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Short Food Supply Chains in Europe: differences between the EU-15 and EU-13

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Abstract:

The short supply chain is a specific form of circular economy philosophy in agriculture and food processing which contributes to decreasing the environmental burden of production and consumption. There are considerable differences between the levels of development of these systems in the European Union. The aim of the current manuscript is to clarify the socio-economic causes of this contradiction. Applying the approach of institutional economics, based on expert estimations from ten EU member states using the MACTOR method, the authors have determined the influence-dependence relations between relevant actors, and the actor-goal connections in the socio-economic systems relevant for short supply chains in EU member states. It has been proved that in those new member states under examination which joined the EU in 2004, the considerable cost-efficiency advantages of global supply chains paired with the high level of influence of multinational trade companies are, in most cases, more important factors than sustainable development. The most important steps for the development of short supply chains are: (1) increasing food safety by supporting quality control systems in small scale food processors; (2) stricter control on the competitive behaviour of large-scale trading companies; (3) upgrading the marketing strategy of short supply chain partners.

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Keywords: circular economy, food production, institutional economics, Mactor method, strategic analysis, short food supply chain

Introduction

According to Jurgilevich (2016) the “[c]ircular economy regarding the food system implies reducing the amount of waste generated in the food system, [the] reuse of food, utilization of byproducts and food waste, and nutrient recycling. The measures must be implemented both at the producer and consumer levels, and finally in the food waste and surplus management”. The short food supply chain (hereinafter: SFSC) concept should be considered a particular realisation of circular economy philosophy in the agro-food sector (Genovese et al., 2017). According to the definition of Regulation (EU) No 1305/2013, a short supply chain is a supply chain involving a limited number of economic operators, committed to co-operation, local economic development, and close geographical and social relations between producers, processors and consumers. It is worth noting that - rather unusually in legal texts - the definition highlights the importance of social relationships between economic entities in the food chain. In this regulation the EU has declared that “member states should be able to include in their rural development programmes thematic sub-programmes... (which) should concern, among others... short supply chains...” (Regulation EU, 2013). Obviously, the SFSC is a priority of the European Union but there are considerable differences among member states from the point of view of the development of SFSC systems (Kneafsey et al., 2013). The goal of the current paper is the analysis of the causes of these contradictions.

The study is structured as follows: Section 1 reviews the current development of food supply chains in general and SFSC in particular, followed by a description of the relationship between the short supply chain and circular economy concept. Section 2 presents the MACTOR method applied for the analysis of the position of different actors, as well as their strategies and the procedure used to collect expert opinion. Section 3 summarises the most important results of our study by highlighting the characteristic differences between the member states of the European Union, both the - relatively - old (generally more developed) members, and the newer members (generally less developed as a consequence of their historical development path). Section 4 highlights the most important ways of development, focussing on the potential role of economic policy at EU and governmental level.

1. Review of the scientific literature

In the last 50 years the international trade in food and agricultural products has been increasing at an exponential rate, faster than production itself. This process has been fuelled by numerous, interweaving processes, among other things the emerging importance of international companies (Atkins and Bowler, 2016), trade liberalisation (Serrano and Pinilla, 2014; Hejazi et al., 2017), and the increasing use of comparative advantages (McDonald et al., 2015; Mol, 2017). The current agro-food trade system can be characterised as an extremely complex (Margulis, 2013; Clapp, 2014), dynamic (Ivanic and Martin, 2014) web of interactions (Goodman and Wats, 1994; Schipanski, 2016).

The development of short supply chains has attracted considerable attention in the last few decades (Post, 2002; Aubri and Kebir, 2013; Lang and Heasman, 2015) because it is supposed by a high number of experts (Sonesson et al., 2016; Hatt et al., 2016), opinion leaders (Abbots, 2015; Philipov, 2016) and political decision makers (Kneafsey et al., 2013; Selitto et al., 2018) that globalised food trade networks can be characterised by a high level of vulnerability (Smith et al., 2016; Sonnino et al., 2016), a lack of transparency (Roth et al., 2008; Wognum et al., 2011; Trienekens et al., 2012) and that they imply a high level of environmental burden (Longo et al., 2016; Sala et al., 2017). Nevertheless, there are considerable debates on the environmental effect of long supply chains (Coley et al., 2009; Kim et al., 2009; Readon and Zilberman, 2018) and locally produced and consumed products can be seen as an alternative to over-centralised food supply systems (Feagan, 2007; Doernberg, 2016), which are often based on under-payment of agricultural producers (Lloyd, 2017) or the abuse of under-priced natural resources (Beitzen-Heineke et al., 2016; Stefani et al., 2017).

