**, *54*, 78–84.
42. Onianwa, O.O.; Wheelock, G.; Mojica, M.N. An Analysis of the Determinants of Farmer-to-Consumer Direct-Market Shoppers. *J. Food Distrib. Res.* **2005**, *36*, 130–134.
43. Verhaegen, I.; Van Huylenbroeck, G. Costs and benefits for farmers participating in innovative marketing channels for quality food products. *J. Rural Stud.* **2001**, *17*, 443–456.
44. Govindasamy, R.; Italia, J.; Zurbriggen, M.; Hossain, F. Producer satisfaction with returns from farmers' market related activity. *Am. J. Altern. Agric.* **2003**, *18*, 80–86.
45. Balogh, P.; Békési, D.; Gorton, M.; Popp, J.; Lengyel, P. Consumer willingness to pay for traditional food products. *Food Policy* **2016**, *61*, 176–184.
46. Blasi, E.; Cicatiello, C.; Pancino, B.; Franco, S. Alternative food chains as a way to embed mountain agriculture in the urban market: the case of Trentino. *Agric. Food Econ.* **2015**, *3*, 1–13.
47. Feagan, R.B.; Morris, D. Consumer quest for embeddedness: A case study of the Brantford Farmers' Market. *Int. J. Consum. Stud.* **2009**, *33*, 235–243.

48. Hinrichs, C.C. Embeddedness and local food systems: notes on two types of direct agricultural market. *J. Rural Stud.* **2000**, *16*, 295–303.
49. Sage, C. Social embeddedness and relations of regard: Alternative “good food” networks in south-west Ireland. *J. Rural Stud.* **2003**, *19*, 47–60.
50. Chang, J.B.; Lusk, J.L. Fairness and food choice. *Food Policy* **2009**, *34*, 483–491.
51. Spiller, A.; Zuhlsdorf, A.; Mellin, M. Farmer-to-Consumer Direct Marketing: The Role of Customer Satisfaction Measurement for Service Innovations. In *1st International European Forum on Innovation and System Dynamics in Food Networks*; Innsbruck, Austria, 2007.
52. 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.
53. Pesolillo, G.; Nardoni, G.; Bologna, C.; Romano, I.; Somma, M.C.; Bianchi, M. *Mela—Studio di Mercato*; Borsa Merci Telematica Italiana (BMTI) and la Camera di Commercio di Cuneo: Roma, Italy, 2008.
54. Canavari, M.; Bazzani, G.M.; Spadoni, R.; Regazzi, D. Food safety and organic fruit demand in Italy: A survey. *Br. Food J.* **2002**, *104*, 220–232.

55. Denver, S.; Jensen, J.D. Consumer preferences for organically and locally produced apples. *Food Qual. Prefer.* **2014**, *31*, 129–134.
56. Hanley, N.; Wright, R.E.; Adamowicz, W. Using Choice Experiments to Value the Environment. *Environ. Resour. Econ.* **1998**, *11*, 413–428.
57. Clark, M.D.; Determann, D.; Petrou, S.; Moro, D.; Bekker-Grob, E.W. de Discrete Choice Experiments in Health Economics: A Review of the Literature. *Pharmacoeconomics* **2014**, *32*, 883–902.
58. Gao, Z.; Schroeder, T.C.; Yu, X. Consumer Willingness to Pay for Cue Attribute: The Value Beyond Its Own. *J. Int. Food Agribus. Mark.* **2010**, *22*, 108–124.
59. Lusk, J.L.; Schroeder, T.C. Are Choice Experiments Incentive Compatible? A Test with Quality Differentiated Beef Steaks. *Am. J. Agric. Econ.* **2004**, *86*, 467–482.
60. Koemle, D.B. A.; Morawetz, U.B. Improving mountain bike trails in Austria: An assessment of trail preferences and benefits from trail features using choice experiments. *J. Outdoor Recreat. Tour.* **2016**, doi:10.1016/j.jort.2016.04.003.
61. Louviere, J.J.; Hensher, D.A.; Swait, J.D. *Stated Choice Methods: Analysis and Applications*; Cambridge University Press: Cambridge, UK, 2000.

62. Lancaster, K.J. A New Approach to Consumer Theory. *J. Polit. Econ.* **1966**, *74*, doi:10.1086/259131.
63. Aizaki, H. Basic Functions for Supporting an Implementation of Choice Experiments in R. *J. Stat. Softw. Code Snippets* **2012**, *50*, 1–24.
64. Johnson, F.; Kanninen, B.; Bingham, M.; Özdemir, S. Experimental Design For Stated-Choice Studies. In *Valuing Environmental Amenities Using Stated Choice Studies*; Kanninen, B.J., Bateman, I.J., Eds.; The Economics of Non-Market Goods and Resources; Springer: Dordrecht, The Netherlands, 2007; Volume 8, pp. 159–202.
65. McFadden, D. Conditional logit analysis of qualitative choice behavior. In *Frontiers in Econometrics*; Zarembka, P., Ed.; Academic Press: New York, USA 1974; Volume 1, pp. 105–142.
66. Train, K. *Discrete Choice Methods with Simulation*; Cambridge University Press: Cambridge, UK, 2009.
67. Hensher, D.A.; Rose, J.M.; Greene, W.H. *Applied Choice Analysis: A Primer*; Cambridge University Press: Cambridge, UK, 2005.
68. Croissant, Y. *Estimation of Multinomial Logit Models in R: The Mlogit Packages*; Université de la Réunion: Saint-Denis, France, 2012.

69. Giampietri, E.; Finco, A.; Del Giudice, T. Exploring consumers' attitude towards purchasing in short food supply chains. *Qual. Access. Success* **2015**, *16*, 135–141.
70. Arnoult, M.; Lobb, A.; Tiffin, R. Willingness to Pay for Imported and Seasonal Foods: A UK Survey. *J. Int. Food Agribus. Mark.* **2010**, *22*, 234–251.
71. Yue, C.; Tong, C. Organic or Local? Investigating Consumer Preference for Fresh Produce Using a Choice Experiment with Real Economic Incentives. *HortScience* **2009**, *44*, 366–371.
72. Aucoin, M.; Fry, M. Growing local food movements: Farmers' markets as nodes for products and community. *ResearchGate* **2015**, *56*, 61–78.
73. Giampietri, E.; Finco, A.; Del Giudice, T. Exploring consumers' behaviour towards short food supply chains. *Br. Food J.* **2016**, *118*, 618–631.
74. Onozaka, Y.; Mcfadden, D.T. Does Local Labeling Complement or Compete with Other Sustainable Labels? A Conjoint Analysis of Direct and Joint Values for Fresh Produce Claim. *Am. J. Agric. Econ.* **2011**, doi:10.1093/ajae/aar005.
75. Selfa, T.; Qazi, J. Place, Taste, or Face-to-Face? Understanding Producer–Consumer Networks in “Local” Food Systems in Washington State. *Agric. Hum. Values* **2005**, *22*, 451–464.

76. Chinnici, G.; D'Amico, M.; Pecorino, B. A multivariate statistical analysis on the consumers of organic products. *Br. Food J.* **2002**, *104*, 187–199.
77. Saba, A.; Messina, F. Attitudes towards organic foods and risk/benefit perception associated with pesticides. *Food Qual. Prefer.* **2003**, *14*, 637–645.
78. Aertsens, J.; Verbeke, W.; Mondelaers, K.; van Huylenbroeck, G. Personal determinants of organic food consumption: a review. *Br. Food J.* **2009**, *111*, 1140–1167.
79. Lusk, J.L.; Briggeman, B.C. Food Values. *Am. J. Agric. Econ.* **2009**, *91*, 184–196.
80. Toler, S.; Briggeman, B.C.; Lusk, J.L.; Adams, D.C. Fairness, Farmers Markets, and Local Production. *Am. J. Agric. Econ.* **2009**, *91*, 1272–1278.
81. Born, B.; Purcell, M. Avoiding the Local Trap Scale and Food Systems in Planning Research. *J. Plan. Educ. Res.* **2006**, *26*, 195–207.
82. Govindasamy, R.; Zurbruggen, M.; Italia, J.; Adelaja, A.O.; Nitzsche, P.; van Vranken, R. *Farmers Markets: Consumer Trends, Preferences, and Characteristics*; The State University of New Jersey, Rutgers: Rutgers, NJ, USA, 1998.
83. 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.

84. Govindasamy, R.; Nayga, R. Characteristics of Farmer-to-Consumer Direct Market Customers: An Overview. *J. Ext.* **1996**, *34*, 4, 34-40.
85. Linstrom, H.R. *Farmer-to-Consumer Marketing*; United States Department of Agriculture, Economic Research Service: Washington D.C., USA, 1978.
86. Baker, G.A. Consumer Preferences for Food Safety Attributes in Fresh Apples: Market Segments, Consumer Characteristics, and Marketing Opportunities. *J. Agric. Resour. Econ.* **1999**, *24*, 80–97.
87. Gassler, B.; Meyer-Höfer, M.; von Spiller, A. Exploring Consumers' Expectations of Sustainability in Mature and Emerging Markets. *J. Glob. Mark.* **2016**, *29*, 71–84.
88. Rocchi, B.; Cavicchi, A.; Baldeschi, M. *Consumers' Attitude towards Farmers' Markets in Tuscany*; Parma, Italy, 2010.
89. OECD. Promoting Sustainable Consumption. Good Practices in OECD Countries; OECD: Paris, France, 2008.

