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ECONOMIC RELATIONS IN EUROPEAN FOOD CHAINS*

Abstract

The study presents an analysis of factors influencing the selection, strengthening and consolidation of good economic relations in the European food chains. Four basic types of economic relations have been established, taking the form of transactions and type of management as the main criteria. These include: spot markets, repeated market transactions with the same supplier-recipient, formal written contracts and financial participation. Empirical material has been gathered in the form of questionnaires in 13 European food chains located in 6 EU Member States: Germany, Ireland, Great Britain, Finland, Spain and Poland.

Among the examined States, formal relations are most common in Finland and Spain; least common: between farmers-processing plants in Ireland.

Among the examined food chains most formalised relations are in the beer chain (mainly between processing plants and retail sellers) and pork chain (farmer-processing plant). Chains involving bakery and beef show significantly lower level of formalised relations.

The results of the study indicate that the main factors determining the quality of relations between the participants of examined food chains are: good communication, personal connections and even distribution of competitive power between business partners of the chain. Also the dependence of quality and sustainability of economic relations on the type of product, country and location of the partners in the chain (level) has been identified. No significant dependence of the nature of economic relations against the type of business connection and level of their formalisation has been identified.

* The article was prepared as a result of research works carried out by an international team under a project financed by the funds of the 6th Framework Programme of the European Union. The project called "Key factors affecting the economic relations and communication in the European food chains" was under implementation in six European Union Member States in the period from March 2005 until May 2008. The authors participated in this project as the employees of Institute of Agricultural and Food Economics – National Research Institute in Warsaw.

Introduction

Global agri-food markets are subject to the slow liberalisation. The process of reduction of trade barriers in the world agri-food markets will most probably continue. Such a conclusion seems exceptionally justified in the light of ongoing negotiations conducted within the World Trade Organization (WTO), however, with some serious difficulties. Affected by global processes and transformations occurring in the Community alone, the Common Agricultural Policy of the European Union also evolves in the direction of a stronger market orientation. It is manifested by a gradual reduction in the set of instruments of the former intervention policy and strengthening the mechanisms stimulating the development of rural areas also in the non-agricultural dimension. It has many serious consequences for the functioning of the European food chains.

The changing Community policy towards agriculture and rural areas becomes increasingly concentrated on the quality and ecology aspects associated with the need to provide the EU consumers with safe food of high quality on the one hand and to ensure environmental protection on the other. It results from the preferences of more and more aware consumers who verify the efficiency and effectiveness of the European supply chains through food purchases made on the retail market. The increasing role of the non-productive functions of the European agriculture changes the conditions of functioning of these chains. One of the important ways determining their ability to adjust to the ongoing changes is the organisation and management method. It is manifested, *inter alia*, in the nature of economic relations upon which the cooperation of partners within a chain is based.

The goal of the analysis consists in the identification of economic, social, cultural and political factors affecting the selection, strengthening and consolidation of good economic relations in the European food chains which from this reason become more efficient and competitive on the market. In particular an attempt was made to answer to the following questions:

- Which factors determine the selection of an economic relation type in a chain?
- Which factors contribute to the development and consolidation of good relations between partners in a chain?
- Under what conditions are the closer business ties appropriate and favourable for the participants of the European food chains?
- Can stronger integrated chains compete in a better way in terms of quality?

Theoretical framework of the study

There are numerous definitions of the food chain in relevant literature¹. Their common attribute is the association (economic relation) between companies and

¹ According to J. van der Vorst [30], this term means a sequence of processes (decisions and implementations) and flows (of materials, money, products and information) oriented at the satisfaction of needs of the final consumer; these processes and flows occur within and between particular chain elements. Ford defines economic relations as a method of interactions occurring between a company and its contractors and/or other organisations as well as mutual behaviour conditions in time [11]. Other researchers claim that a food chain encompasses not only the producers and the suppliers of commodities, but also transport, wholesale and retail sale as well as the consumers themselves.

consecutive processes, based on the flow of product, money and information streams. The links are created in order to improve the efficiency of the entire structure and particular elements thereof by means of reconciliation of conflict of interests occurring between the chain partners. The literature provides proofs of the fact that not only the economic relations, but also the social ones are important for the assurance of success for the chains [16, 31]. The nature and durability of internal B2B relations (business to business) determine the transmission of economic result growth to particular chain elements. The cooperation of entities within a chain – by means of sharing the information, technology transfer and creation of a common development vision – assures all the benefits derived from the vertical integration without the needs of incurring the costs related to the ownership.