On the other hand, although the sine qua non definition of a short supply chain is the low number of intermediaries, the different sources are rather obscure concerning the exact number of these intermediaries. Marsden et al. (2000) do not offer an upper limit of these organisations, Ilbery and Maye (2006) describe the number of these organisations as “minimal”, or “ideally nil”. Chiffolleau (2013) offers a relatively simple categorisation of short supply chains: (I) direct selling, (1) individual (a) local trade shows and exhibitions (b) selling on the farm (c) local markets (d) shopping basket packages; (2) selling via a collective of producers/consumers (Community Supported Agriculture); (3) associations of agricultural producers, (a) local trade shows and exhibitions; (b) farmers’ markets; (c) market basket, consisting of products of agricultural producers (d) joint selling point; (II) short supply chain (selling by market middlemen or in the absence of producers at the selling point, (1) collective (a) depot or re-seller (b) intermediary of the collective of

producers; (c) selling via producers' cooperatives; (d) selling to the hotel, restaurant, coffee (hereinafter: HORECA) sector (2) individual (via Internet), (b) to the HORECA, (c) selling to retailers.

2. Research methodology

The ultimate aim of our research is to determine (1) the basic stakeholders from the point of view of circular economy development; (2) establish the set of strategies of different stakeholders, concerning the SFSC; (3) based on the systems of interest, determining possible coalitions between stakeholders interested in the practical promotion of the SFSC concept. Our analysis is based on three basic pillars: (1) the institutional economics approach; (2) the concept of strategic planning (Allport 1940, Hannan and Freeman 1984, Dacin et al. 2002,), and (3) principle-agent theory (Eisenhardt 1989). In the opinion of Godet (2000) the so-called "French school of strategy (*école française de stratégie*)" considers the different social systems as a multi-actor game, in which different groups of participants (the actors) are present, and take part with the goal of making their specific interests prevail. This approach has been widely applied in different fields of the analysis of social choices and decision-making processes (Bradfield et al. 2005; Heger and Rohrbeck 2012).

The key concepts of the model is that actors may influence other actors in terms of their potential to apply pressure on other actors directly or indirectly in order to affect their behaviour. The effect of the influence of one actor (A) on another (B) can be expressed as a sum of the direct and indirect influences of actor A on actor B. The algorithm calculates the influence-dependence relations between different actors on the basis of their direct and independent mutual influences. In the next step, the goals of different actors are evaluated, taking into consideration the mobilising force of actors. The results of the analysis have been evaluated and visualised by correspondence analysis. This multivariate method is appropriate for visualising the relations between actors and goals (Savage and Silva. 2013). In the first step of our investigation, face-to-face unstructured expert interviews were conducted to determine the potential actors and their set of goals. The platform of this process was the Tech.food project (southeast-europe.net, 2017). The goal of data collection was to gather expert-estimations on the relative power (influence) of different actors and the attitude of actors towards different strategic aims. The estimation of the intensity of actor-actor as well as actor-goal relationships was made in the framework of expert interviews. The protocol of the interviews are summarised in Annex 1. We consider the researchers who have taken part in the different European debates on the place and role of short supply chains to be experts. The interviews were conducted between 2012 and 2017 in the framework of EU meetings Tech.food, Track_fast, and professional exhibitions such as SIAL (2010, 2012, 2016), Foodapest (2015), and ANUGA (2009).

The most important socio-economic indicators of the respondents are summarised in Table 1. It should be emphasised that with this type of analysis we cannot follow the well-established logic of survey-type opinion research methods because (1) representativeness as a basic postulate of this type of research is not applicable since it is impossible to define the "population", (2) the length of the interviews does not allow us to have a high enough number of respondents to carry out a statistical analysis of the results. At the same time, this research concept seemed to be useful for the analysis of the short food supply chain (SFSC) related actors, their goals and what is at stake regarding the potential benefits of current SFSCs.

