

# Factors Influencing Trust-supporting Mechanisms in European Agri-food Chains<sup>1</sup>

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## Abstract

The role of trust in eight selected agri-food chains in four EU countries is explored and the main factors influencing trust-supporting mechanisms in these chains are described. The literature review focuses on socio-cultural aspects (Socio Cultural Economics), organisational collaboration (Relationship Marketing and Transaction Costs Economics), and the business environment (Interaction Approach and Network Theory). The empirical analysis is based on a qualitative assessment of 28 expert interviews conducted in summer/autumn 2005. The findings suggest that trust is more pronounced among SMEs which are characterised by the existence of personal relationships between business partners. However, as is clear for pork breeders, if a source of distrust exists, trust may not fully develop. Also, if the general economic situation is difficult, the development of trust may be hampered, because all chain participants are struggling to command a share of a diminishing margin within the chain. Finally, if economic power is distributed unevenly, as is the case in Germany, Ireland, Spain and the UK where retailers dominate most chains, trust towards the more powerful may be limited.

**Keywords:** trust, economic relationships, EU, agri-food chains

## 1. Introduction

Growing consumer expectations on the safety, quality and availability of food, along with increasing regulatory requirements and intensifying competition, have encouraged European agribusinesses to reorganise in integrated chains or networks. These structures imply increased mutual dependence and potentially add a new dimension to the risk of business failure, since the performance of a whole chain/network might be jeopardised by a single chain partner.

A key issue for chain/network performance is that if business partners can have trust in each other, contractual arrangements or other forms of transaction integration may be reduced or avoided, thereby reducing business costs (Chiles and McMackin, 1996; Sodano, 2002) and securing

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<sup>1</sup> This publication derives from the research project on 'Key factors influencing economic relationships and communication in European food chains' (FOODCOMM, SSPE-CT-2005-006458) which is funded by the European Commission as part of the Sixth Framework Programme. The collaborating laboratories are: Department of Agricultural and Food Market Research, University of Bonn, Germany (Co-ordinator); Food Marketing Team, Research & Development Division, Scottish Agricultural College (SAC), Aberdeen, UK; Institute for Agricultural Development in Central and Eastern Europe (IAMO), Germany; The Ashtown Food Research Centre (AFRC), Teagasc, Dublin, Ireland; Ruralia Institute, University of Helsinki, Finland; Institute of Agricultural and Food Economics (IAFE), Poland and Department of Agricultural Economics, Agri-Food Research and Technology Center (CITA), Spain.

competitive advantage. In particular transaction cost theory has argued that trust has the important effect of lowering opportunistic behaviour and hence exchange and agency costs (Suh and Kwon, 2003). Chen (2000) proves theoretically that trust and the use of (complete) contracts are inversely related to each other: not only can trust save contract costs, it may also realise gains from trade that are otherwise unattainable.<sup>2</sup> Chen's model also confirms what is frequently observed: trust is widely relied on in transactions involving relatively low monetary value and considerable resources are sometimes used in structuring contracts when the transactions involved have a relatively high monetary value.

Trust, of some level, is a prerequisite for exchange. It is the inter-personal reliance gained from past experience and it differs from confidence because trust requires a previous engagement on a person's account, recognizing and accepting that risk exists (Luhmann, 1988). That is, trust is a relationship-based concept, which is created, reinforced, or decreased by bilateral, relational activities in a series of economic exchanges. Trust, therefore is distinctive to something involving goodwill. Trust is frequently defined as a willingness to take risk (Johnson-George and Swap, 1982; Kee and Knox, 1970; Mayer et al., 1995; Williamson, 1993). Trust is warranted when the expected gain from placing oneself at risk by another is positive, and the decision to accept such a risk is taken to imply trust (Williamson, 1993). Trust involves the sub-dimensions of honesty, benevolence and competence (Anderson and Narus, 1990; Geyskens et al., 1998). Dapiran and Hogarth-Scott (2003) perceive it as a co-ordinating mechanism based on shared norms and collaboration within an uncertain environment. In the literature, sometimes different types of trust are described such as 'contractual', 'competence' and 'goodwill trust' (Sako, 1992)<sup>3</sup>, as well as 'process-based' trust (Ali and Birley, 1998).