Food chains function in specific social and cultural surroundings that also affect the nature and durability of economic relations emerging in the process of interaction and transaction between the companies constituting a chain [9, 18]. This “immersion” in the local socio-cultural environment contributes to the creation of individual corporate culture [31]. At the same time, however, global companies bring a universal culture with themselves. Socio-cultural economics indicates the importance of informal factors, such as culture or conventions, for specific economic behaviour types [17]. Personal ties are important for the development and consolidation of good relations between partners in a chain [14].

In the light of the modern microeconomic theories (information theory, institutional theories, behavioural economics), people usually seek new acceptable solutions instead of the optimal ones [12]. It results in the consolidation of the relations generated in the chains until the achievement of their short-term goals [23]. Durable economic relations perceived as long, steady and mutually beneficial transactions occurring between the chain participants are based upon a common economic interest e.g. the security of supplies and sale outlets, stabilisation of prices and profitability, increased predictability of the operating conditions, lower risk, and an increase in the competitiveness. Such relations are usually characterised by a cooperation strategy, i.e. they are supposed to provide profits to all partners [10]. As regards the actions, people show a lot of sensitivity to unjust distribution of jointly derived benefits. In such a case they strive for an increase in their own prosperity in order to obstruct the prosperity growth of others [12]. The equality of power distribution between the chain partners is, therefore, of major importance for the creation of good and durable economic relations between the participants thereof.

Business and management theories indicate the factors which affect the quality and efficiency of relations in a chain as well as the conditions under which durable relations are developed and maintained. Primarily the following factors are decisive in this respect: *trust* perceived as faith that each partner in the chain will operate for the benefit of the remaining ones, *commitment*, i.e. efforts to continue the relation and loyalty towards the other chain partners; *long-term orientation*, i.e. a conviction that valuable links created within the chain have no satisfactory alternative and will be continued also in the future; *ability to*

resolve conflicts meaning the ability to alleviate the tensions emerging as a result of differences in the interests of an entity and the entire structure so that they will not exceed the critical point causing a dysfunction of the structure; *the power represented in the chain* whose result is the capability of affecting the decisions of partners and the functioning of the entire chain [27].

Food chains can acquire comparative advantages due to the generated relations that become important assets thereof. However, people and organisations maintain mutual economic relations also due to the costs that would arise because of their change. Factors such as: common investments or specific assets involved in the implementation of common measures within the chain contribute to the consolidation of mutual economic links. Greater knowledge about the business environment, better technology, the decrease in the level of insecurity and risk, and a combination of all these things translates into better economic results. On the other hand, many organisations operating in a steady business environment indicate a lesser tendency towards innovations and a lesser flexibility as regards the choice of a development strategy.

Good communication between the partners plays an exceptional role in the creation of economic links in a chain [3, 6, 15]. Difficulties in the communication constitute one of the main reasons of emerging problems [2, 21]. Conflicts arising in common operations to a large extent result from inefficient communication leading to misunderstandings, improper strategies and mutual frustration.

The presented review of the literature concerning the research subject constitutes the theoretical framework within which the construct of the conducted analyses and a methodical structure thereof are encompassed.

Analysis construct and method

Selection of the economic relation type is a result of the influence exerted on the chain by various external and internal factors. External factors include primarily cultural, social, technological, political and general economic aspects. They determine the costs and advantages of the transaction processes and organisational choices. Internal factors (depending on a given chain) such as: prices, competitiveness, market offer structure, etc. affect the initiation and consolidation of business relations by stabilising the prices and profitability, assurance of security of supplies and sale outlets as well as the quality of sold products [21]. Both the external and the internal factors exert an influence on the choice of economic relation type between the participants of food chains. The scope of such relations is vast, ranging from a simple transaction exchange (spot market) to close cooperation of entities and a vertical integration thereof. In other words, the relations between the chain partners can be very simple and can consist in repeated transactions where the parties of such transactions concentrate solely on a prompt exchange of standard products at current prices. They can also be based upon more complicated patterns consisting in sharing information, social ties, joint participation in production and trade processes, mutual commitment to the achievement of long-term benefits [21].

From the point of view of chain management, the relations generated therein between the partners can be of competitive, cooperation or superiority (command) nature. Competitive relations mean that an increase in the profits derived by a single partner occurs at the expense of other chain participants. Cooperative relations should bring benefits to all partners in a chain (a situation in which everyone wins). The interrelations develop between the entities participating in the chain and the conflicts are minimised. In superiority relations, one of the partners makes the remaining ones dependent on him e.g. due to offering a unique product or service, or due to superior bargaining power on the market. The choice of this relation type occurs primarily as a result of the efforts to avoid opportunistic behaviours.