The literature definitely supports the application of relatively small sample sizes (in a number of cases this means fewer than 30) because this method can be considered a semi-quantitative one which focuses on the quality of the respondents and their opinions.

Table 1: Basic characteristics of the respondents enrolled in the study (head)

	HU	RO	SL	HR	IT	AU	FR	PT	EE	SK
Gender										
Women	4	4	2	4	6	2	6	2	2	4
Men	8	8	1	2	4	0	6	1	4	6
Type of qualification										
Agriculture	6	1	1	4	2	2	6	1	0	4
Other natural science (e.g. chemistry, biochemistry)	2	2	0	0	1	0	1	2	2	4
Engineering	0	6	1	1	4	0	1	0	0	2
Economics	4	2	1	1	2	0	1	0	4	0
Social sciences (e.g. political science, law)	0	1	0	0	0	0	3	0	0	0
Professional background										
Higher education	8	6	1	2	4	1	0	0	0	4
Scientific research	4	1	1	2	2	0	6	3	0	2
Agricultural production	0	2	1	0	0	1	0	0		2
Food Trade	2	2	0	0	0	0	3	0	6	0
Policy analysis, legislation, politics	1	4	0	0	4	2	0	0	0	2
Professional experience after graduation (years)										
0-5	5	3	0	0	4	2	5	2	2	4
5-20	3	6	1	4	4	0	4	1	4	4
>20	4	3	2	2	2	0	3	0	0	2

HU (Hungary), RO (Romania), SL (Slovenia), HR (Croatia), IT (Italy), AU (Austria), FR (France), PT (Portugal), EE (Estonia), SK (Slovakia)

Source: Authors' own calculation

With the design of the panel of respondents our aim was not to achieve representativeness, because – as a consequence of the wide and diverse sets of stakeholders – this would have been impossible. The high proportion of experts working in higher education and academic research offered a favourable opportunity to obtain the information from experts with a broad overview and a perspective on the area analysed.

3. Results

In first step we determined the set of relevant actors and their goals (Table 2). It is important to highlight that these sets were the same for both groups of countries. In the case of some interviews with experts from old EU member states it was mentioned that the consumer protection organisations should be taken into consideration as separate actors, but

finally it was decided that these consumer protection organisations are specific forms of the expression of the will of their members. The list of actors and their strategic goals are presented in Table 2.

Table 2: Relevant actors and their strategic goals in the establishment of SFSC

Actor		Goal	
National governments	GOV	Sustainable development	SUST
Local governments	MUNICIP	Rural development	RURDEV
Consumers	CONS	Food safety	FOODSAF
Agricultural producers	AGRIC	Increasing product choice	CHOICE
Rural population	RURALPOP	Cheap food	CHEEP
Multinational food processing companies	MULTIPROC	Cost cutting by building up global food supply chains	SUPPLY
Multinational food trade companies	MULTITRADE		
Local food processors	LOCALPROC		
Local food traders	LOCALTRADE		
European Union	EU		

Source: Authors' own calculation

Altogether 10 actors and 6 goals were identified. Arguably, their number could be increased, but this would jeopardise the operability of the research. At the beginning of our investigation it became clear that there are considerable differences between the situation in the former 15 member states of the European Union (hereinafter: FMSEU) and the new member states (hereinafter: NMSEU) joining the EU in or after 2004. In this way we created two different groups of EU member states.

The averages of the influence of different actors on each other are summarised in Table 3. The influencing actor is in the corresponding row, the influenced in the column.