Given the importance of trust as an underlying source of competitive advantage, the question arises as to the determinants of trust-supporting mechanisms in business chains or networks. A few previous studies have already analysed some factors affecting the level of trust in supply chain in a general setting. For instance, Kwon and Suh (2004) find that a firm's trust in its supply partner is highly positively associated with both sides' specific asset investments and negatively with behavioural uncertainty, which in turn can be improved by information sharing (i.e., communication). The literature on this particular issue in the context of agri-food chains/networks is much scarcer. However, in the case of an Australian fresh fruit and vegetable chain, Batt (2003) finds that trust is facilitated where growers and market agents share similar goals and where the latter are prepared to invest in their relationship with the grower. Conversely, the market agents propensity to act opportunistically, to exercise power and withhold information from the grower is found to have a significant negative impact.

This paper explores the role of trust in selected agri-food chains in four EU countries and tries to identify the main factors which influence trust-supporting mechanisms in these chains. It is based on a qualitative assessment of 28 expert interviews conducted in summer/autumn 2005. After this introduction, the recent management/microeconomic literature dealing with trust in business chain and networks is reviewed. Section three describes the methodology used and discusses the main results. The last section concludes.

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<sup>2</sup> This outcome is related to the "lemons problem" in models of adverse selection (Akerlof, 1970). If exchange parties can only rely on complete contracts to trade, and if the cost of enforcing high quality in a complete contract is sufficiently high, then only low quality will prevail in the market.

<sup>3</sup> Contractual trust emerges when each partner will follow any written or oral contract. Competence trust refers to the ability of the partner to complete its tasks to a given standard whilst goodwill trust corresponds to the situation where a partner driven by mutual benefits does more than expected and goes beyond predictability and the agreements of a contract.

## 2. Review of literature

In recent times trust has received increased attention from the economics and marketing disciplines to explain new market structures, strategies and exchange mechanisms in supply chains. The role of trust in exchanges has been studied from a wide range of theoretical perspectives comprising modern business/management and microeconomic theories. This literature review gives an overview of major scientific approaches providing the variety of views on trust and its influencing factors. Distinction is made between approaches that focus on socio-cultural aspects (Socio Cultural Economics), organizational collaboration (Relationship Marketing and Transaction Costs Economics), and the business environment (Interaction Approach and Network Theory). These theories are now briefly reviewed with regard to their perspectives on trust.

Granovetter (1985) stressed the role of social relations in generating the trust necessary for economic transactions to take place. Social embeddedness encapsulates the idea that economic behaviour is embedded in, and mediated by, a complex and extensive web of social relations, and may strengthen the coordination and sustainability of food supply activity. In the case of food supply networks, both economic relations and social ones (such as local ties, trust and friendship) are seen as vital for success (Hinrichs, 1998; Winter, 2003). Cultural influences, both external to the firm and internal, are part of the embedding features. Freytag (2004) asserts that organisational culture shows itself in management style, structure and conduct, and that it influences both internal and external relations. Examining UK and US supply relationships, Hughes (1996) concluded that business cultures are forged and constantly evolved through human agency, and that this agency is itself situated in a wider competitive process. Consequently, such relations must be understood in terms of their historical and geographical specificity, including their own regulatory context. Thus the development of trust derives from a complex interaction of socio-cultural influences.