Durable (vital) and sustainable relations between the partners promote the development of effective and competitive food chains. They are defined as: “long-term, steady and mutually beneficial interactions and transactions between the chain participants”. Their foundations constitute joint economic interest (price stabilisation, increase in profitability, security of supplies and sale outlets, trust in the partners, commitment in the joint activity, satisfaction from the cooperation and derived benefits). Durable relations between the partners contribute to the achievement of common goals of a food chain, i.e. the production, processing and sale of food products in an effective manner and according to the market (consumer) demand.

When considering the causative factors exerting major influence on the durability of economic relations in the European food chains, two structural aspects have been taken into consideration, namely:

- the quality of relations constituting the static component characterised mainly by interpersonal factors, such as: trust, commitment, satisfaction;
- relation intensity constituting the dynamic element that is strengthened primarily by means of: costs related to the change of the existing structure, inertia of the entities cooperating in the chain and positive experiences from the previous cooperation with business partners.

Both these aspects are dependent on each other and jointly determine the durability of economic relations between the participants of food chains.

The study includes the following four main types of economic relations that occur between the partners in the European food chains when assuming the form of conducted transactions and the management method as the criteria:

- spot markets – immediate commodity exchange at current prices. Relations between the transaction partners are of single character and the partner identification is not important for the choice of this form of business contacts by a given entity;
- repetitive market transaction – multiple commodity exchange at current prices with the same supplier/recipient. This form of business contacts allows the creation of relations between the partners in a longer term. Therefore, the partner identification is of major importance for mutual contacts;
- formal contracts – commodity exchange with a recipient/supplier at previously set prices (that can, however, be modified over time) on conditions defined

in legal written agreements, either short- or long-term ones. The basis for the relations in this case is the identification of not only the partners alone, but also their mutual obligations resulting from the concluded agreement;

- financial participation – participation in the ownership of partners' assets who, however, remain independent under the law. Relations between the partners based on vertical integration of entities functioning in the chain are also included herein.

Empirical material has been collected by means of survey method in 13 European food chains located in six European Union Member States: Germany, Ireland, Great Britain, Finland, Spain and Poland. 1,442 questionnaires have been collected in total that were correctly filled in by farm holders, managers of food processing plants and retailers operating in the two agri-food subsectors, i.e. the meat and cereal subsector. The survey has been conducted by means of various methods ranging from direct interviews to online questionnaires published on the national websites of the project. In order to encourage the respondents to participate in the survey, the benchmarking technique was used in the study that allows for a comparison of the individual opinions with the general opinions of the representatives of other surveyed entities.

Specific food chains in the countries participating in the survey have been selected for analysis according to the following criteria: adequate importance for the national agri-food sector, coverage by the Community market organisation under the Common Agricultural Policy of the European Union and adjustment to the general construct of the project survey and the goals thereof. The material and geographic scope of the conducted research is presented in Table 1.

Table 1

Analysed food chains		
Agricultural product	Processed product	Country
	fresh pigmeat	Ireland
Swine	gammon	Poland Spain
	sausages	Finland Germany
		Great Britain
Cattle	fresh beef	Ireland Poland
		Germany
Cereals	beer	Great Britain
		Spain
	bread	Finland Germany

Source: "Foodcomm" project programme approved for implementation by the European Commission.

² One of the principles consisted in e.g. the analysis of a given product by at least two countries participating in the study.

The survey that provided the basis for the collection of empirical material was conducted in all thirteen analysed food chains with the use of an uniform questionnaire. It was created according to the needs of designed method of the analysis. The scheme of the structure construct is presented in Figure 1.