CHAPTER 6

HETEROGENEITY IN CONSUMERS' PREFERENCES FOR FARMERS' MARKETS: A COMPARATIVE ANALYSIS AMONG ITALIAN AND GERMAN CONSUMERS

Elisa GIAMPIETRI^a, Dieter B. A. KOEMLE^b, Xiaohua YU^b, Adele FINCO^a

^a Department of Agricultural, Food and Environmental Sciences (3A) - Università Politecnica delle Marche, via Brecce Bianche 60131, Ancona, Italy

^b Department of Agricultural Economics and Rural Development, Georg-August University of Goettingen, Platz der Göttinger Sieben 5, 37073 Goettingen, Germany

ABSTRACT

This paper aims at exploring the heterogeneity of consumer preferences for purchasing at farmers' markets (FMs). In particular, among the numberless attributes considered both by consumers when purchasing produce and by academic literature, we focus on the role of consumer trust and fairness concerns in influencing purchasing decisions. At the beginning of 2016 an online survey has been performed among Italian and German consumers. A choice

experiment was used to assess the relative importance of some FMs' and lettuce-related characteristics in order to investigate both consumers' preferences and their willingness to pay for attributes' changes. A conditional logit (CL) and latent class model (LCM) have been estimated. The LCM shows distinguished consumers preferring product freshness from those positively valuing especially the direct contact with the farmer, and also consumers appreciating every characteristic of FMs (i.e. "FMs lovers") and those that do not seek for locally and organically produced lettuce. Our results show that convenience is mainly preferred a priori and that consumer positively value the direct contact with the farmer when deciding to purchase food at FMs instead of mainstream markets. Finally, trust and fairness have found to be coherently associated with some of the afore mentioned consumers' groups, according to their previous preferences.

KEYWORDS

Trust; fairness; farmers' markets; choice experiment; latent class model; willingness to pay; preference heterogeneity

INTRODUCTION

Throughout the last two decades, numerous academics denounced a notable social, physical and temporal distance between farmers and consumers (Thorsøe and Kjeldsen, 2016). The industrialization and globalization patterns of modern food systems are mentioned as

possible reasons (Reisch et al., 2013). Perceived as untrustworthy and unsustainable (Brunori et al., 2012; Forssell and Lankoski, 2014), such large-scale systems also drastically undermined farmers' profitability, imposing the existence of many intermediary actors within the supply chain. Consequently, information asymmetry and distrust in parallel with past food scandals and scares (e.g. the BSE scandal, avian flu, horsemeat scandal) (Forbes et al., 2009) contributed to generate new anxieties about food (Thomas and McIntosh, 2013). Accordingly, the last decades registered people's growing skepticism (mainly related to food quality and safety) that has resulted in a qualitative shift of food habits and consumption patterns (DuPuis, 2000; Morris and Buller, 2003) known as reflexive consumerism (Ilbery and Maye, 2005; Sage, 2014; Starr, 2010). Such phenomena materialized in a renewed consumer emphasis on notions such as food quality (seasonality, local origin, naturalness, freshness, organic production) and traceability, but also environmental sustainability traits, social embeddedness (Giampietri et al., 2016b; Hinrichs, 2000; Kirwan, 2004; Sage, 2003), and some renewed farmer-related concerns such as fairness (Lusk and Briggeman, 2009) and trust (Hobbs and Goddard, 2015). The most representative actors are consumers seeking food that can be bought directly from the producer (Holloway and Kneafsey, 2000). Finally, to integrate the afore mentioned framework, during the last decades increased competition and price volatility (OECD/FAO, 2016) have led to

significant income losses for farmers, particularly for small producers, who started to search for alternative profitable solutions such as short food supply chains (SFSCs).

In this context, farmers' markets (FMs) represent a valiant mechanism to contrast large-scale systems by means of reestablishing the direct contact between producers and consumers. Farmers' markets are found to both restore trust relations within the food system (Meyer et al., 2012; Zagata and Lostak, 2012) and to let consumers contribute to support farmer income (Toler et al., 2009). This paper is motivated by the need to further investigate both consumer perceptions of buying food at FMs and the role of individual concerns such as fairness and trust in determining their purchasing preferences, since the lack of knowledge limits the extent to which FMs can be effectively developed, in line with European Common Agricultural Policy trajectories.

To this end, we performed a choice experiment, focusing specifically on consumers of lettuce at farmers' markets in Italy and Germany. We estimated both a Conditional Logit Model (CL) and a Latent Class Model (LCM) to examine heterogeneity in consumers' preferences. We additionally considered consumers' concerns about trust and fairness related to FMs, using specific statements in the survey. Our assumption suggests that trust and fairness as well as being grown up in a rural area (Carey et al., 2011) and the country of origin (i.e. Italy

and Germany) can be integral to consumer both perceptions of FMs and preferences for buying food in such alternative channels.

BACKGROUND

Cited as one of the most common examples of short food supply chains, farmers' markets can successfully bridge producers and consumers, reducing the geographical distance between food production and selling point as well as the number of intermediaries along the supply chain (Ragland and Tropp, 2009). Reconfiguring this link, FMs envisage a move back to traditional marketing made of face-to-face interactions (Selfa and Qazi, 2005) and a more endogenous, ecological, territorialized, and ethical approach toward the sustainable development of modern food systems (Goodman, 2004). Accordingly, nowadays FMs represent a valiant mechanism to contrast large scale systems, which have become more attractive to current consumers: since the '90s, FMs started multiplying and became very popular both in Italy (Marino and Cicatiello, 2012) and in Germany (Bavorova et al., 2016).

In addition to proper food necessity, FMs-related food purchasing decisions can be driven by many different motivations such as the desire for better food quality (e.g. freshness, taste, local origin, organic production) (Loureiro and Hine, 2002; Feagan and Morris, 2009; Darby et al., 2008), environmental sustainability (Forssell and Lankoski, 2014; Galli et al., 2015; Giampietri et al., 2016a, 2015;

Ilbery and Maye, 2005), convenience (in terms of both money and time saving) (Tropp, 2008; Wolf et al., 2005), personal gratification (Vermeir and Verbeke, 2006) and some other positive impacts on people (Vassallo et al., 2016).

Related to the open debate on consumer distrust, Meyer et al. (2012) argue that this is in part rooted in the increasing gap between producers and consumers and people's decreasing proximity to food production that are to the detriment of consumer knowledge and control over food. To counteract this development, Grunert et al. (2014) suggest that labelling and certifications can succeed in communicating different information about food (origin, production method, sustainability issues, etc.) to consumers, to increase transparency and thus establish new trust. Nevertheless, FMs represent an exception to this since they incorporate typical credence attributes⁷ that, even if are found to be increasingly important in building consumer preferences, cannot be clearly ascertained through certification or labelling (Migliore et al., 2015). Face-to-face relations with farmers can establish personal trust (Marsden et al., 2000; Schneider, 2008; Trobe, 2001), since they facilitate the information exchange, replace food-related know-how (Hunt, 2007; Meyer et al., 2012), and reduce asymmetric information between farmers and consumers. In turn, by its very nature, personal trust can positively

⁷ According to Marsden (1998; p.110), credence attributes can be considered as “a range of socially constructed food quality criteria” (e.g. endogenous criteria as ethical issues, attention to environmental protection, supporting rural economies, etc.).

affect purchasing decisions related to FMs (Holloway and Kneafsey, 2000), explaining their increasing success among a considerable subset of consumers worldwide. Some academics (Ding et al., 2015; Frewer et al., 1996; Lassoued and Hobbs, 2015) consider trust as a solution for food purchasing process, that is commonly characterized by a lack of knowledge of the consumer. Indeed, repeated personal interactions that take place within the sociable and interactive market atmosphere of FMs (Hinrichs, 2000; Hinrichs et al., 2004) serve as an engine to promote the mutual understanding and dialogue exchange among producers and consumers, encouraging solid, friendly relations (Hartmann et al., 2015; Tregear, 2011) among people that share similar interests and values related to food (O’Kane and Wijaya, 2015). Such close encounters let customers rediscover both food and the farmer involved in the agricultural production. Through personal relationships, consumers gain some new knowledge and different benefits such as the social connection (Govindasamy and Nayga, 1996; Linstrom, 1978) and, above all, new trust toward farming and food authenticity (Moore, 2006; Zhang et al., 2016). According to Kirwan (2006, p. 307), the direct contact with the farmer, that is a distinctive characteristic of FMs, “enables consumers to feel more confident in the quality of the produce being sold at FMs, in large part through being able to assess the integrity of the producer themselves, and thereby their trustworthiness”. It follows that trust “is facilitated by consumers being able to make direct connections with the place

and nature of production of the good they are purchasing”. To conclude, representing a substitute for full knowledge (Grebitus et al., 2015), trust can encourage FMs consumption.

Focusing on fairness, Feenstra (1997) recognized the capacity of farmers’ markets to enhance social equity. For the specific case of FMs, the theme of equity can be related to many different economic sustainability aspects as retaining a fair income and a good standard of household living (Kloppenburger et al., 2000) for small producers, achieving an equitable distribution of added value along the food chain as well as a reasonable price for consumers (Berti and Mulligan, 2016). Indeed, FMs represent an alternative source of income for farmers: due to the reduction of the number of intermediaries between producers and consumers and engaging with such direct marketing places, small and family farms that cannot access global markets can regain control over the supply chains (Onianwa et al., 2005; Verhaegen and Van Huylenbroeck, 2001) and enhance their competitiveness, while developing a new value creation strategy based on food re-territorialization (e.g. promoting local production) and re-socialization (e.g. ensuring the reconnection and close communication with consumers) (Bos and Owen, 2016; Kirwan, 2004). As suggested by Tropp (2008, p. 1310), FMs can provide farmers with a more lucrative and stable income “by extracting maximum value from production”. Similarly, Kirwan (2006, p. 310) added that FMs have the possibility to support a marketing space that is both more human-

centered and linked to a sense of morality, built on social connections and mutual education. Accordingly, Toler et al. (2009) produced some evidence related to the determining role of consumers' other-regarding motivations (i.e. fairness or equal distribution of benefits that accrue to participants in the supply chain) on their preferences for alternative production systems as FMs. It follows that the theme of fairness is thus connected to consumers' preferences over a fair allocation of farmers' revenues (Chang and Lusk, 2009; Hellberg-Bahr and Spiller, 2012), that encourage them to support growers' income by choosing FMs.