Relationship marketing (RM), which emerged in the 1980s, stresses the importance of building longer-term relationships with customers rather than carrying out individual transactions (Sheth and Parvatar, 1995). At the core of RM is the notion of customer retention. According to Grönroos (1989), RM is a mutual exchange and fulfilment of promises: it is through making promises and keeping them that trust develops, and out of trust that long-term relationships grow. Given that building business relationships involves effort and dependency (i.e., costs in a broader sense) the mutual decision to engage in such relationships will only be made if perceived benefits are larger than involved costs (Weiber, 1997). RM theory deals in particular with the costs for terminating a relationship. These are called 'switching costs' which arise when a relationship with an existing party ('out-partner') is replaced by one with another party ('in-partner') (Plinke, 1997). Factors influencing switching costs are trust, resource specificity and satisfaction (Press, 1997). The higher the sum of all three factors, the higher the switching costs will be, and the higher the commitment to a long-term relationship. High degrees of trust in an out-partner may imply that a similar trust level is required for an in-partner, thus potentially leading to higher levels of search and contracting costs. Factors which influence trust have not been analysed explicitly within RM theory. However, Sharma and Sheth (1997) suggest a framework for analysing the general connection between national culture and relationship orientation. They use Hofstede's (1991) cultural dimensions (individualism, power distance, masculinity, uncertainty avoidance and long-term orientation) to deduce which national culture, a priori, facilitates relationship orientation. Individualism and masculinity are said to decrease relationship orientation, while relatively higher levels of power distance, uncertainty avoidance and long-term orientation are thought to increase it. As for trust, it may be hypothesised that higher degrees of uncertainty avoidance, power distance and individualism may be negatively related to the relative prevalence of trust, while long-term orientation may positively affect it.

In more economic oriented disciplines, trust is generated by the economic calculus of self-interest seeking actors (Williamson, 1993). Transaction Cost Theory analyses the comparative costs of planning, adapting and monitoring transactions under alternative governance structures. The basic idea of the theory is to align transactions with governance structure in such a way that production and transaction costs are minimized. Williamson (1993) argues that given bounded rationality and opportunism, three factors determine the optimal type of governance structure for a transaction: asset specificity, uncertainty, and frequency of transaction. In transaction cost economics, trust is encouraged by mutual hostages, and builds on reputation effects and risks (Williamson, 1993). Trust is assumed to reduce opportunistic behaviour, and hence transaction costs of exchanges, resulting in more efficient governance. If trust lowers transaction costs it might make contracts preferable to other organizational forms like vertical integration.

The Interaction Approach looks at the importance of intra- and inter-firm vertical relationships and the environment within which they occur. The theory argues that the exchange process in the business market is a matter of interaction, and that the interaction exists within a wider context which both influences and is influenced by the interaction. It comprises four basic elements: (1) the interaction process; (2) the participants in the interaction process; (3) the environment within which interaction takes place; and (4) the atmosphere affecting and affected by the interaction. In the approach, short-term exchange episodes involving product-service, financial, information and social exchange are separated from longer-term processes of “adaptations” and “institutionalisation”. Adaptations are relationship investments specific to the relationship. Trust is a key component in determining the level of investment in a relationship (Morgan and Hunt, 1994). While adaptations are not always balanced between two companies, no relationship can evolve over time without at least some. Furthermore, adaptations create mutual dependence and have opportunity costs. Institutionalisation occurs when uncertainty has been reduced, so that routine ways of dealing with partners have been created that may not be questioned by either party. Paradoxically this reduction in uncertainty can create problems, as these routines may have more in common with the traditions of an industry or a market, rather than rational decision-making by either of the parties (Ford, 1978, cited in IMP group 1982). Thus they can make a seller unresponsive to the changing requirements of its customers (Ford, 1980). An important concept in the approach is mutuality, which is the mirror of trust, and is based on the assumption that different parties, at least to some extent, share common goals and interests (Ford et al., 1986). It describes how the parties handle relations between their respective and common interests. Interaction may be dominated by the self-interests of the parties, such as in one-off price negotiation, or it may be based on a view of mutual interest, such as in joint negotiations with a third party.

Network theory looks at the overall structure of relationships (vertical and horizontal) in which firms are embedded on the basis that firms are immersed in a web of linkages that both facilitate and constrain them by guiding their interest and ability to take actions (Powell, 1990). The behaviour and expectations of actors involved in the network are constrained by the degree to which their relationships are inbuilt within the network structure (Omta et al., 2001). The firms obtain benefits in terms of information and access to resources, allowing the development and exploitation of opportunities not accessible to them otherwise. For Powell (1990), the actors involved in the network decline the right to pursue their own interest at the expense of others. Because transactions are interconnected, trust and reputation become key concepts in network theory (Trienekens and Beulen, 2001; Uzzi, 1997). The network is characterized by reciprocal relationships between network participants in which informal information sharing and trust building tools are crucial. Trust refers to the shared belief that in the long run rewards will be distributed fairly among the partners (Barney and Hansen, 1994). Trust reduces the perception of risk associated with opportunistic behaviour, encourages effective communication and information sharing, and might

create strong social bonds (Pimentel, 2004). For Zylbersztajn (2004), there could be trustless networks if there are institutional support rules that replace trust and personal ties to enable complex transactions.