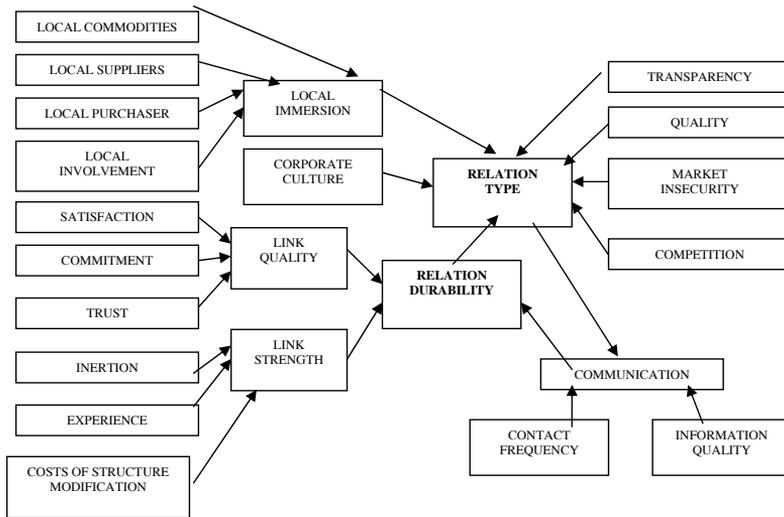


Fig. 1. The accepted determinants of the economic relation types in the analysed European food chains and the durability of these relations

Research hypotheses

On the basis of theories as well as interviews conducted at the initial stage of the research with the experts (economic practitioners) in the field of food chains under the analysis, the following hypotheses concerning the accepted determinants of the selection of economic relation types in the European food chains and their durability have been formulated.

1. Determinants concerning the selection of the relation type:

- H1.1: The entities on quality-oriented markets choose formal rather than informal relation types in the chain.
- H1.2: The need to assure transparency and security within the supply chain leads to the selection of formal rather than informal relation types in the chain.
- H2: The greater competition on the market in which the chain functions, the greater probability of choosing formal relation types.
- H3: The greater inclination to maintain independence in the business, the greater probability of choosing informal relation types in the chain.
- H4: The lesser aversion to taking a risk, the greater inclination towards choosing repetitive market transactions or written contracts as the relation type in the chain rather than spot markets or financial participation.

- H5: The stronger the long-term orientation in business, the lesser the tendency to choose spot markets as the main relation type in the chain.
2. Determinants concerning the durability of economic relations in the chain:
- H6: Communication positively affects the durability of relations in the chain.
- H7: Personal ties have positive impact on the durability of relations in the chain.
- H8: Equal power distribution between the partners positively affects the durability of relations in the chain.
- H9: The greater the “local immersion” of the chain, the greater the durability of relations between the participants thereof.
- H10: The greater competition on the market in which the chain functions, the lesser durability of relations between the participants thereof.
- H11: The greater level of insecurity in business, the lesser durability of relations in the chain.

The tests of the above-mentioned hypotheses have been conducted on the basis of statistical analysis using two-argument and multinomial discrete choice analysis models regarding the economic relation types in the chain and structural equation modelling (SEM) regarding the durability of these relations³.

Research results

Choice of the economic relation type between the partners in the chain

In most analysed food chains the predominant economic relation type turned out to be repetitive market transactions with the same partner. The exceptions are: both Finnish chains (swine-sausage chain in particular) and the British cereals-beer chain, where the formal written contracts predominate as well as the Spanish swine-ham chain in which the predominant basis of relations between their partners is the financial participation (vertical integration of entities participating therein). This type of economic relations between the partners is also important in the Finnish swine-sausage chain. Financial participation is rarely chosen as the basis of business relations between the participants in the analysed supply chains. On the other hand, the relations based on spot market transactions are the most important ones in the British, Irish and Polish cattle-beef chains and the Finnish and Spanish cereals-bread chains.

In order to answer to the question about the factors stimulating the reinforcement of the business links between the participants of food chains, two aggregates of economic relation types in the analysed food chains have been created: (1) informal relations based on spot market transactions and repetitive market transactions with the same partner; (2) formal relations based on written contracts and financial participation. The results have been presented in a breakdown according to the countries and according to the products.

³ The applied analysis methods have been selected by the research team from the University of Bonn. They are presented in more detail in the joint publication of the consortium members entitled “Business relationships and B2B Communication in Selected European Agri-food Chains – First Empirical Evidence” (Fischer C, Hartman M, Bavorowa M, Rockman H., Suvanto H., Viitaharju L., Leat Ph., Roveredo-Giha C, Henchion M., McGee C, Dybowski G., Kobuszyńska M.). *International Food and Agribusiness Management Review*, vol. 11, Issue 2, 2008.