Table 3: Matrix summarises the influence-dependence relations of different actors

	FMSEU	NMSEU	EU	3	3
GOV			MUNICIP		
GOV	0	0	GOV	3	2
MUNIC	1	2	MUNIC	0	0
CONS	1	3	CONS	1	2
AGRPR	1	3	AGRPR	1	3
RURALPOP	1	3	RURALPOP	2	3
MULTI	3	2	MULTI	3	1
MULTITRADE	3	2	MULTITRADE	3	1
LOCALFOOD	1	2	LOCALFOOD	1	3
LOCALTRADE	1	2	LOCALTRADE	1	3

EU	2	2	GOV	1	2
CONSUMER			MUNIC	0	2
GOV	2	2	CONS	0	2
MUNIC	0	0	AGRPR	0	1
CONS	0	0	RURALPOP	0	2
AGRPR	0	1	MULTI	1	1
RURALPOP	0	1	MULTITRADE	0	0
MULTI	3	1	LOCALFOOD	0	0
MULTITRADE	3	1	LOCALTRADE	0	0
LOCALFOOD	1	1	EU	1	2
LOCALTRADE	0	2	LOCALPROC		
EU	2	2	GOV	3	3
AGRARPROD			MUNIC	2	2
GOV	3	2	CONS	1	2
MUNIC	1	1	AGRPR	2	2
CONSUMER	1	1	RURALPOP	2	3
AGRARPROD	0	0	MULTI	0	0
RURALPOP	0	1	MULTITRADE	3	0
MULTI	3	1	LOCALFOOD	0	0
MULTITRADE	0	0	LOCALTRADE	0	2
LOCALFOOD	0	0	EU	2	2
LOCALTRADE	0	1	LOCALTRADE		
EU	3	2	GOV	3	3
RURALPOP			MUNIC	2	2
GOV	2	2	CONS	1	2
MUNIC	2	3	AGRPR	1	2
CONS	0	0	RURALPOP	2	3
AGRPR	0	2	MULTI	0	0
RURALPOP	0	0	MULTITRADE	3	2
MULTI	1	1	LOCALFOOD	0	1
MULTITRADE	0	0	LOCALTRADE	0	0
LOCALFOOD	0	1	EU	2	2
LOCALTRADE	0	0	EU		
EU	2	2	GOV	1	3
MULTIPROC			MUNIC	0	2
GOV	1	2	CONS	0	2
MUNIC	0	2	AGRPR	0	2
CONS	0	2	RURALPOP	0	2
AGRPR	0	1	MULTI	3	1
RURALPOP	0	2	MULTITRADE	3	1
MULTI	0	0	LOCALFOOD	0	1
MULTITRADE	2	1	LOCALTRADE	0	1
LOCALFOOD	0	0	EU	0	0
LOCALTRADE	0	0			
EU	1	2			
MULTITRADE					

Source: Authors' own calculation

The attitude of the different actors towards the goals were relatively similar in both groups of member states (Table 4). The Table shows these relations for NMSEU countries. The only difference is that in the FMSEU the low price of food (CHEAP) received more lower values from different actors.

Table 4: Actor - goal matrix in NMSEU

	SUSTDEV	RERDEV	FOODSAF	PRODCHOIC	CHEAP	LOGI
GOV	3	3	4	2	1	0
MUNIC	3	4	3	1	0	0
CONS	1	1	4	4	2	0
AGRPR	1	3	3	0	0	0
RURALPOP	2	4	4	3	4	0
MULTI	0	0	4	2	0	4
MULTITRADE	0	0	4	3	3	4
LOCALFOOD	1	4	4	4	0	0
LOCALTRADE	1	4	4	4	1	0
EU	4	4	4	3	1	0

Source: Authors' own calculation

The influence-dependence matrices determined on the basis of direct and indirect influences are depicted in Figures 1 and Figure 2.