Contrary to organic farming and consumption, to the best of our knowledge the relation between trust (Nuttavuthisit and Thøgersen, 2015) and fairness (Lusk and Briggeman, 2009) concerns and consumer preferences for FMs has rarely been explored, especially by means of a choice experiment (Carroll et al., 2013; Gallardo et al., 2015; Giampietri et al., 2016b). This paper contributes to the existing literature by identifying whether and to what extent concerns such as trust and fairness can explain Italian and German consumers' preferences for FMs-related purchasing decisions by means of choice experiment, trying also to better investigate the large differences between countries (Irz et al., 2015) regarding direct marketing and consumer behavior.

DATA AND METHODS

In early January 2016, an online survey was conducted among 499 German and 503 Italian respondents using the Norstat⁸ online panel. Data were collected from consumers who stated that they had purchased at FMs during the previous year and were responsible for food purchases within their household. The sample was stratified by age group, gender, and geographical area; in particular, we chose seven regions in Germany and four regions in Italy.

In line with recent literature suggesting that perishable goods such as fruit and vegetables are more suitable for sales at FMs (Low and Vogel, 2011; Martinez, 2015), we focused on a very common and traditional item of consumers' weekly diet in both countries, i.e. lettuce. We used green leaf lettuce because it is known by most consumers, available all year long in all markets, and widely produced both in Italy and in Germany also by small scale farms that are representative for FMs (Kneafsey et al., 2013).

A questionnaire, pretested with a small sample of 20 respondents, was used to interview the sample, covering consumers' purchasing behavior at FMs, a choice experiment, two statements measuring consumers' trust (*trust*) and their interest in contributing to farmers' income related to FMs (*fairness*), and finally some socioeconomic characteristics. Two 7-point likert scales (1=entirely disagree, 7=entirely agree) measured consumers' attitudes toward trust ("I trust

⁸ <http://www.norstatgroup.com>

in buying food at farmers' markets") and fairness ("By shopping at farmers' markets, I can contribute to support farmers' income") linked to farmers' markets locations for shopping.

The second section of the questionnaire included the choice experiment. Belonging to stated preference methods, CE is a survey-based technique facilitating consumers' choices among alternatives (Louviere et al., 2000). Facing a hypothetical purchasing situation that simulates a real-world market, respondents are asked to choose which is their preferred product among several alternatives and each option differs in product attributes (Hensher et al., 2005). According to Lancaster's (1966) approach to consumer theory, consumers' utility does not depend on the product itself but comes from its attributes. It follows that a consumer will choose the product whose attributes will provide the greatest utility. Classical CE analysis of respondent preferences is based on random utility theory (Louviere et al., 2000; McFadden, 1974). It is assumed that consumers' utility (U_i) of a specific alternative i can be described by two components: one deterministic component (V_i) that depends on the alternative's attributes and an unobserved component (ε_i). The utility of the alternative i is denoted by the following basic equation:

$$U_i = V_i + \varepsilon_i$$

A consumer labeled n will choose alternative i if and only if $U_{ni} > U_{nj} \quad \forall j \neq i$

Furthermore, the probability that consumer n will choose alternative i is given by:

$$P_{ni} = Prob (V_{ni} + \varepsilon_{ni} > V_{nj} + \varepsilon_{nj}) \quad \forall j \neq i$$

When considering sample's heterogeneity in preferences⁹ (Boxall and Adamowicz, 2002), consumers can be thought of belonging to several latent classes. The utility of consumer n belonging to a specific class c and choosing alternative i can be expressed as:

$$U_{nic} = X_{ni}\beta_c + \varepsilon_{nic}$$

where X_{ni} represents a vector of observable characteristics associated with alternative i (i.e. choice attributes), β_c ¹⁰ the vector of parameters specific for class c to be estimated and ε_{nic} the error term within the latent class c . The probability of consumer n to choose alternative i is given by:

$$P_{ni} = \sum_{c=1}^C \frac{\exp(\beta_c X_{ni})}{\sum_j \exp(\beta_c X_{nj})} P_{nc} \quad (1)$$

where C is the total number of latent classes and P_{nc} represents the probability of consumer n belonging to latent class c . Finally, P_{nc} can be expressed as a separate multinomial logit model (Gelaw et al., 2016; Ortega et al., 2011; Yoo and Ready, 2014):

⁹ According to Boxall and Adamowicz (2002), individual attitudes and perceptions and socioeconomic characteristics can influence the segment membership (i.e. covariates).

¹⁰ According to Ouma et al. (2007), β_c is used to check heterogeneity in consumers' preferences across different classes.

$$P_{nc} = \frac{\exp(\theta_c Z_n)}{\sum_{c=1}^C \exp(\theta_c Z_n)} \quad (2)$$

where θ_c represents a specific parameter vector of the latent class c and Z_i includes the characteristics of consumer n . We refer to equation (2) as the “class equation”.

By means of CE, we can both investigate which attributes of the product consumers mostly prefer and are important for their choices, and estimate their WTP for attributes’ changes.

An orthogonal experimental design (ED) was generated in R (R Core Team, 2014) using the mix-and-match method to create alternatives (Johnson et al., 2007; Aizaki, 2012); the ED included 18 choice sets that were separated into three blocks of six choice sets each. Within each choice set, respondents were asked to imagine buying one piece of green leaf lettuce and to choose between two alternative products differing in five characteristics. Interviewees could also decide not to buy any if they didn’t like any offered products (i.e. opt out) to avoid forced choices and to better reflect real market situations. An example of a choice set is given in Table 1.

Table 1. Example of a choice set

| | Option A | Option B | Option C |
|--------------------------|-----------------|-----------------|-----------------|
| Point of sale | from the seller | from the farmer | |
| Locally grown | unknown | locally grown | I would not |
| Crispiness | very crispy | less crispy | purchase |
| Production method | conventional | organic | lettuce |
| Price | 1.79 €/kilo | 1.49 €/kilo | |

Each choice profile (alternative) differed in terms of three-level attributes (point of sale, local origin, crispiness, price) and a two-level attribute (method of production), as listed in Table 2. The crispiness attribute refers to product freshness: the fresher the lettuce, the more recently it has been harvested. To account for national differences in price levels, we used different prices for Italy (IT) and Germany (DE).

Table 2. Attributes and levels chosen for lettuce CE

| Attributes | Levels | Description |
|----------------------------------|-----------------------|---|
| Local origin (LO) | localyes | Product is grown inside the selling region |
| | localno | Product is grown outside the selling region |
| | unknown | The origin is unknown to the consumer |
| Point of sale (PS) | farmer | The farmer hands you the lettuce directly |
| | seller | A seller who is not necessarily involved in the production hands you the lettuce directly |
| | shelf | You pick the lettuce up from a shelf (e.g. in a supermarket) |
| Crispiness (CRI) | very crispy | This represents a moderate level of crispiness that is to be considered in between very and low crispy levels. |
| | crispy | |
| | less crispy | |
| Method of production (MP) | organic | Lettuce is produced according to EU standards on organic farming (no synthetic chemical inputs allowed in production and postharvest treatment) |
| | conventional | Lettuce is produced in a conventional manner (only legally binding restrictions on production methods apply) |
| Price (€/kilo) | 1.49 (IT) - 0.99 (DE) | |
| | 1.79 (IT) - 1.49 (DE) | |
| | 2.09 (IT) - 1.99 (DE) | |

By using data from the CE, we estimated a Conditional Logit model (CL) and a Latent Class Model (LCM) to capture consumers'

preference heterogeneity using STATA version 13 (StataCorp, 2013). Assuming the error is identically and independently distributed according to an extreme value type 1 distribution, using CL a fixed vector of parameters has been estimated for the selected choice attributes, thus we assumed respondents having homogeneous preferences related to lettuce attributes. In contrast, by means of the LCM we calculated the probability of each respondent belonging to one of four latent classes. In addition, trust and fairness, nationality (German/Italian) and being grown up in a rural area (dummy variable) were used as covariates in the LCM¹¹.

RESULTS

Descriptive Statistics

As shown in Table 3, both the Italian and the German sample show similar characteristics in terms of gender, education and household income: in both cases most respondents are female (51%), educated at a secondary school level and have a net household income of 1.000-3.000€/month. Among the considered age categories, the majority is 35-44 years old in Italy (22%) and 45-54 years old in Germany (22%). Household size is smaller in Germany (2 members on average) than in Italy (three or four people). Interestingly, most the Italian sample (67%) didn't grow up in a rural area, compared to Germany (45%).

¹¹We tried to include some other consumer concerns and socio-demographic information as covariates but we did not include them in our final model due to their insignificance.

Table 3. Socio-demographic statistics

| | | Italy (N=503) | | Germany | |
|---|---------------------------|---------------|----|---------|----|
| | | Freq. | % | Freq. | % |
| Age | 18-24 | 48 | 10 | 50 | 10 |
| | 25-34 | 93 | 18 | 77 | 15 |
| | 35-44 | 113 | 22 | 98 | 20 |
| | 45-54 | 97 | 19 | 112 | 22 |
| | 55-64 | 84 | 17 | 83 | 17 |
| | more than 64 | 68 | 14 | 79 | 16 |
| Region of origin | North West | 132 | 26 | - | - |
| | North East | 99 | 20 | - | - |
| | Center | 108 | 21 | - | - |
| | South/Islands | 164 | 33 | - | - |
| | Nordwest-Deutschland | - | - | 82 | 16 |
| | Nordrhein-Westfalen | - | - | 111 | 22 |
| | Mittleres Westdeutschland | - | - | 67 | 13 |
| | Baden-Württemberg | - | - | 66 | 13 |
| | Bayern | - | - | 74 | 15 |
| | Nordost-Deutschland | - | - | 57 | 11 |
| Mittleres Ostdeutschland | - | - | 42 | 8 | |
| Gender | female | 257 | 51 | 254 | 51 |
| | male | 246 | 49 | 245 | 49 |
| Number of family members | 1 | 44 | 9 | 131 | 26 |
| | 2 | 128 | 25 | 196 | 39 |
| | 3 | 140 | 28 | 89 | 18 |
| | 4 | 142 | 28 | 66 | 13 |
| | 5 or more | 49 | 10 | 17 | 3 |
| Education level | primary school | 50 | 10 | 95 | 19 |
| | secondary school | 258 | 51 | 268 | 54 |
| | university degree | 195 | 39 | 136 | 27 |
| Household monthly income (after taxes) | less than 1.000€ | 64 | 13 | 58 | 12 |
| | 1.000-3.000€ | 316 | 63 | 277 | 56 |
| | 3.000-4.000€ | 84 | 17 | 102 | 20 |
| | 4.000-5.000€ | 22 | 4 | 36 | 7 |
| | more than 5.000€ | 17 | 4 | 26 | 5 |
| Grown-up in rural | yes | 166 | 33 | 276 | 55 |
| | no | 337 | 67 | 223 | 45 |

Interviewees were asked to list up to five products they mainly purchased at FMs (Table 4). In line with the product we chose to investigate (i.e. lettuce), vegetables were the major category in both

countries (24% in Italy and 26% in Germany), followed by fruit (23% and 25% respectively). In addition, respondents also affirmed that they had bought lettuce once a week during the last year both in Italy (27%) and in Germany (37%).