Table 2

Percentage share of various types of economic relations in the analysed food chains
(all relation types in a given chain = 100%)

Countries	Chains	Spot markets	Repetitive market transactions	Formal contracts	Capital participation
Germany	swine-sausage	-	82.9	12.5	4.6
	cereals-beer	-	77.9	22.1	1.0
	cereals-bread	7.7	69.4	8.3	
Finland	swine-sausage	1.1	15.6	51.1	20.0
	cereals-bread	27.3	26.4	35.5	0.9
Great Britain	cereals-beer	5.2	15.6	78.1	1.0
	cattle-beef	49.7	49.6	0.5	0.2
Ireland	swine-pork	0.9	79.1	18.1	1.9
	cattle-beef	31.1	62.8	5.0	0.0
Poland	swine-ham	4.4	69.0	20.6	0.0
	cattle-beef	23.6	59.0	15.5	0.0
Spain	cereals-bread	26.2	71.3	1.3	1.3
	swine-ham	41.0	46.0	10.0	3.0

Source: Own compilation on the basis of Report No. 4 of the FOODCOMM project implementation for the European Commission. Bonn 2008.

It is noticeable that among the analysed countries the largest share of formal relations is recorded in Finland and moreover, in both links of the analysed chains, i.e. farmer-processing plant and processing plant-retailer store. Formal relations are of relatively large importance in Spain, but mainly in the contacts between farmers and processing plants and in Germany in the processing plant-retailer store chain. The lowest level of formalisation is indicated by relations between farmers and processing plants in Ireland and between processing plants and retailers in Spain. In Poland the relations between farmers and processing plants are more formal than between processing plants and retailers.

Table 3

The share of formal relations in the analysed chains according to the countries

Countries	Chain link					
	Farmer-processing plant			Processing plant-retailer		
	n	N	%	n	N	%
Finland	89	156	57.1	29	51	56.9
Spain	93	227	41.0	5	106	4.7
Poland	45	222	20.3	13	102	12.7
Great Britain	38	229	16.6	1	8	12.5
Ireland	4	123	3.3	6	27	22.2
Germany	11	93	11.8	12	43	27.9

N – the total number of collected answers.

n – the number of collected answers concerning formal relations.

Source: Same as in Table 2.

Among the analysed products, the most formal relations are observed in the beer chain. They are more frequent in the processing plant-retailer chain than in the farmer-processing plant one. The more frequent occurrence of formal relations is observed also in the pork chain, in business contacts between the farmers and processing plants. On the other hand, the chains including bread and beef indicate lower shares of formalised relations between the entities participating therein. It can be also stated that the more basic the nature of the final product is (raw beef meat, bread), the less formal links are observed in the chain and vice versa – the more processed product (ham, sausage, beer), the greater the formalisation of relations between the partners in the chain.

Table 4

The share of formal relations in the analysed chains according to the countries

Products	Chain link					
	Farmer-processing plant			Processing plant-retailer		
	n	N	%	n	N	%
Pork	186	368	50.5	28	149	18.8
Beer	37	83	44.6	7	13	53.8
Bread	36	237	15.2	18	96	18.8
Beef	19	356	5.3	12	71	16.9

N – the total number of collected answers.

n – the number of collected answers concerning formal relations.

Source: Same as in Table 2.

As to the factors determining the choice of an economic relation type between the partners in a chain, a larger diversity of the importance and impact thereof was noticeable in the profile of particular countries rather than in the profile of products. These differences are caused to a greater extent by cultural and social factors rather than the economic ones or the ones resulting from the market policy.

On the basis of analysis of average results of the survey collected from 13 food chains in six European Union Member States, four factors have been identified that are essential for the selection of an economic relation type in the analysed chain. They are presented according to the impact criterion.

1. The chain link in which the relations between the partners are established is most important. Formal relation types are more important in business contacts between the processing plants and their recipients (retailers) than between the processing plants and their suppliers (farmers). This means that the closer to the final consumer, the greater the tendency towards coordination of interrelations and business link organisation in more formalised manner.
2. Another important selection factor is short- or long-term company orientation. Long-term-oriented entities prefer the formal relation types, for it allows the cooperating partners to create a reliable legal foundations for planning and securing the future supplies and/or sale outlets as well as implementing a spe-

cific development strategy. Additionally, formal contracts make it possible to formulate the details regarding the transaction and mutual obligations of the entities in a more precise manner.