Figure 1 summarises some of the overall issues to emerge from the literature review. Economic relationships are embedded in and moderated by wider social, cultural, economic and policy considerations. Trust and commitment are essential to good relationships, and these along with satisfaction are reinforced by good economic relationships. Good economic relationships in turn lead to improved chain competitiveness and vice versa. Communication in various forms is seen as integral to the improvement of both chain performance and trust. This is because it aids transparency in terms of: the business environment faced by the chain; the construction of price in relation to quality and other factors; the costs faced by participants; and what constitutes good practice and performance, thus providing a route to chain improvement. Moreover, regular communication between exchange partners, especially that of a more personal nature, builds a feeling of ‘closeness’ and ‘trust’ as well as helping to reduce conflict, improve co-ordination and build commitment.

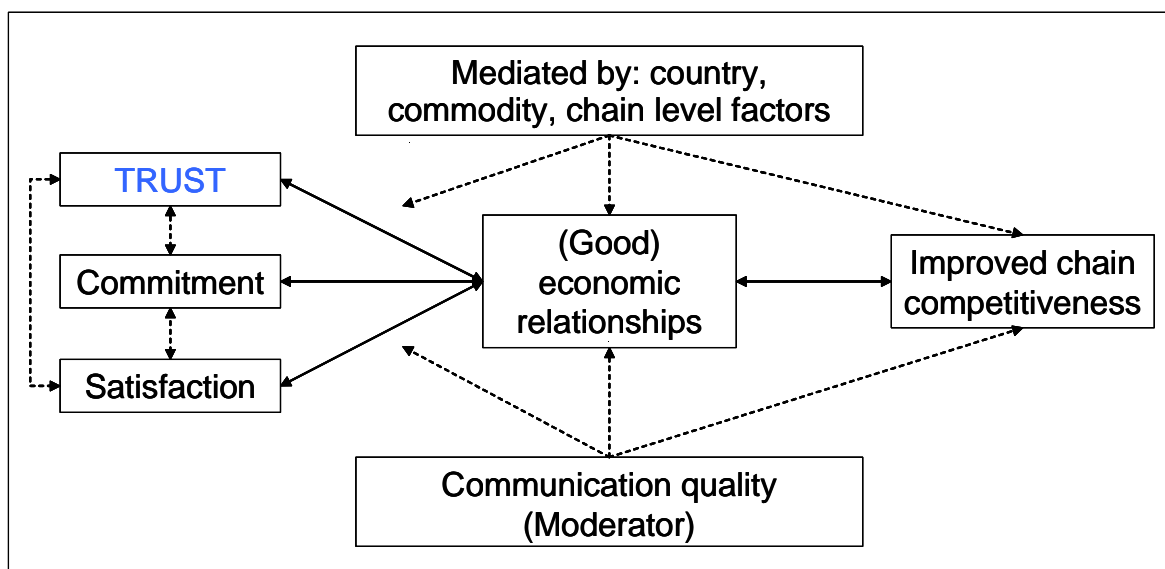


Figure 1: The role of trust in agri-food chains. (Source: authors’ draft)

### 3. Methodology and results

Desk-based research using existing literature and data was undertaken to review and evaluate the four study countries in terms of social, cultural, economic and political factors (potentially) influencing economic relationships and communication, with a focus on the food chain environment of the selected commodities. The countries analysed are Germany, Ireland, Spain and the UK whilst the agri-food chains analysed are barley to beer, cattle to beef, pig to pigmeat, cured ham and sausage, and cereals to bread. Desk research was complemented by primary data collection involving expert interviews during summer/autumn 2005. Face-to-face interviews were the preferred data collection method, however the telephone was used where the preferred method was impracticable for logistical reasons or not possible due to constraints on the part of the interviewee. A semi-structured interview guide was used to explore the chain environment, the nature of chain relationships and the influences on their development, the nature and importance of chain communication, the role of institutions in chain regulation and development, and features of chain performance. On average each interview lasted an hour.