Table 4. Info related to consumer purchasing characteristics

| | | Italy (N=503) | | Germany (N=499) | |
|---|------------------------|---------------|----|-----------------|----|
| | | Freq. | % | Freq. | % |
| Products mainly bought at FMs | Fruit | 436 | 23 | 416 | 25 |
| | Vegetables | 452 | 24 | 434 | 26 |
| | Dairy products | 186 | 10 | 123 | 7 |
| | Meat | 49 | 3 | 142 | 8 |
| | Fish | 19 | 1 | 51 | 3 |
| | Eggs | 202 | 11 | 328 | 19 |
| | Honey | 165 | 9 | 146 | 9 |
| | Oil | 175 | 9 | 20 | 1 |
| | Wine | 116 | 6 | 16 | 1 |
| | Cereals/legumes | 67 | 4 | 13 | 1 |
| How often did you on average buy lettuce within the last year? | Never | 58 | 12 | 10 | 2 |
| | less than once a month | 78 | 16 | 55 | 11 |
| | once a month | 91 | 18 | 67 | 13 |
| | twice a month | 95 | 19 | 113 | 23 |
| | once a week | 135 | 27 | 186 | 37 |
| | more than once a week | 46 | 9 | 68 | 14 |

In the third section of the questionnaire respondents were asked to state their attitudes toward both FMs' trustworthiness and related fairness, as we assumed these could have been potential sources of preference heterogeneity among respondents. Results (Figure 1) show that the majority of both the Italian and German sample exhibit a high agreement with the two proposed statements, showing a high level of fairness and trust concerns related to their purchasing experiences at FMs.

Figure 1. Consumers' trust and fairness concerns (1 = entirely disagree, 7 = entirely agree)



Choice Experiment Analysis

Estimated parameters for CL and LCM are presented in Table 5. In both models, “*unknown*” local origin, “*farmer*”, “*less crispy*” and “*conventional*” represent the reference levels.

Table 5. CL and LCM estimation results

| | Conditional Logit | Latent Class Model | | | |
|-----------------------------|----------------------|----------------------------------|---------------------------------------|-------------------------|-----------------------------------|
| | | Class 1 "Freshness seeker" | Class 2 "Direct contact seeker" | Class "FMs lover" | Class 4 "Bio-local refuser" |
| <i>CE attributes</i> | | | | | |
| localno | 0.032 (0.048) | -0.086 (0.170) | -0.200 (0.162) | 0.216** (0.091) | -0.001 (0.294) |
| localyes | 0.871*** (0.057) | 0.452** (0.198) | 1.565*** (0.184) | 1.082*** (0.118) | 0.564 (0.393) |
| seller | -1.534*** (0.056) | -1.277*** (0.232) | -2.792*** (0.224) | -1.432*** (0.129) | -1.817*** (0.417) |
| shelf | -1.651*** (0.058) | -1.387*** (0.202) | -2.882*** (0.200) | -1.811*** (0.151) | -2.192*** (0.437) |
| crispy | 0.817*** (0.058) | 2.401*** (0.392) | 0.113 (0.202) | 0.698*** (0.142) | 2.677*** (0.504) |
| verycrispy | 1.208*** (0.064) | 3.244*** (0.482) | 0.773*** (0.192) | 1.075*** (0.184) | 2.270*** (0.499) |
| organic | 0.453*** (0.048) | 0.384* (0.193) | 1.100*** (0.152) | 0.767*** (0.133) | 0.074 (0.342) |
| price | -0.684*** (0.073) | -1.810*** (0.485) | 0.564** (0.238) | -0.704*** (0.217) | -2.820*** (0.474) |
| ASC (purchase) | 4.371*** (0.149) | 7.164*** (1.028) | 2.909*** (0.454) | 7.509*** (0.698) | 4.607*** (0.879) |
| <i>Class Prob.</i> | | 0.254 | 0.242 | 0.419 | 0.085 |
| trust | | -0.093 (0.186) | 0.292* (0.170) | 0.583*** (0.162) | |
| fairness | | 0.157 (0.189) | 0.310* (0.180) | -0.247 (0.154) | |
| grownuprur | | 0.387 (0.349) | 0.562* (0.336) | 0.789** (0.313) | |
| germany | | 0.807* (0.426) | -0.861** (0.338) | -1.367*** (0.339) | |
| constant | | -0.066 (0.971) | -2.235** (1.069) | 0.079 (0.929) | |
| <i>Number of obs.</i> | 18036 | | | 18036 | |
| <i>Log likelihood</i> | -5337.2448 | | | -4735.499 | |
| <i>pseudo R²</i> | 0.1919 | | | 0.1916 | |

*Note: Standard errors in parentheses. * Denotes statistical significance at the .10 level. ** Denotes statistical significance at the .05 level. *** Denotes statistical significance at the .01 level.*

According to the CL model, we find that on average respondents from both countries prefer organic (0.45), local (0.87) and fresh (both moderately crispy and very crispy) lettuce and to purchase it directly from the farmer. Indeed, compared to having lettuce handed over by the producer directly (i.e. reference level), the coefficients related to “seller” and “shelf” show a significant but negative effect on choice probability (-1.53 and -1.65, respectively). Consumers also prefer paying a lower price on average, as shown by the significant and negative effect of this attribute (-0.68). Based on our results, we also estimated the marginal WTP (mWTP), as a ratio between the coefficient of each attribute and the estimated price coefficient. Thus, respondents are willing to pay 1.27 €/kilo more for a local lettuce, 0.66 €/kilo more for organic production and 1.76 €/kilo for a higher freshness (i.e. “very crispy”)¹². In addition, when considering to purchase lettuce from a common seller or picking it from the shelf, consumers state to be willing to pay 2.24€/kilo and 2.41€/kilo less, respectively, compared to buying lettuce directly from the farmer. It is worth noting that, as suggested also by Poelmans and Rousseau (2016), such mWTP estimates do not reflect the amounts that consumers actually pay.

We now focus on the latent class model. A four classes LCM was selected for our sample, as the best in terms Bayesian Information Criterion (BIC) proposed by Boxall and Adamowicz (2002) (Ouma et

¹² mWTP for a moderate crispiness is 1.19€/kilo.

al., 2007). The probability of being in class 1, 2, 3 and 4 is 25%, 24%, 42% and 9%, respectively. Each class includes a relatively homogeneous group of respondents with the fourth class representing the baseline. For each class the alternative specific constant (ASC) is positive and significant, showing that purchasing lettuce generates positive consumer utility compared to opting out. To better explain how personal consumer characteristics, influence class membership we included four additional variables in the class equation (2): respondents' trust concern (*trust*), fairness concern (*fairness*), nationality and being grown up in a rural area (*grownuprur*).

In the first class, named "*Freshness seeker*", consumers reveal a strong preference especially for the freshness characteristic, as shown by the significant and positive coefficients of both crispy (2.40) and very crispy (3.24). In addition, they clearly prefer buying local (0.45) and organic (0.38) lettuce from the farmer directly (seller and shelf levels have both negative effect on consumers' purchasing probability).

The second class is named "*Direct contact seeker*" since its members strongly dislike buying lettuce both from a seller (-2.79) and from the shelf (-2.88), compared to having a face-to-face interaction with the farmer. Furthermore, these coefficients show the highest absolute values for this attribute, when compared to the other classes, and this indicates that these consumers are more concerned about the point of sale. In addition, respondents prefer buying lettuce that has been

locally (1.57) and organically (1.10) produced. Finally, they reveal a clear preference for a very fresh product (i.e. very crispy = 0.77), whereas being indifferent if the level of freshness is not very high.

The average probability of individuals in our sample belonging to the third class is 42%. Here, consumers positively value every attribute considered in our choice experiment, including the absence of local origin (0.22). It follows that we refer to this group as “*FMs lover*” because of their overall blind appreciation of such marketing places. Therefore, as in case of a particular adverse season that damaged local production (e.g. yield loss due to bad weather conditions as hail), we can hypothesize these consumers would also buy non-local products, as shown by the apparently controversial significant and positive effect of localno. Compared to unknown origin, respondents are willing to pay a premium price of 0.30 €/kilo for a no-local lettuce, and 1.53 €/kilo for a local product. Both these last considerations lead us to consider the entirety of all the attributes to characterize this third group of respondents, instead of focusing too much on this last apparently controversial evidence (i.e. localno-related significantly positive effect), compared to other classes or to CL evidence as well.

Finally, consumers of the last class, that is named “*Bio-local refuser*”, are indifferent with respect to both local origin and organic production. On the contrary, they show a strong preference for crispiness (both crispy and very crispy show a significant and positive effect of. 2.68 and 2.27, respectively). Compared to having the

product handed over by a farmer directly, these consumers do not like buying lettuce from a seller (-1.82) and especially from a shelf (-2.19). Except for the second class, price is always negative and significant in all classes, showing that consumers prefer to pay a lower price when buying lettuce at FMs.