3. Endeavours to maintain independence represent the next significant factor affecting the choice of relation type in the chain. It lowers the tendency towards the selection of formal relation types in food chains. Independent entities prefer to carry out transactions with suppliers/recipients without formalising the business links, since it assures more flexibility in the process of adjustment to the changing market conditions. This feature is revealed especially in the markets characterised by a high level of insecurity and risk. The managers often lack awareness about the entities' functioning possibilities in closer organised structures without the loss of independence and company's identity.
4. The ever increasing quality standards also strongly affect the choice of business relation type. The higher and higher requirements of food consumers related to this situation allow the food companies to compete in the market by the provision of food products of exceptional quality. Such a situation promotes the choice of formal relation types in food chains that legally guarantee specific quality standards in all links of the value chain. This factor is growing in importance as the only fulfilment of quality standards is ceasing to be a positive distinguishing feature of a product on the market and the competition conditions are becoming harder.

The particular approaches of the detailed analysis, i.e. in the analysed countries and commodity chains, have revealed certain specific features that affect the selection of relation type between the partners in food chains. Formal business relation types are predominant in the Finnish swine-sausage chain. However, they are important also in the Spanish swine-ham chain, British cereals-beer chain, Finnish cereals-bread chain or Irish cattle-beef chain. Therefore neither a country nor a specific product as a single distinguishing factor explains the reasons of selecting the economic relation type between the partners of a given chain. The search for distinctive features of various chains in the analysed countries seems to be essential for comprehending the criteria of such a selection when taking into consideration four causative factors identified under the research.

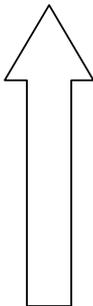
In the swine-ham chain in Spain, the main feature critical for the results thereof is high quality of the product (ham) produced, processed and offered in retail trade. Therefore, the strengthening of specific quality rules and standards in the entire chain is of major importance in this case. As a result, formal relation types between chain links are chosen (vertical integration) that support the achievement of a common goal. This problem is much less important in the Spanish cereals-bread chain that is oriented at the exchange of standard quality products. Formal relation types are in this situation used to a minimal extent.

Cultural differences between the analysed countries turned out to be helpful for the explanation and understanding of the criteria of economic relation selec-

tion in food chains. The analysis shows that the effort towards independence in business is less important in Finland than in the remaining countries. It can provide the explanation for the predominance of formal links in both Finnish food chains. On the other hand, the disinclination to the loss of independence and to common operations, which is typical of Polish companies, determines a high share of informal relation types between the partners in the Polish food chains.

The importance of formal relation types between the partners in the analysed food chain can be presented in the following way.

As a result of the tests of the hypotheses regarding the economic relation types occurring in the analysed supply chains, no reasons for rejecting the H1.1, H3 and H5 hypotheses have been found. The H1.2, H2 and H4 hypotheses have been rejected at the assumed significance level.

 <p>great importance</p> <p>small importance</p>	Finland	swine-sausage
	Spain	swine-gammon
	Great Britain	cereals-beer
	Finland	cereals-bread
	Ireland	cattle-fresh beef
	Germany	cereals-beer
	Germany	cereals-bread
	Poland	cattle-fresh beef
	Poland	swine-gammon
	Germany	swine-sausage
	Great Britain	cattle-fresh beef
	Ireland	swine-pork
	Spain	cereals-bread

The durability (quality and impact) of economic relations between the partners in the chain

On the basis of conducted statistical analysis of the empirical material and the collected results of the tests of research hypotheses concerning durability (quality and impact) of the economic relations in the analysed food chains, some general conclusions can be formulated.

In all the analysed countries, in both sectors (meat and cereals) as well as in various links of the analysed food chains, the general quality of economic relations in the predominant relation type between the participants of these chains is evaluated as relatively good. Generally, the quality of such relations of processing plants with retailers is assessed as higher than the quality of the relations between processing plants and farmers. The general quality of relations with the main business partner (supplier/recipient) was evaluated as higher in the processing plant-retailer link by the respondents than in farmer-processing plant link. In respect of the transactions concerning the trade in agricultural products (farmer-processing plant), the general relation quality was evaluated

as the highest in the British cereals-beer chain, British and Irish cattle-beef chain and Polish swine-ham chain. The lowest quality of the relations was observed in the Spanish cereals-bread chain, Irish swine-pork chain and Finnish swine-sausage chain. The general quality of business relations in the chain encompassing the trade in final products (processing plant-retailer) was evaluated as the highest in the Polish swine-ham chain, Finnish cereals-bread chain and Irish swine-pork chain. The relation quality was evaluated as the lowest in the German swine-sausage and cereals-beer chains as well as in the Spanish cereals-bread chain.