Interviewees were selected because of their ability to comment on the organisation and functioning of their sectoral chains. In total 28 experts were interviewed. These were largely senior executives or directors of representative or trade associations and some were senior personnel in significant enterprises in the respective countries. A list of interviewees is presented in Appendix 1.

Whilst the interviews produced a wide range of useful information, the focus here is on the role of trust within agri-food chains. The results of two chains are reported for each country with each product sector examined in two countries with the exception of cereals to bread, which is only examined in Spain and pigs to pigmeat, which is examined in three countries. Partners selected product sectors for analysis on the basis of importance to their respective national economies. Importance was determined on the basis of factors such as percentage of output, export orientation and growth.

#### *Germany – pigs to sausage chain*

Pig farmers in general feature a “healthy distrust” attitude towards their business partners. Upstream, their suspicion towards feed suppliers results from their perception of being “wooded” by commercial feed agents. The main reason for the lack of trust regarding their downstream partners is the limited transparency regarding the grading of fattening pigs and the related invoicing. Processors, in general, fear that hidden information exists regarding the quality (above all the fat content) of the fattening pigs provided by suppliers.

With respect to distributors, processors’ trust in them depends on their overall reputation. For retailers, the political environment regarding health risks and food safety has become more demanding as product liability regulation is enforced more strictly. Thus private label sellers generally aim to reduce liability risks by tending to prefer “control” over “trust” regarding their product manufacturers. As a result, suppliers are increasingly under pressure to comply with the quality specifications of retailers, which does not help to improve strained relationships. Overall, distrust seems to be distributed evenly across sausage chain actors.

#### *Germany – barley to beer chain*

Malting barley farmers in general rate highly the importance of personal relationships. In particular, personal relationships between farmers and barley traders have led to joint economic actions. For instance, besides conducting business with each other, farmers arrange the joint acquisition of costly machinery with traders (i.e., both sides engage in specific asset investments). Overall, farmers’ trust in maltsters varies depending on the latter’s size, past experience and existing relationship management initiatives. As brewers are experiencing a decrease in profits due to an increase of production costs and a reduction of real beer prices, trust is marked by economic tensions.

While upstream “healthy distrust” exists, brewers trust food retailers least. For instance, under-priced kegs sold by food retailers to catering enterprises can undermine existing beer delivery contracts between brewers and pubs. Since beer wholesalers in general do not try to bypass the existing delivery contracts, processors trust them more. For distributors and brewers alike beer has become an uncertain market as per capita consumption has decreased and global and domestic players have started conducting acquisitions of beer makers and outlet channels in Germany. Therefore, currently, comparatively high levels of distrust exist in the whole chain. However, contrary to the pig sausage chain, overall it appears that trust is more prevalent and personal relationships are more significant upstream.

### *Ireland – cattle to beef chain*

The business environment for Irish beef has changed dramatically in recent years with significant implications for farmer-processor relationships in particular. Historically Irish beef producer-processor relationships were transaction-based with price the main transaction issue. However, with CAP reform and the need to develop alternative outlets to intervention, there is evidence of closer relationships developing between producers and processors as a means of accessing specific commercial markets. These new relationships are based on verbal agreements covering product specifications including production methods, e.g., feeding and management regimes, and price. Specific investments are generally required in these relationships. Such specific investments may include financial investments in housing and feeding equipment by a farmer and investment in providing management and nutritional advice to the farmer on the part of the processor. They depend on past experience involving mutually satisfying past exchanges, so that trust has been developed to a level of trust sufficient to induce these investments. Whilst unbalanced in terms of level of risk, these specific investments create some mutual dependence and trust, and allow the processor to develop sustainable markets abroad. Research for this paper estimates that 10% of Irish beef slaughterings are now based on such types of relationships. This figure is slowly increasing however there is still a quite a high level of mistrust between farmers and processors in the sector with occasional allegations by farmers of price collusion between processors.