Related to the second class, the coefficient for price remains puzzling, due to its positive and significant effect (0.56) on choice probabilities, showing that this group is the less price sensitive. Even controlling for income in the class equation did not solve this problem. However, it is possible that respondents in this class may have interpreted price as representing quality (Adamsen et al., 2013; Ouma et al., 2007; Völckner and Hofmann, 2007). In line with this, respondents in the second class, that are characterized by a higher interest in income equal distribution (i.e., fairness) compared to the other classes, may be more willing to shift their expenditure from other consumption goods towards food, in order to contribute to farmers' conditions and livelihood.

We have also included individual specific characteristics to explain class membership. The higher respondents' trust, the more likely they belong to the second class (0.29) and, especially, to the third class (0.58), compared to being in class four. Respondents who declared they grew up in a rural area were more likely to be in the second class (0.56) and especially in the third class (0.79), compared to class four.

Finally, German respondents are more likely to belong to the first class (0.81) and less likely to be in the second (-0.86) and third (-1.37) class, compared to the fourth group.

DISCUSSION AND CONCLUSION

To determine the current consumer profile, this paper attempts to explain the heterogeneity of consumer motivations for food purchasing behavior linked to farmers' markets. In particular, our results provide some insights into how trust and fairness but also being grown up in rural area may impact consumer preference, comparing Italian and German consumers.

Our evidence shows that, on average, consumers of both nationalities stated to trust in buying food at FMs and assigned a positive role to their decision to purchase at FMs in order to support farmers' income. Furthermore, if we consider the perfect homogeneity of preferences in our sample (considering both countries), coefficient values (in absolute terms) from CL estimation reveal that respondents have a clear preference for local, fresh, organically produced green leaf lettuce and with a reasonable price (Govindasamy and Nayga, 1996; Wolf et al., 2005) . In addition, they prefer to have direct contact with the farmer while purchasing at FMs, as suggested also by Giampietri et al. (2016a).

Conversely, when estimating the heterogeneity of consumers' preferences in our sample, we distinguish four different segments,

with the majority of our sample (42%) belonging to the “*FMs lover*” class. Consumers of this group seem to be completely fond of FMs experience overall. Accordingly, we hypothesize that the blind adherence of such consumers to FMs’ atmosphere depends on their obtaining utility from all the characteristics (attributes) and food qualities of farmers’ markets entirely, whereas they do not consider any separate aspect being particularly important (compared to other characteristics) for their choice. Moreover, we find the “Freshness seeker” (i.e. first class) and the “Direct contact seeker” (i.e. second class) groups following, respectively, with a membership probability of about 25% in each segment. These two classes reflect the same evidence of Govindasamy et al. (2002) who found that freshness characteristic and the direct contact with the producer are the most important aspects driving people to purchase at FMs. The last class is made of people indifferent to both product local origin and organic production and it counts for only the 9% of the sample. Generally speaking, we observe a strong significance for the point of sale attribute, with a clear preference for the direct contact with the farmer over the classes (Feagan and Morris, 2009).

Furthermore, related to the renewed emphasis on notions of fairness and trust, we can affirm that consumer trust in the farmer, that is established by personal interactions taking place at FMs (Trobe, 2001), can emphasize consumer participation to FMs. Purchasing at FMs, in turn, has the potential to increase farmer income (Toler et al.,

2009). Accordingly, by shopping at FMs consumers contribute to fairness by enabling the redistribution of income to farmers, enhancing their competitiveness and, at the same time, boosting local economies and social conditions of the communities where they operate (e.g. job creation, barrier to agricultural abandonment in rural areas, reintegration of marginalized farmers) (Hughes and Isengildina-Massa, 2015; Mundler and Laughrea, 2016). Our evidence shows that the higher the trust, the more likely consumers are FMs lovers, e.g. consumers that are concerned with all the qualities and characteristics of such alternative food provision schemes (e.g. product freshness, direct interaction with the producer, availability of locally and organically produced food, etc.) and considering every attribute as important when buying lettuce there.

The higher the fairness, the more likely consumers are considered as direct contact seekers. As mentioned above, face-to-face interactions contribute to create relationships among the actors, built on shared values and ethics (Jarosz, 2008). Such close connections enable consumers being more aware of farmers' conditions to purchase food from growers directly (instead of mainstream markets) in order to contribute to increase their income and livelihood. As a feedback, consumers both learn better what they eat (the well-known farming-food reconnection) and are gratified by their positive social impact (Spiller et al., 2007).

Our findings also let us notice that having a rural background can be integral to consumer perceptions, motivations and preference for FMs, in line with Meyer et al. (2012) and Weatherell et al. (2003). According to this, Carey et al. (2011) affirmed that divergences in consumption patterns can depend on people rurality, with urban consumers showing a more positive attitude toward FMs than rural ones in general; the latter, indeed, are found to be more concerned with the mere purpose of buying food at FMs, whereas urban customers are found to choose these marketing places as an enjoyable activity, in addition to proper food purchasing.

On the basis of our evidence, farmers at FMs may tailor their advertising strategies to successfully target different consumer groups and also to better improve their pricing strategies, according to different characteristics of their products: for instance, our evidences suggest that consumers, in general, are willing to pay a higher premium price for local origin (Darby et al., 2008; Loureiro and Hine, 2002), followed by higher freshness and organic characteristic.

According to our results, German consumers are more likely to be in class 1 ("Freshness Seeker") compared to Italian consumers. On the other hand, Italians were more likely to be in classes two or three, i.e. more concerned with direct contact and farmers' income. These specific preferences suggest a different consumer profile in each of these countries. Therefore, increasing the amount of German consumers shopping at farmers' markets, a priority should be given to

advertising the freshness of products. On the other hand, Italian consumers may be more responsive to communicating the direct contact and the income distribution aspects of farmers markets.

According to our results, trust built on social mechanisms (i.e. direct interactions among producers and consumers) and the related food transparency introduced by FMs are found to be important for consumer purchasing decisions as well as a valid even if partial substitute for other formal mechanisms (e.g. certification schemes, labeling, legal frameworks) (Wang et al., 2015). It follows that it could also successfully mitigate future scandals or scares-related consequences on the agri-food sector. Another major implication that emerges is represented by the evidence that new policy strategies should be built to both implement new trust and maintain the existing public trust toward farmers' markets.

REFERENCES

Adamsen, J.M., Rundle-Thiele, S., Whitty, J.A. (2013). Best-Worst scaling... reflections on presentation, analysis, and lessons learnt from case 3 BWS experiments. *Market & Social Research*, 21, 9–27.

Bavorova, M., Unay-Gailhard, I., Lehberger, M. (2016). Who buys from farmers' markets and farm shops: The case of Germany. *International Journal of Consumer Studies*, 40, 107–114. doi:10.1111/ijcs.12220

Berti, G., Mulligan, C. (2016). Competitiveness of Small Farms and Innovative Food Supply Chains: The Role of Food Hubs in Creating Sustainable Regional and Local Food Systems. *Sustainability*, 8, 616. doi:10.3390/su8070616

Bos, E., Owen, L. (2016). Virtual reconnection: The online spaces of alternative food networks in England. *Journal of Rural Studies*, 45, 1-14. doi:10.1016/j.jrurstud.2016.02.016

Boxall, P.C., Adamowicz, W.L. (2002). Understanding Heterogeneous Preferences in Random Utility Models: A Latent Class Approach. *Environmental and Resource Economics*, 23, 421-446. doi:10.1023/A:1021351721619

Brunori, G., Rossi, A., Guidi, F. (2012). On the New Social Relations around and beyond Food. Analysing Consumers' Role and Action in Gruppi di Acquisto Solidale (Solidarity Purchasing Groups). *Sociologia Ruralis*, 52, 1-30. doi:10.1111/j.1467-9523.2011.00552.x

Carey, L., Bell, P., Duff, A., Sheridan, M., Shields, M. (2011). Farmers' Market consumers: a Scottish perspective. *International Journal of Consumer Studies*, 35, 300–306. doi:10.1111/j.1470-6431.2010.00940.x

Carroll, K.A., Bernard, J.C., Pesek, J.D. (2013). Consumer preferences for tomatoes: the influence of local, organic, and state program promotions by purchasing venue. *Journal of Agricultural and Resource Economics*, 38(3), 379-396.

Chang, J.B., Lusk, J.L. (2009). Fairness and food choice. *Food Policy*, 34, 483-491. doi:10.1016/j.foodpol.2009.08.002

Conner, D., Colasanti, K., Ross, R.B., Smalley, S.B. (2010). Locally Grown Foods and Farmers Markets: Consumer Attitudes and Behaviors. *Sustainability*, 2, 742–756. doi:10.3390/su2030742

Darby, K., Batte, M. T., Ernst, S., Roe, B. (2008). Decomposing local: a conjoint analysis of locally produced foods. *American Journal of Agricultural Economics*, 90(2), 476-486. doi:10.1111/j.1467-8276.2007.01111.x

Ding, Y., Veeman, M.M., Adamowicz, W.L. (2015). Functional food choices: Impacts of trust and health control beliefs on Canadian consumers' choices of canola oil. *Food Policy*, 52, 92-98. doi:10.1016/j.foodpol.2014.12.002

DuPuis, E.M. (2000). Not in my body: BGH and the rise of organic milk. *Agriculture and Human Values*, 17, 285-295. doi:10.1023/A:1007604704026

Poelmans, E., Rousseau, S. (2016). How do chocolate lovers balance taste and ethical considerations? *British Food Journal*, 118, 343–361. doi:10.1108/BFJ-06-2015-0208

Feagan, R.B., Morris, D. (2009). Consumer quest for embeddedness: a case study of the Brantford Farmers' Market. *International Journal of Consumer Studies*, 33, 235-243. doi:10.1111/j.1470-6431.2009.00745.x

Feenstra, G.W. (1997). Local food systems and sustainable communities. *American Journal of Alternative Agriculture*, 12, 28-36. doi:10.1017/S0889189300007165

Forbes, S.L., Cohen, D.A., Cullen, R., Wratten, S.D., Fountain, J. (2009). Consumer attitudes regarding environmentally sustainable wine: an exploratory study of the New Zealand marketplace. *Journal of Cleaner Production*, 17, 1195-1199. doi:10.1016/j.jclepro.2009.04.008

Forssell, S., Lankoski, L. (2015). The sustainability promise of alternative food networks: an examination through “alternative” characteristics. *Agriculture and Human Values*, 32(1), 63-75. doi:10.1007/s10460-014-9516-4

Frewer, L.J., Howard, C., Hedderley, D., Shepherd, R. (1996). What Determines Trust in Information About Food-Related Risks? Underlying Psychological Constructs. *Risk Analysis*, 16, 473-486. doi:10.1111/j.1539-6924.1996.tb01094.x

Gallardo, R.K., Olanie, A., Ordóñez, R., Ostrom, O. (2015). The Use of Electronic Payment Machines at Farmers Markets: Results from a Choice Experiment Study. *International Food and Agribusiness Management Review*, 18, 79–104.