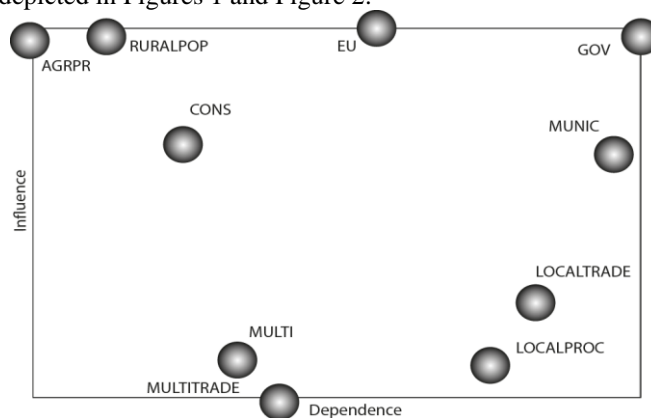


Figure 1: The influence-dependence matrix in FMSEU

Source: Authors' own construction

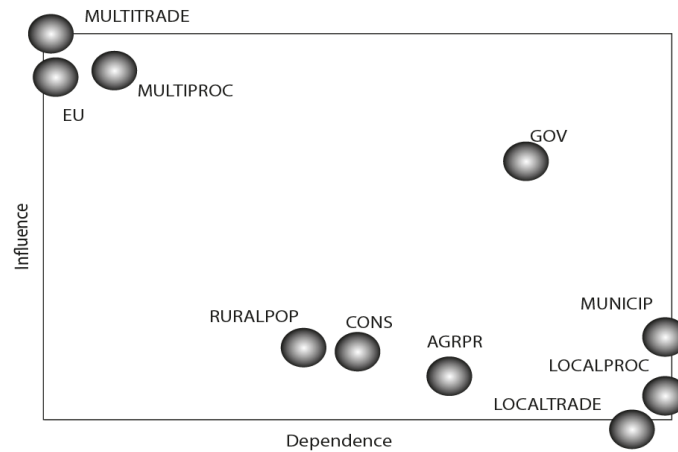


Figure 2: Influence-dependence relations in NMSEU

Source: Authors' own construction

The correspondence analysis between actors and goals (Figure no. 3) highlights a close relationship between the sustainable and rural development, and the agricultural producers, the EU and the municipalities. The concept “cheap products” are close to consumers, as socio-economic actors. Put in another way: in relatively lesser developed countries the low price is one of the most important characteristic feature of products. This is one of the most important cornerstone of strategy of multinational companies, which try to utilise the cost advantage of their global logistical supply chains.

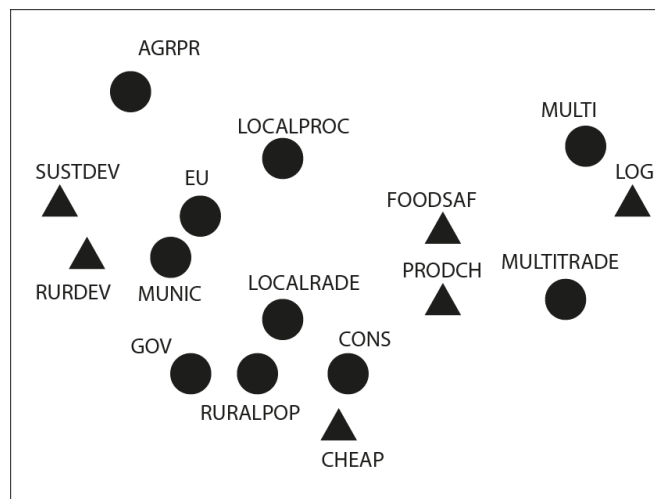


Figure 3: Results of correspondence analysis in NMSEU

Source: Authors' own construction

Conclusions and discussion

The influence-dependence matrices in the FMSEU highlight a considerable level of influence of agricultural producers on the political arena. Interestingly, multinational

companies have a relatively lower level of influence and a higher level of dependence. National governments as well as municipalities have a high level of authority. These results are in line with the literature (Kirwan et al., 2017). On the contrary, in the NMSEU local actors in general, and local food processors and local food traders in particular, have a low level of influence and a high dependence. The perceived influence of the European Union is much higher in the FMSEU than in the NMSEU.

Based on these results it is hard to expect the development of SFSC in the NMSEU. Under these conditions three main recommendations can be made: (1) the NMSEU have tried to enhance their attractiveness to foreign direct investors by following a relatively liberal competition policy (Epstein and Jacoby, 2015). A more consequential policy line designed to defend the interests of small and medium-sized local producers would be highly desirable. (2) Obviously, the enhancement of food safety can be considered a common denominator of the different actors. The local food producers in most cases do not have the necessary financial resources to establish internationally recognised food safety certification systems, which is why these efforts should be promoted and supported by the member states. If this goal can be achieved, there is a favourable possibility for local food producers to become suppliers to multinational trade enterprises. (3) The proliferation of internet-based commerce will open new perspectives for the actors of SFSCs, but their preparedness leaves room for improvement. Consequently, national governments should promote computer-literacy and different methods of internet-based marketing activities among agricultural and food producers, because in this way the traditional, long chains can be bypassed.