Processor-retailer relationships involving multiple retailers are generally quite exclusive and are frequently called ‘partnerships’ by the trade press and the involved parties. The retail sector in Ireland and in the UK, Ireland’s main export destination for beef, is highly concentrated, which means that such partnerships are generally directed by the multiple retailers who have considerable power, i.e., they act as the chain captain. Switching costs in such relationships tend to be high as processors generally adapt to retailers’ requirements and make specific investments to maintain and develop the relationships. Relationships involving independent retail outlets generally involve processors of much smaller scale than those dealing with multiple retailers. Such relationships are usually long-term in nature with personal relations having a significant influence in supporting trust.

### *Ireland – pigs to pigmeat chain*

Producer-processor relationships are characterised by a lack of trust in the Irish pigmeat sector. A lack of price transparency is one of the reasons for this. Whilst pigs are sold to the slaughterhouse on a deadweight grading basis (with lean meat percentage within a specified weight range the grading criteria), Tuite (2003) found that the base price for pigs varied between 81% and 89% of the net delivered price paid during a week (mid-August 2003). He believes that there is a need for an industry-wide drive to increase the base price and reduce the size of bonuses as the latter can be altered by the slaughterhouse without any reference to market conditions. These relationships are also characterised by an absence of contracts. Transaction costs associated with enforcement are a significant barrier to contracts. Scarce supplies mean that processors cannot afford the negative publicity associated with enforcing contracts. Another reason is the high reliance of the industry on the domestic and UK market (almost 90% of output is destined for these two markets) which have broadly similar requirements. Thus, unlike the beef industry, there is no need for the contract production and associated specific investments to suit specific markets.

In relationships between processors and retailers/catering there are moderate to fairly high degrees of trust, stable networks and regular and repeated streams of transactions. The large volume traded by the big retailers creates a mutual dependence, where the processor becomes dependent on a few large customers but the retailer depends on its preferred supplier for safe, reliable and timely deliveries. Retailers regard their relationships with processors as close and quite open. Some retailers share information on end users based on their sales data with processors, especially in cases where processors supply products to the retailer’s private labels. Information flow may also be high

where value-added products are being produced, as dealing in value-added pork products typically requires the processor to conform to retailers' specific quality assurance schemes and to invest in retailer specific processing and product development. The trust and commitment in the relationship can ensure that such transaction-specific investments are being carried out, the effect of which is higher switching costs.

#### *Spain – pigs to cured ham chain*

In the swine to cured ham chain in Spain, reputation is an important source of trust, and becomes more relevant upstream, at the producer and processing level. Farmer-to-farmer relationships are based on friendship. Farmers tend to concentrate and consolidate into fewer and larger farms, organised either as private corporations or co-operatives. Many swine producers belong to professional associations; they all know each other and defend common interests and goals. Farmers in co-operatives exchange information and have personal contact with other co-operative farmers. As Spain has a system of reference prices for hogs, with price fixed by the Mercolleida Board<sup>4</sup>, farmers do not compete on price. Thus there is a co-operative atmosphere and strong associative bonds between farmers. The outbreak of livestock-related diseases and their possible transfer to humans has underlined the necessity for a reliable system to trace individual meat products back to its animal of origin. Many large processors are vertically integrated with hog producers to ensure traceability of the animals. Meat industry pressures for assurance on traceability and production techniques will help to promote confidence in the integrity and origin of their products.

Processors believe that their relationship with producers is more stable and trust driven than their relationship with the retailing sector. The bargaining power of retailers affects the relationship with processors who feel pressured to comply with retailer demands. The retailing sector is driven by economic factors. Retailers seek to offer a homogeneous product to their customers and therefore maintain stable relationships with a reduced group of suppliers. Retailers trust the integrity of this selected group of suppliers. New food safety and traceability measures have increased co-ordination along the chain, favouring a process of vertical integration and co-ordination. Also, the domestic market shows a clear upward trend in the demand for higher quality and priced cured hams. All actors in the chain seek to produce a marketable product complying with the safety and quality standards. This common goal helps to build commitment and trust between partners in the chain.

#### *Spain – cereal to bread chain*

The cereal to bread supply chain in Spain is very fragmented at the producer level, which complicates communication and business relationships from farmer to farmer and farmer to processor. Spanish production of wheat is highly variable in terms of quantities but also in terms of quality. Climate variability is one factor influencing the lack of homogeneity in final production, however, another is the low level of certified seed use in Spain. Such variability affects negatively the market and creates a climate of insecurity for the milling industry. In the last few years there has been increased integration of farmers into 1<sup>st</sup> and 2<sup>nd</sup> degree<sup>5</sup> co-operatives, as a way to assure product quality and quantity.