Galli, F., Bartolini, F., Brunori, G., Colombo, L., Gava, O., Grando, S., Marescotti, A. (2015). Sustainability assessment of food supply chains: an application to local and global bread in Italy. *Agricultural and Food Economics*, 3, 1-17. doi:10.1186/s40100-015-0039-0

Gelaw, F., Speelman, S., Van Huylenbroeck, G. (2016). Farmers' marketing preferences in local coffee markets: Evidence from a choice experiment in Ethiopia. *Food Policy*, 61, 92-102. doi:10.1016/j.foodpol.2016.02.006

Giampietri, E., Finco, A., Del Giudice, T. (2016a). Exploring consumers' behaviour towards short food supply chains. *British Food Journal*, 118, 618-631. doi:10.1108/BFJ-04-2015-0168

Giampietri, E., Finco, A., Del Giudice, T. (2015). Exploring consumers' attitude towards purchasing in short food supply chains. *Quality - Access to Success*, 16, 135-141.

Giampietri, E., Koemle, D.B.A., Yu, X., Finco, A. (2016b). Consumers' Sense of Farmers' Markets: Tasting Sustainability or Just Purchasing Food? *Sustainability*, 8, 1157. doi:10.3390/su8111157

Goodman, D. (2004). Rural Europe Redux? Reflections on Alternative Agro-Food Networks and Paradigm Change. *Sociologia Ruralis*, 44, 3–16. doi:10.1111/j.1467-9523.2004.00258.x

Govindasamy, R., Italia, J., Adelaja, A. (2002). Farmers' Markets: Consumer Trends, Preferences, and Characteristics. *Journal of Extension*, 40.

Govindasamy, R., Nayga, R. (1996). Characteristics of Farmer-To-Consumer Direct Market Customers: An Overview. *Journal of Extension*, 34, 34-40.

Grebitus, C., Steiner, B., Veeman, M. (2015). The roles of human values and generalized trust on stated preferences when food is

labeled with environmental footprints: Insights from Germany. *Food Policy*, 52, 84–91. doi:10.1016/j.foodpol.2014.06.011

Grunert, K.G., Hieke, S., Wills, J. (2014). Sustainability labels on food products: Consumer motivation, understanding and use. *Food Policy*, 44, 177-189. doi:10.1016/j.foodpol.2013.12.001

Hartmann, M., Klink, J., Simons, J. (2015). Cause related marketing in the German retail sector: Exploring the role of consumers' trust. *Food Policy*, 52, 108-114. doi:10.1016/j.foodpol.2014.06.012

Hellberg-Bahr, A., Spiller, A. (2012). How to Treat Farmers Fairly? Results of a Farmer Survey. *International Food and Agribusiness Management Review*, 15(3).

Hensher, D.A., Rose, J.M., Greene, W.H. (2005). *Applied Choice Analysis: A Primer*. Cambridge University Press.

Hinrichs, C.C. (2000). Embeddedness and local food systems: notes on two types of direct agricultural market. *Journal of Rural Studies*, 16, 295-303. doi:10.1016/S0743-0167(99)00063-7

Hobbs, J.E., Goddard, E. (2015). Consumers and trust. *Food Policy*, 52, 71-74. doi:10.1016/j.foodpol.2014.10.017

Holloway, L., Kneafsey, M. (2000). Reading the Space of the Framers' Market: A Case Study from the United Kingdom. *Sociologia Ruralis*, 40, 285-299. doi:10.1111/1467-9523.00149

Hughes, D.W., Isengildina-Massa, O. (2015). The economic impact of farmers' markets and a state level locally grown campaign. *Food Policy*, 54, 78–84. doi:10.1016/j.foodpol.2015.05.001

Hunt, A.R. (2007). Consumer interactions and influences on farmers' market vendors. *Renewable Agriculture and Food Systems*, 22, 54-66. doi:10.1017/S1742170507001597

Ilbery, B., Maye, D. (2005). Food supply chains and sustainability: evidence from specialist food producers in the Scottish/English borders. *Land Use Policy*, 22, 331-344. doi:10.1016/j.landusepol.2004.06.002

Irz, X., Leroy, P., Réquillart, V., Solerb, L.-G. (2015). Farmers' Markets and Farm Shops in Germany: is the motivation to buy there the same? (143rd Joint EAAE/AAEA Seminar, March 25-27, 2015, Naples, Italy No. 202721). European Association of Agricultural Economists.

Jarosz, L. (2008). The city in the country: Growing alternative food networks in Metropolitan areas. *Journal of Rural Studies*, 24, 231-244. doi:10.1016/j.jrurstud.2007.10.002

Kirwan, J. (2006). The interpersonal world of direct marketing: Examining conventions of quality at UK farmers' markets. *Journal of Rural Studies*, 22, 301-312. doi:10.1016/j.jrurstud.2005.09.001

Kirwan, J. (2004). Alternative Strategies in the UK Agro-Food System: Interrogating the Alterity of Farmers' Markets. *Sociologia Ruralis*, 44, 395-415. doi:10.1111/j.1467-9523.2004.00283.x

Kloppenburger, J., Jack, Lezberg, S., De Master, K., Stevenson, G., Hendrickson, J. (2000). Tasting Food, Tasting Sustainability: Defining the Attributes of an Alternative Food System with Competent, Ordinary People. *Human Organization*, 59, 177-186. doi:10.17730/humo.59.2.8681677127123543

Kneafsey, M., Venn, L., Schmutz, U., Balázs, B., Trenchard, L., Eyden-Wood, T., Bos, E., Sutton, G. (2013). Short Food Supply Chains and Local Food Systems in the EU. A State of Play of their Socio-Economic Characteristics. (No. Report EUR 25911 EN). European Commission Joint Research Centre, Seville, Spain.

Lancaster, K.J. (1966). A New Approach to Consumer Theory. *Journal of Political Economy*, 74, 132-157.

Lassoued, R., Hobbs, J.E. (2015). Consumer confidence in credence attributes: The role of brand trust. *Food Policy*, 52, 99-107. doi:10.1016/j.foodpol.2014.12.003

Linstrom, H.R. (1978). Farmer-to-Consumer Marketing. United States Department of Agriculture, Economic Research Service, Washington D.C., USA.

Loureiro, M.L., Hine, S. (2002). Discovering Niche Markets: A Comparison of Consumer Willingness to Pay for Local (Colorado Grown), Organic, and GMO-Free Products. *Journal of Agricultural and Applied Economics*, 34, 477-487. doi:10.1017/S1074070800009251

Louviere, J.J., Hensher, D.A., Swait, J.D. (2000). *Stated Choice Methods: Analysis and Applications*. Cambridge University Press.

Low, S., Vogel, S. (2011). *Direct and Intermediated Marketing of Local Foods in the United States* (Economic Research Report No. ERR-128). U. S. Department of Agriculture, Economic Research Service, Washington DC, United States.

Lusk, J.L., Briggeman, B.C. (2009). Food values. *American Journal of Agricultural Economics*, 91(1), 184-196. doi:10.1111/j.1467-8276.2008.01175.x

Marino, D., Cicatiello, C. (2012). *I farmers' market: la mano visibile del mercato. Aspetti economici, sociali e ambientali delle filiere corte*. Franco Angeli, Milan, Italy.

Marsden, T. (1998). New rural territories: Regulating the differentiated rural spaces. *Journal of Rural Studies*, 14, 107-117. doi:10.1016/S0743-0167(97)00041-7

Marsden, T., Banks, J., Bristow, G. (2000). Food Supply Chain Approaches: Exploring their Role in Rural Development. *Sociologia Ruralis*, 40, 424-438. doi:10.1111/1467-9523.00158

Martinez, S.W. (2015). Fresh Apple And Tomato Prices At Direct Marketing Outlets Versus Competing Retailers In The U.S. Mid-Atlantic Region. *Journal of Business & Economics Research* (JBER), 13, 241. doi:10.19030/jber.v13i4.9455

McFadden, D. (1974). Conditional logit analysis of qualitative choice behavior, in: Zarembka, Pe. (Ed.), *Frontiers in Econometrics*. Academic Press, New York, USA, pp. 105-142.