Annex 1

PROTOCOL OF INTERVIEW WITH EXPERTS

Researcher: You certainly agree with us that the level of development of short food supply chains (SFSCs) in your country is a result of different stakeholders. In our previous studies we have collected the most important ones. Please, evaluate the direct possibility of the influence of one stakeholder on another by filling out the table as flows, on a 0-4 scale.

0 - no direct influence

1 - actor can eliminate the tactical steps of actor B

2 - actor A can jeopardise/eliminate the projects of actor B

3 - actor A can jeopardise/eliminate the strategic goals of actor B

4 - actor A can substantially influence/dominate actor B

The order of pairs have been determined by the random-number generator of Excel. To avoid any systematic error the order of pairs has been re-grouped after each ten interviews.

Researcher: We have collected a set of goals, which can be important to at least one actor (stakeholder).

In the following table please evaluate the position (attitude) of the different actors towards the different goals on a -4... 0...+4 scale.

-4 the objective is against the vital interest/jeopardises the existence of the actor

-3 the objective jeopardises the strategic mission of actors

-2 the objective jeopardises the tactical goals of the actors

-1 the objective does not match/slightly different from the operative goals of the actor

- 0 the actor's attitude towards the goal is neutral
- 1 the objective falls in line with the operative goals of the actor
- 2 the objective falls in line with the tactical goals of the actor
- 3 the objective considerably supports the strategic goals of the actor
- 4 the objective is a vital interest of the actor

References

- Abbotts, E.J., 2015. The intimacies of industry: Consumer interactions with the stuff of celebrity chefs. *Food, Culture and Society*, 18(2), pp.223-243.
- Allport, F.H., 1940. An event-system theory of collective action: With illustrations from economic and political phenomena and the production of war. *The Journal of Social Psychology*, 11(2), pp.417-445.
- Atkins, P. and Bowler, I., 2016. *Food in society: economy, culture, geography*. London: Hodder Education.
- 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*, 41, pp.85-93.
- Beitzen-Heineke, E.F., Balta-Ozkan, N. and Reefke, H., 2016. The prospects of zero-packaging grocery stores to improve the social and environmental impacts of the food supply chain. *Journal of Cleaner Production*, 140, pp.1528-1541.
- Bradfield, R., Wright, G., Burt, G. Cairns, and Van Der Heijden, K., 2005. The origins and evolution of scenario techniques in long range business planning. *Futures*, 37(8), pp.795-812.
- Chiffolleau, Y., 2008. Les circuits courts de commercialisation en agriculture: diversité et enjeux pour le développement durable. Marechal G., Les circuits courts alimentaires, Dijon, Educagri Editions. Dijon: Educagri Editions.
- Clapp, J., 2014. Financialization, distance and global food politics. *Journal of Peasant Studies*, 41(5), pp.797-814.
- Coley, D., Howard, M. and Winter, M., 2009. Local food, food miles and carbon emissions: A comparison of farm shop and mass distribution approaches. *Food Policy*, 34(2), pp.150-155.
- Dacin, M.T., Goodstein, J. and Scott, W.R., 2002. Institutional theory and institutional change: Introduction to the special research forum. *Academy of Management Journal*, 45(1), pp.45-56.
- Doernberg, A., Zasada, I., Bruszewska, K., Skoczowski, B. r. and Piore, A., 2016. Potentials and limitations of regional organic food supply: A qualitative analysis of two food chain types in the Berlin metropolitan region. *Sustainability*, 8(11), pp.1125.
- Eisenhardt, K.M., 1989. Agency theory: An assessment and review. *Academy of Management Review*, 14(1), pp.57-74.
- Epstein, R.A. and Jacoby, W., 2015. Eastern Enlargement Ten Years On: Transcending the East -West Divide? *Journal of Common Market Studies*, 52(1), pp.1-16.