It has been stated that the influence of main factors determining the quality of relations between the participants of analysed food chains (i.e. mutual trust of the business partners, their commitment in cooperation and the satisfaction derived from the functioning within a chain) on the durability of these relations is significant. Higher evaluation degrees in the 7-degree Likert scale have been obtained in relation to all these factors at the aggregated level. On the other hand, the evaluations of the influence of trust, commitment and satisfaction on the durability of relations between the participants of analysed chains in particular value chain links and in relation to particular countries and products turned

Table 5

**Evaluation of the factors determining the quality of relations
with the main supplier/recipient***

Countries	Chains	Farm-processing plant			Processing plant-retailer		
		trust	involve- ment	satis- faction	trust	involve- ment	satis- faction
Germany	swine-sausage	5.70	5.55	5.70	5.40	5.50	5.70
	cereals-beer	5.50	5.50	5.55	5.70	5.90	5.65
	cereals-bread	6.50	6.00	6.25	6.3	5.90	6.30
Finland	swine-sausage	5.35	5.45	5.20	5.85	6.00	5.80
	cereals-bread	5.65	5.30	5.50	6.15	5.90	6.05
Great Britain	cereals-beer	6.10	6.00	6.00	-	-	-
	cattle-beef	5.90	5.80	5.85	5.30	5.30	5.00
Ireland	swine-pork	5.00	5.60	5.30	5.90	6.00	6.05
	cattle-beef	5.80	5.10	5.90	5.60	5.75	6.15
Poland	swine-ham	5.85	5.95	5.75	6.00	6.15	6.15
	cattle-beef	5.60	5.70	5.35	6.00	5.85	5.75
Spain	cereals-bread	5.55	5.45	5.58	5.86	5.79	5.92
	swine-ham	5.75	5.63	5.69	5.98	5.85	5.98

* Evaluation according to the 7-degree Likert scale: 1 = very bad; 7 = very good.

out to be more diverse. However, the evaluation level of the influence exerted by these factors on the economic relation quality in business should be regarded as relatively high.

The research results indicate that the following four variables are statistically significant for defining the durability of these relations: (1) good communication in the chain – its two most important components, i.e. appropriate frequency and quality of transferred information, turned out to be equally important for the consolidation of appropriate business links; (2) occurrence of personal links between the value chain partners; (3) equal bargaining power distribution between the chain participants; (4) the level of "immersion" in the local surrounding in which the chain functions (local nature of products, local contractors, involvement in the local activity).

Table 6

Durability of B2B relations in the analysed chains of the meat sector

Countries	Chain link					
	Farmer-processing plant			Processing plant-retailer		
	Evaluation*	Standard deviation	(n)	Evaluation*	Standard deviation	(n)
Germany	5.8	0.8	(23)	5.2	1.6	(10)
Great Britain	5.7	1.0	(139)	5.2	1.2	(6)
Spain	5.5	0.9	(116)	5.7	0.7	(46)
Poland	5.6	0.8	(208)	6.1	0.6	(99)
Ireland	5.3	1.2	(113)	6.0	0.6	(27)
Finland	5.1	1.0	(71)	5.3	0.6	(9)

* Likert scale: 1 = very poor; 7 = very good.

Source: Same as in Table 5.

Table 7

Durability of B2B relations in the analysed chains of the cereal sector

Countries	Chain link					
	Farmer-processing plant			Processing plant-retailer		
	Evaluation*	Standard deviation	(n)	Evaluation*	Standard deviation	(n)
Germany	5.8	0.8	(59)	5.6	0.9	(28)
Great Britain	6.0	0.8	(60)	7.0	-	(1)
Spain	5.5	0.9	(117)	5.7	0.7	(50)
Poland	-	-	-	-	-	-
Ireland	-	-	-	-	-	-
Finland	5.2	0.9	(82)	6.0	0.7	(9)

* Likert scale: 1 = very poor; 7 = very good.

Source: Same as in Table 5.

The research indicated that the impact of these factors on the durability of economic relations in the chain differs depending on the chain link in which the relations between the partners are established as well as on the country and the product. No significant correlation between the occurrence of good or bad relations in the chain and the selected business relation type has been confirmed. Although the quality of partners' communication is of huge importance in all analysed countries, it is by far highest in Poland, Great Britain and Spain. Communication between the chain participants turns out to be exceptionally important for the durability of relations between processing plants and retailers as well as in the chains created in the meat sector. The occurrence of personal links is of exceptional importance as a factor determining the durability of relations in food chains in Germany, Ireland and Finland. In Spain, on the other hand, this factor is of no importance. Furthermore, personal links turned out to be more important in relations between farmers and processing plants than between processing plants and retailers. Equal power distribution in the chain is important primarily in Germany and – to a lesser extent – in Finland, Spain and Great Britain. On the other hand, it plays no significant role in Ireland and Poland.