Meyer, S.B., Coveney, J., Henderson, J., Ward, P.R., Taylor, A.W. (2012). Reconnecting Australian consumers and producers: Identifying problems of distrust. *Food Policy*, 37, 634-640. doi:10.1016/j.foodpol.2012.07.005

Migliore, G., Schifani, G., Cembalo, L. (2015). Opening the black box of food quality in the short supply chain: Effects of conventions of quality on consumer choice. *Food Quality and Preference*, 39, 141-146. doi:10.1016/j.foodqual.2014.07.006

Moore, O. (2006). Understanding postorganic fresh fruit and vegetable consumers at participatory farmers' markets in Ireland: reflexivity, trust and social movements. *International Journal of Consumer Studies*, 30, 416–426. doi:10.1111/j.1470-6431.2006.00537.x

Morris, C., Buller, H. (2003). The local food sector: A preliminary assessment of its form and impact in Gloucestershire. *British Food Journal*, 105, 559–566. doi:10.1108/00070700310497318

Mundler, P., Laughrea, S. (2016). The contributions of short food supply chains to territorial development: A study of three Quebec territories. *Journal of Rural Studies*, 45, 218–229. doi:10.1016/j.jrurstud.2016.04.001

Nuttavuthisit, K., Thøgersen, J. (2015). The importance of consumer trust for the emergence of a market for green products: The case of organic food. *Journal of Business Ethics*, 1-15. doi:10.1007/s10551-015-2690-5

OECD/FAO, 2016. OECD-FAO Agricultural Outlook 2016-2025. OECD, FAO, Paris, France.

O’Kane, G., Wijaya, S.Y. (2015). Contribution of Farmers’ Markets to More Socially Sustainable Food Systems: A Pilot Study of a Farmers’ Market in the Australian Capital Territory (ACT), Australia. *Agroecology and Sustainable Food Systems*, 39, 1124–1153. doi:10.1080/21683565.2015.1081858

Onianwa, O.O., Wheelock, G., Mojica, M.N. (2005). An Analysis of the Determinants of Farmer-to-Consumer Direct-Market Shoppers. *Journal of Food Distribution Research*, 36(1), 130-4.

Ortega, D.L., Wang, H.H., Wu, L., Olynk, N.J. (2011). Modeling heterogeneity in consumer preferences for select food safety attributes in China. *Food Policy*, 36, 318–324. doi:10.1016/j.foodpol.2010.11.030

R Core Team (2014). R: A Language and Environment for Statistical Computing. Vienna, Austria.

Ragland, E., Tropp, D. (2009). USDA National Farmers Market Manager Survey 2006. Agricultural Marketing Service, USDA., Washington DC, United States.

Reisch, L., Eberle, U., Lorek, S. (2013). Sustainable food consumption: an overview of contemporary issues and policies. *Sustainability: Science, Practice, & Policy*, 9(2).

Sage, C. (2014). The transition movement and food sovereignty: From local resilience to global engagement in food system transformation. *Journal of Consumer Culture*, 14(2), 254-275. doi:10.1177/1469540514526281

Sage, C. (2003). Social embeddedness and relations of regard:: alternative “good food” networks in south-west Ireland. *Journal of Rural Studies, International Perspectives on Alternative Agro-Food Networks: Quality, Embeddedness, Bio-Politics*, 19, 47–60. doi:10.1016/S0743-0167(02)00044-X

Schneider, S. (2008). Good, Clean, Fair: The Rhetoric of the Slow Food Movement. *College English*, 70, 384–402. doi:10.2307/25472277

Selfa, T., Qazi, J. (2005). Place, taste, or face-to-face? Understanding producer–consumer networks in “local” food systems in Washington State. *Agriculture and Human Values*, 22(4), 451-464. doi:10.1007/s10460-005-3401-0

Spiller, A., Zuhlsdorf, A., Mellin, M. (2007). Farmer-to-Consumer Direct Marketing: The Role of Customer Satisfaction Measurement for Service Innovations, in: 1St International European Forum on Innovation and System Dynamics in Food Networks, Innsbruck, Austria.

Starr, A. (2010). Local Food: A Social Movement? *Cultural Studies ↔ Critical Methodologies*, 10, 479–490. doi:10.1177/1532708610372769

StataCorp (2013). Stata Statistical Software: Release 13. StataCorp LP, College Station, TX.

Thomas, L.N., McIntosh, W.A. (2013). “It Just Tastes Better When It’s In Season”: Understanding Why Locavores Eat Close to Home. *Journal of Hunger & Environmental Nutrition*, 8, 61–72. doi:10.1080/19320248.2012.761572

Thorsøe, M., Kjeldsen, C. (2016). The Constitution of Trust: Function, Configuration and Generation of Trust in Alternative Food Networks. *Sociologia Ruralis*, 56, 157-175. doi:10.1111/soru.12082

Toler, S., Briggeman, B.C., Lusk, J.L., Adams, D.C. (2009). Fairness, Farmers Markets, and Local Production. *American Journal of Agricultural Economics*, 91(5), 1272-1278. doi:10.1111/j.1467-8276.2009.01296.x

Tregear, A. (2011). Progressing knowledge in alternative and local food networks: Critical reflections and a research agenda. *Journal of Rural Studies*, 27, 419-430. doi:10.1016/j.jrurstud.2011.06.003

Trobe, H.L. (2001). Farmers’ markets: consuming local rural produce. *International Journal of Consumer Studies*, 25, 181-192. doi:10.1046/j.1470-6431.2001.00171.x

Tropp, D. (2008). The Growing Role of Local Food Markets: Discussion. *American Journal of Agricultural Economics*, 90(5), 1310-1311. doi:10.1111/j.1467-8276.2008.01222.x

Vassallo, M., Scalvedi, M.L., Saba, A. (2016). Investigating psychosocial determinants in influencing sustainable food consumption in Italy. *International Journal of Consumer Studies*, 40, 422-434. doi:10.1111/ijcs.12268

Verhaegen, I., Van Huylenbroeck, G. (2001). Costs and benefits for farmers participating in innovative marketing channels for quality food products. *Journal of Rural Studies*, 17, 443-456. doi:10.1016/S0743-0167(01)00017-1

Vermeir, I., Verbeke, W. (2006). Sustainable Food Consumption: Exploring the Consumer “Attitude – Behavioral Intention” Gap. *Journal of Agricultural and Environmental ethics*, 19(2), 169-194. doi:10.1007/s10806-005-5485-3

Völckner, F., Hofmann, J. (2007). The price-perceived quality relationship: A meta-analytic review and assessment of its determinants. *Marketing Letters*, 18(3), 181-196.. doi:10.1007/s11002-007-9013-2

Wang, R.Y., Si, Z., Ng, C.N., Scott, S. (2015). The transformation of trust in China’s alternative food networks: disruption, reconstruction, and development. *Ecology and Society*, 20. doi:10.5751/ES-07536-200219

Weatherell, C., Tregear, A., Allinson, J. (2003). In search of the concerned consumer: UK public perceptions of food, farming and buying local. *Journal of Rural Studies*, 19, 233–244. doi:10.1016/S0743-0167(02)00083-9

Wolf, M.M., Spittler, A., Ahern, J. (2005). A Profile of Farmers' Market Consumers and the Perceived Advantages of Produce Sold at Farmers' Markets. *Journal of Food Distribution Research*, 36(1), 192-201.

Yoo, J., Ready, R.C. (2014). Preference heterogeneity for renewable energy technology. *Energy Economics*, 42, 101–114. doi:10.1016/j.eneco.2013.12.007

Zagata, L., Lostak, M. (2012). In Goodness We Trust. The Role of Trust and Institutions Underpinning Trust in the Organic Food Market. *Sociologia Ruralis*, 52, 470–487. doi:10.1111/j.1467-9523.2012.00574.x

Zhang, L., Xu, Y., Oosterveer, P., Mol, A.P.J. (2016). Consumer trust in different food provisioning schemes: evidence from Beijing, China. *Journal of Cleaner Production*, 134, 269-279. doi:10.1016/j.jclepro.2015.09.078

CONCLUSION

Since the last two decades, the development of short food supply chains as opposite to conventional markets, and their growing success among consumers have gained momentum among scholars all over the world. Accordingly, SFSCs have the potential to enhance the sustainability of conventional food systems, in terms of socio-economic equity and environmental and local development.

Nowadays, the SFSCs' growing appeal can be justified by their ability to address new consumers' habits and purchasing motivations that, in line with current post-modern consumerism, are no more merely proper of a rational consumer but extremely heterogeneous in natures, as already mentioned both in the introduction and within many chapters of this research thesis.

Against this backdrop, SFSCs represent an interdisciplinary research field, requiring a new challenge for researchers that are engaged in major leaps in both theoretical and methodological approaches. However, in Italy literature still suffers a lack of an exhaustive framework and a comprehensive assessment of SFSCs' appeal on and benefits for consumers in order to better describe this socio-economic phenomenon, although their increasing in number during the last years.

Due to their recognized benefits on economy, environment and society, further developments of such alternative markets also

represent a strategic objective for sustainability political strategies, as the reformed European Common Agricultural Policy (CAP) for 2014-2020, that defines SFSCs precisely for the first time within its second pillar.

In addition to providing new opportunities for consumers and for farmers, especially for small producers, SFSCs also place some new demands on farmers (e.g., training of marketing skills); similarly, academia is nowadays asked to provide new knowledge on SFSCs to spur and support policy makers to further develop SFSCs, in line with Europe 2020 strategy for a sustainable growth.

Therefore, the root of this research lies in current knowledge-related gap existing in Italy around short food supply chains and in the assumption that shopping at SFSCs (e.g., farmers' markets) can, a priori, be assumed to be desirable but not preferred by consumers. It follows that studying what is behind buying preferences (e.g., values, attitudes, perceptions and preferences) represents a key issue in order to draw a new consumer behavioural profile to improve and support SFSCs' marketing and policy strategies. This research aims at investigating consumer perceptions and behaviour related to purchasing at SFSCs instead of mainstream, standardized and long supply chains (e.g., supermarkets).

A mixed methods approach was adapted to the case study, consisting of a socio-psychological approach, i.e. the Theory of Planned Behaviour, and the more economic consumers choice

experiment belonging to stated preference techniques. Considering also the interdisciplinary nature of current purchasing motivations that lie in postmodern contemporary society and consumption, the use of those two different methodologies proved to be a useful approach to study this specific topic.

This doctoral thesis starts from the four papers based on TPB and focusing on short food supply chains in general and, afterwards, it proceeds with the last two papers based on consumers choice experiment that target one of the examples of SFSCs, namely farmers' markets. Therefore, such work has the ambition to envisage a sort of methodological avant-garde as well as scientific research pathway from some more general insights at the beginning to a more detailed investigation at the end.