- Feagan, R., 2007. The place of food: mapping out the 'local' in local food systems. *Progress in Human Geography*, 31(1), pp.23-42.
- Genovese, A., Acquaye, A.A., Figueroa, A. and Koh, S.L. 2017. Sustainable supply chain management and the transition towards a circular economy: Evidence and some applications. *Omega*, 66(4), pp.44-357.
- Godet, M. 2000. How to be rigorous with scenario planning. *Foresight*, 2(1), pp.5-9.
- Goodman, D. and Watts, M., 1994. Reconfiguring the rural or fording the divide? Capitalist restructuring and the global agrofood system. *The Journal of Peasant Studies*, 22(1), pp.1-49.
- Hannan, M.T. and Freeman, J., 1984. Structural inertia and organizational change. *American Sociological Review*, 49(2), pp.149-164.
- Hatt, S., Artu, S., Bredart, D., Lassois, L., Francis, F., Haubruge, E. and Monty, A., 2016. Towards sustainable food systems: the concept of agroecology and how it questions current research practices. A review. *Biotechnologie, Agronomie, Société et Environnement*, 20(s1), pp. 215-224.
- Heger, T. and Rohrbeck, R., 2012. Strategic foresight for collaborative exploration of new business fields. *Technological Forecasting and Social Change*, 79(5), pp.819-831.
- Hejazi, M. and Grant, J.H. and Peterson, E., 2017. Tariff Changes and the Margins of Trade: A Case Study of US Agri-Food Imports. *Journal of Agricultural and Resource Economics*, 42(1), pp.15-29.
- Ilbery, B. and Maye, D., 2006. Retailing local food in the Scottish-English borders: A supply chain perspective. *Geoforum*, 37(3), pp.352-367.
- Ivanic, M. and Martin, W. 2014. Poverty impacts of the volume- based special safeguard mechanism. *Australian Journal of Agricultural and Resource Economics*, 58(4), pp.607-621.
- Jurgilevich, A., Birge, T., Kentala-Lehtonen, J., Korhonen-Kurki, K., Pietikainen, J., Saikku, L. and Schäler, H., 2016. Transition towards circular economy in the food system. *Sustainability*, 8(1), pp.69.
- Kim, Y. G., Eves, A. and Scarles, C., 2009. Building a model of local food consumption on trips and holidays: A grounded theory approach. *International Journal of Hospitality Management*, 28, pp.423-431.
- Kirwan, J., Maye, D. and Brunori, G., 2017. Acknowledging complexity in food supply chains when assessing their performance and sustainability. *Journal of Rural Studies*, 52(1), pp.21-32.
- Kneafsey, M., Venn, L., Schmutz, U., Balázs, B., Trenchard, L., Eyden-Wood, T. and Blackett, M., 2013. *Short food supply chains and local food systems in the EU. A state of play of their socio-economic characteristics. JRC Scientific and Policy Reports. Joint Research Centre Institute for Prospective Technological Studies, European Commission.* Available at: <https://www.researchgate.net/profile/Balint_Balazs4/publication/264388299_Short_Food_Supply_Chains_and_Local_Food_Systems_in_the_EU_A_State_of_Play_of_their_Socio-Economic_Characteristics/links/53db47480cf2631430cb2238.pdf> [Accessed 10

November 2017].