The indicators defining the influence of internal determinants on the durability of economic relations in the analysed chains in particular countries are presented in Table 8.

As a result of the conducted statistical testing process, no reasons were found to reject the research hypotheses concerning the internal determinants of the relation durability in the analysed chains (H6, H7, H8). The only hypothesis related to the external determinants of relation durability that was not rejected was hypothesis H9. Hypotheses H10 and H11 turned out to be statistically insignificant – as regards the influence on the relation durability in the analysed chains with the assumed error level.

Table 8

**The impact of internal factors defining the durability of relations
between the partners in the analysed food chains***

Specification	Good communication	Personal links	Equal power distribution in the chain
Finland	0.37	0.30	0.32
Germany	0.29	0.38	0.42
Ireland	0.32	0.36	x
Poland	0.66	0.21	x
Spain	0.48	x	0.24
Great Britain	0.55	0.15	0.18
Farms-processing plants	0.49	0.29	0.15
Processing plants-retailers	0.62	0.10	0.14
Meat sector	0.55	0.26	0.12
Cereal sector	0.46	0.23	0.20

* The higher the indicator, the stronger the influence.

x – no significant relation.

Source: Same as in Table 5.

Conclusions

1. Although the analysis covered both the old Member States of the European Union (Germany, Great Britain, Ireland) and the new ones (Spain, Poland) which had diverse sectoral structures, many of them experienced similar problems resulting from the external surrounding in which food chains functioned. It is indicated by the identified success factors in the process of creation and consolidation of economic relations in these chains.
2. The research indicated that there was no universal model of good relations between the partners in the European food chains. Therefore, it should not be assumed *a priori* that more formalised relations are “better” than the less formalised ones, or that the strengthening of integration in the chain automatically improves the relations between the participants thereof. The conducted analyses allowed, however, identifying the key factors that positively and negatively affect the creation of good and durable business relations within a supply chain.
3. Positive influence of good communication between partners was pointed out by the respondents in all analysed countries. It is especially important in this situation to create mutual trust and commitment of the partners, as well as to guarantee a high quality trade offer of the entire chain and to achieve good economic results. Personal ties play a substantial role in the creation of trust and loyalty between the chain participants in some countries. They are regarded as an important factor of creation and consolidation of relations in Germany, Spain and Great Britain. However, personal relations can be considered on the basis of both professional competence of an entity – in Germany or Great Britain – and partner’s honesty and loyalty – what is particularly important in Poland and Ireland. On the other hand, the ability to solve conflicts arising in the course of common operations is of major importance in Finland and Spain.
4. Long-standing business contacts and positive experiences derived from them are essential for the creation of good and durable relations between the chain partners in Germany and Great Britain. For it allows them to recognize their needs better and adjust the methods of satisfying them as well as to develop efficient methods of communication and solution of current problems. In the chains of high degree of vertical integration, such as the Spanish swine-ham chain or Finnish cereals-bread chain, it also allows for common strategic planning and control of the assets engaged in the common operation which in turn is of small importance in the chains of casual and less formalised structures.
5. The factors adversely affecting the relations between the partners in the analysed chains include inequality in bargaining power distribution. It is connected with the distribution of benefits between the chain participants. According to the research, an important determinant of economic relation quality and durability in the chain in Germany and Finland is equal power distribution of the partners. Equality in the distribution of jointly achieved profits is of key importance in Poland, Great Britain, Spain and Ireland.

6. The analyses indicate that the intense competition on the market on which the chain functions and a high level of risk and insecurity on this market weaken the tendency towards deepening and consolidation of business relations between the participants thereof. Under such conditions, the entities usually strive for the maintenance of more flexibility. It is also connected with the problem of inequality of power distribution among the partners in the chain and efforts of a dominant partner towards improvement of his results at the expense of the remaining partners. In such a situation, the state of competition emerges. It is usually accepted by the entities participating in the chain as long as the advantage of joint operation over individual operations is maintained when taking into account the costs of changing such a state. The relations characterised by the higher degree of formalisation increase the costs of such a change and thus also the inertia of the entire structure. This is why the entities do not endeavour to integrate under the conditions of insecurity and stiff competition.

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