In addition, a novelty element of this research emerged from its effort assessing TPB in the context of short food supply chains for the first time, using an explorative analysis (i.e., system of simultaneous equations) first and a confirmatory analysis (i.e., structural equation modeling) later. Moreover, in relation to the explorative analysis among Italian consumers, a comparison between Italy and Brazil was held. However, although most consumer showed positive attitudes and intention towards purchasing at SFSCs, it was not possible to prove that they actually purchased in such alternative food markets. Indeed, TPB provided better results to explain intention than actual behaviour.

Therefore, as already mentioned, based on its preliminary findings this research turned from TPB perspective to economic theory in a second step, with the application of a choice experiment methodology. The aim was to investigate consumer purchasing behaviour related to a specific form of SFSCs more in depth, i.e. farmers' markets (FMs).

To this purpose, also a comparison between Italy and Germany was performed and on a more expanded sample (i.e. no more students). Additionally, two goods related to product categories that are mostly sold at SFSCs were chosen, i.e. apples and lettuce. In addition to merely studying consumer choice probabilities according to different product's attributes, this research tried to take a step forward to contribute to the growing literature studying the alternative food chains' movement. To this purpose, the study analyzed the role of some major aspects on consumer food purchasing preferences that, according to a broad cited literature, are commonly linked to SFSCs, i.e. consumer concerns of sustainability, trust and fairness.

Finally, this research also provided some qualitative assessments related to Italian SFSCs, as most frequently purchased products or consumer purchasing frequency at SFSCs, in order to fill this cognitive gap to better describe such sector.

Based upon this brief research summary, the main evidences follow. Generally speaking, sustainability and food safety, followed by convenience and local development, are mentioned as the main attitudinal determinants of consumer intention to purchase at short

food supply chains. Interestingly, also when comparing Italy and Brazil, consumer concerns as sustainability and food safety represent the major determinants of consumers' intention to purchase at short chains in both countries, although consumers have a different opinion of the role of SFSCs. Accordingly, Italian consumers consider SFSCs as catalyst for new employment opportunities and local development, whereas their role on life quality (e.g. linked to food quality and safety) and wellbeing is stressed by Brazilian respondents. Accordingly, new CAP reform supports the development of SFSCs in Italy, with the broader aim of encouraging the territorial economic development by means of buy local campaigns and promoting local and regional entrepreneurship. On the other hand, it is proved that in Brazil a specific public support for short chains still does not exist; on the contrary, a National Program for Strengthening Family Agriculture (PRONAF) exists, supporting investments, costs and commercialization for familiar agro-industry, but not specifically for short chains, whose role is commonly recognized instead.

In addition to attitudes (e.g., the above-mentioned sustainability), consumer intention to purchase at SFSCs, that has a positive predictive effect on the actual behaviour, depends on both consumers' importance toward purchasing typical food and the deep loyalty with the producer. In addition, the more people who are important to consumers (i.e. social referents as family, friends) approve that they purchase in such alternative agri-food networks, the more consumers

will do it. Finally, food purchase at SFSCs is positively influenced by consumer perception of control over the behaviour, i.e. the easier for consumers to shop at SFSCs, the more they will perform it. On the contrary, it is worth considering that consumer intention does not depend on convenience, proving that people with a higher propensity for money and time saving do not purchase in such alternative markets. The exclusion of convenience as a relevant factor supports the idea that more attention should be paid on other variables when assessing consumer preference for such alternative short chains, including consumer personal gratification which represents one of the major elicited attitudes to predict the intention to purchase food at SFSCs. Furthermore, TPB recognizes also the importance of consumer trust towards purchasing at SFSCs as an additional driver of people intention to perform the behaviour, choosing such alternative chains instead of mainstream markets. Interestingly, also living in a rural area (instead of a city) and consumer habit to purchase fair trade products boast a positive influence in purchasing at SFSCs. It is worth noting that face-to-face relations with farmers, that represent a proper characteristic of SFSCs, can establish personal trust, since they facilitate the information exchange, replace consumers' food-related know-how, and reduce asymmetric information between farmers and consumers.

When purchasing apples at farmers' markets, Italian consumers, on average, prefer local, organic and undamaged products and to buy

them directly from the farmer, instead of a common seller. In addition, they prefer paying a lower price for the good.

Focusing on the role of sustainability concern more in depth, in relation to consumers' purchasing motivations linked to farmers' markets, Italian consumers reveal great concerns around the three sustainability dimensions (i.e. economic, social, environmental). In particular, they assign great importance to the direct contact with producers on average (i.e. the social sphere of sustainability) and they also interestingly state that the major reason to buy organic food, that is commonly related to short food supply chains, is the environmental sustainability impact (i.e. the environmental sustainability dimension) of this production instead of health-related benefits, as opposite to the most part of the literature. However, this is in line with the increasing consumers' reflexivity towards the environmental protection (e.g. production of environmentally-friendly externalities, biodiversity preservation) and valorization. Moreover, consumers show a noteworthy awareness about the positive influence of buying at FMs in supporting farmers' income (i.e. the economic sustainability dimension), being consistent with similar studies; however, a blind adherence to fairness can be denied.

Direct interactions, being part of the social sustainability of these alternative food systems, seem to have a strategic role as they drive consumer preferences. In addition, the direct contact with farmers contributes to design an overall shopping atmosphere that is proper for

FMs and from which, as stated by some other studies, consumers derive some cultural and social benefits, in addition to gain new knowledge about products. In order to complement the more generic marketing and promotion of FMs, this social dimension of such alternative food markets, represented by face-to-face interactions, may be turned into a marketing tool to both influence consumers' lifestyle and achieve farmers' markets (and short food supply chains', more in general) competitiveness. Finally, local origin, that generally represents a key characteristic for consumer preferences, may play a subordinate role for consumers after they established direct interactions with producers, that may represent also a kind of guarantee even for food origin (e.g., traceability).

Both Italian and German consumers show a high level of fairness and trust concerns related to their purchasing experiences at FMs and, as for apples, they prefer organic, local and fresh lettuce and to purchase it directly from the farmer, paying a lower price on average.

Exploring the heterogeneity of consumer motivations related to food purchasing at farmers' markets, consumers can be divided into different groups, depending on whether they reveal a strong preference especially for the freshness characteristic or for the direct contact with the farmer, if they positively consider each attribute related to FMs or if they are indifferent with respect to both local origin and organic production. Although convenience is quite always important when choosing food to purchase, consumers who prefer

having the direct contact with the farmer and with a higher interest in income equal distribution (i.e., fairness) are also less price sensitive: they probably interpret price as representing quality and they are more willing to contribute to farmers' conditions and livelihood. In addition, consumers with a higher trust and grown up in a rural area more likely belong to groups of consumers that prefer the direct contact with the farmer and are concerned with all the qualities and characteristics of such alternative food provision schemes (e.g. product freshness, direct interaction with the producer, availability of locally and organically produced food), being the so-called "FMs' lovers". Consumers, in general, are willing to pay a higher premium price for local origin, followed by higher freshness and organic production. Finally, German consumers are more likely to prefer food freshness characteristic when purchasing at FMs, whereas Italians especially prefer the direct contact with the producer and to contribute, by means of purchasing at alternative agri-food networks, to the equal distribution of incomes within the supply chain, supporting farmers.

Following these main findings, it is worth highlighting that different methodologies and frameworks can be useful to assess food consumer preferences and behaviour, in order to capture all the intrinsic and extrinsic factors that, moderated by consumer concerns, can explain and predict a complex behaviour as food choices. Thus, in the field of short food supply chains, the multidisciplinary approach seems to represent a good source of new knowledge as, from the

economic theory, it lands to socio-psychology in order to better describe all the determinants of consumer's motivations. Assuming or not the rationality on the part of the decision maker can, indeed, disentangle consumer food choice making, in line with current post-modern background and related assumptions. Moreover, it is clear the important role of consumer concerns as sustainability and trust in influencing food purchases at alternative food chains, as well as people renewed emphasis on both traditional marketing patterns (i.e., face-to-face interactions with the producer) and the possibility to contribute to farmers' income while purchasing at fancy and pleasant arenas as short food supply chains. However, while sustainability assessment has been widely investigated, representing a stimulus for both territorial development and marketing strategies, there is a need for more research around the creation and maintenance of consumer trust, being a potential repair for farmers when it comes to food crises (e.g. food safety scandals and scares).

To conclude, although the broader aim of this doctoral thesis was to both provide new knowledge around SFSCs, in order to explain their current increase in the number of participants, and to describe different consumers (i.e., Italy, Germany and Brazil), based on its findings it also created some new consumer typologies, thus providing thoughts and generating new questions which need to be answered further.

My sincere gratitude to Prof. Adele Finco and to Prof. Fabio Verneau, Prof. Teresa Del Giudice and Prof. Xiaohua Yu for their passionate support all over my PhD, as well as their being close in many unforgettable steps.

To many other Professors, I'd name them "giants of knowledge", I had the precious chance to meet and who somehow supported me. To the good words they spent and my teardrops.

To the referees of this thesis who, surprisingly, appreciated my work even more than I've ever done ("I really enjoyed your thesis" one wrote), adding new meaning to my research.

To all the people I met that became somehow important to me and who live just all over the world and in my heart as well. To our shared moments and precious smiles and limitless friendship.

To all the joyful moments of these three colourful years of mine, that will be jealously etched in my memory, and the pain as well. After all, everything and everyone let me build the PhD I am.

To those who appreciated my being sincere and "brave and ambitious", as somebody named me.

To the esteem done and especially received.

To my Family, my closest Friends and my Land: "My North, my South, my East and West, My working week and my Sunday rest, My noon, my midnight, my talk, my song..." (to paraphrase my beloved W.H.Auden).

To my PhD chance, that I tried to honour as a precious mission.

Finally, to my easy work. It was a labour of love!

E.G.