- Lang, T. and Heasman, M., 2015. *Food wars: The global battle for mouths, minds and markets*. New York: Routledge.
- Longo, S., Mistretta, M., Guarino, F. and Cellura, M., 2016. Life Cycle Assessment of organic and conventional apple supply chains in the North of Italy. *Journal of Cleaner Production*, 140, pp.654-663.
- MacDonald, G.K., Brauman, K.A., Sun, S., Carlson, K.M., Cassidy, E.S., Gerber, J.S. and West, P.C., 2015. Rethinking agricultural trade relationships in an era of globalization. *BioScience*, 65(3), pp.275-289.
- Margulis, M.E., 2013. The regime complex for food security: Implications for the global hunger challenge. *Global Governance. A Review of Multilateralism and International Organizations*, 19(1), pp.53-67.
- Marsden, T., Banks, J. and Bristow, G., 2000. Food supply chain approaches: exploring their role in rural development. *Sociologia Ruralis*, 40(4), pp.424-438.
- Mol, A.P.J., 2017. Transparency and value chain sustainability. *Journal of Cleaner Production*, 107(2), pp.154-161.
- Phillipov, M., 2016. Escaping to the country: Media, nostalgia, and the new food industries. *Popular Communication*, 14(2), pp.111-122.
- Post, D.M., 2002. The long and short of food-chain length. *Trends in Ecology and Evolution*, 17(6), pp.269-277.
- Reardon, T. and Zilberman, D., 2018. *Climate smart food supply chains in developing countries in an era of rapid dual change in agrifood systems and the climate*. *Climate Smart Agriculture*, Rome: Springer.
- 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. Available at: <<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32013R1305>> [Accessed 10 November 2017].
- Roth, A.V., Tsay, A.A., Pullman, M.E. and Gray, J.V., 2008. Unraveling the food supply chain: strategic insights from China and the 2007 recalls. *Journal of Supply Chain Management*, 44(1), pp.22-39.
- Sala, S., McLaren, S.J., Notarnicola, B., Saouter, E. and Sonesson, U., 2017. In quest of reducing the environmental impacts of food production and consumption. *Journal of Cleaner Production*, 140, pp.87-398.
- Savage, M. and Silva, E.B., 2013. Field analysis in cultural sociology. *Cultural Sociology*, 7(2), pp.111-126.
- Schipanski, M.E., MacDonald, G.K., Rosenzweig, S., Chappell, M.J., Bennett, E.M., Kerr, R.B. and Lundgren, J.G., 2016. Realizing resilient food systems. *BioScience*, 66(7), pp.600-610.
- Sellitto, M.A., Vial, L.A.M. and Viegas, C.u.V., 2018. Critical success factors in Short Food Supply Chains: Case studies with milk and dairy producers from Italy and Brazil.

Journal of Cleaner Production, 170, pp.1361-1368.

- Serrano, R. and Pinilla, V., 2014. Changes in the structure of world trade in the agri-food industry: the impact of the home market effect and regional liberalization from a long-term perspective, 1963-2010. *Agribusiness*, 30(2), pp.165-183.
- Smith, K., Lawrence, G., MacMahon, A., Muller, J. and Brady, M., 2016. The resilience of long and short food chains: a case study of flooding in Queensland, Australia. *Agriculture and Human Values*, 33(1), pp.45-60.
- Sonesson, U.G., Lorentzon, K., Andersson, A., Barr, U.K., Bertilsson, J., Borch, E. and Gunnarsson, S., 2016. Paths to a sustainable food sector: integrated design and LCA of future food supply chains: the case of pork production in Sweden. *The International Journal of Life Cycle Assessment*, 21(5), pp.664-676.
- Sonnino, R., Marsden, T. and Moragues- Faus, A., 2016. Relationalities and convergences in food security narratives: towards a place- based approach. *Transactions of the Institute of British Geographers*, 41(4), pp.477-489.
- Southeast-europe.net. 2017. *Solutions and interventions for the technological transfer and the innovation of the agro-food sector in South East regions*. Available at: <http://www.southeast-europe.net/en/projects/approved_projects/?id=64 > [Accessed 10 November 2017].
- Stefani, G., Lombardi, G.V., Romano, D. and Cei, L., 2017. Grass Root Collective Action for Territorially Integrated Food Supply Chains: A Case Study from Tuscany. *International Journal on Food System Dynamics*, 8(4), pp.347-362.
- Trienekens, J.H., Wognum, P.M., Beulens, A.J. and van der Vorst, J.G., 2012. Transparency in complex dynamic food supply chains. *Advanced Engineering Informatics*, 26(1), pp.55-65.
- Wognum, P.M.N., Bremmers, H., Trienekens, J.H., van der Vorst, J.G.A.J. and Bloemhof, J.M., 2011. Systems for sustainability and transparency of food supply chains - Current status and challenges. *Advanced Engineering Informatics*, 25(1), pp.65-76.