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<sup>4</sup> The Mercolleida Board is the main institution that sets reference prices for pigs. Prices are negotiated by an equal number of designated buyers and sellers of hogs. They meet once a week and fix a price considered representative of the actual supply and demand conditions. This price serves as a reference for more than 90% of pig transactions.

<sup>5</sup> 1<sup>st</sup> degree co-operatives are co-operatives between individual farmers. 2<sup>nd</sup> degree co-operatives are co-operatives formed by groups of 1<sup>st</sup> degree co-operatives.

Processors tend to have stable suppliers, with trust-based exchanges being important. The lack of homogeneity of Spanish wheat production requires steady relationships between millers and a reduced number of producers to assure the quality of wheat produced. Interaction between big importing companies and millers are more distant; personal interrelationships become less relevant and exchanges are bound by written contracts. Bakers seek to assure continuity of wheat flour supply. Since profit margins are very low all along the chain, personal relationships become important for bakers to establish verbal agreements with millers. The increasing size of the retailing sector makes the relationship between bakers and retailers more impersonal and trust shifts from being interpersonally constructed to more based on reputation.

#### *UK – malting barley to beer chain*

In the UK barley to beer chain the business environment is characterised by considerable uncertainty. Grain prices can fluctuate markedly and the chain operates within a very competitive international trading environment. Excess malting capacity exists in Europe (80% utilisation), and barley typically represents 60-66% of malt production costs (SAC, 2004). Businesses operate on very tight margins at all levels. In this environment, maltsters and brewers seek supply security, cost predictability and assured quality in their purchasing activities. Consequently, they issue contracts to upstream suppliers to secure a significant proportion of their raw materials.

The chain involves close personal relationships at all stages. Although contracts are issued by grain merchants and cooperatives (to secure 30-60% of maltsters' requirements), trust in the competence and integrity of the grower is very important, because the transaction costs associated with contract enforcement are significant. Thus trust and the use of contracts are complementary phenomena. Generally speaking, farmers exhibit limited trust in the prices offered by maltsters. This is largely due to the sector's low profitability and limited transparency in the economics of the chain, or integration in its working. At the brewer-retailer end of the chain a degree of trust prevails, but contracts and supply agreements are used extensively to secure supplies, particularly of important brands.

#### *UK – cattle to beef chain*

The UK beef chain also operates in a very competitive environment, in which there are significant imports (30% of supplies) and UK exports are very restricted. There is also marked excess slaughtering capacity. Whilst liveweight auction markets provide transparency to price setting, they cover only 23% of finished cattle marketings (MLC, 2005). The majority of cattle are sold direct to slaughterers on a deadweight basis (price depends on carcass weight and quality), whilst the retail market (70% of domestic market) is dominated by multiple retailers (>75% of sales). Large retailers seek competitive beef prices, appropriate quality for the segment concerned, supply continuity, efficient supply chain performance and innovation at reasonable cost.

There is considerable mistrust at the farmer-processor level, which centres on price. Farmers widely consider that multiple retailers are depressing their returns (e.g., capping prices by importing beef and taking disproportionately high margins). Such retailers believe, however, that many farmers do not understand the economics of the entire chain, and seek to drive chains in which all parties can benefit. Chains involving independent butchers generally have good personal relationships, considerable trust at all stages, and a reliance on spot market transactions. Multiple retailer chains are integrated through partnerships; retailers with slaughterer/processors, and slaughterer/processors with farmers through producer groups or clubs (Fearne, 1998). Such chains are highly directed and regulated by the retailers, which generates trust with respect to competence, but there are few contracts. Mutual benefit and necessity bind the partners. Contracts are most evident in the supply of caterers and food manufacturers, where supply continuity and cost predictability are important.

## 4. Conclusions

Figure 2 summarises the pattern of relationships and trust observed in the eight chains under review. It should be recognised that these figures represent a generalisation of the situations observed, and that there will be specific supply chains and relationships which fall outside the patterns presented. Several general points are apparent.

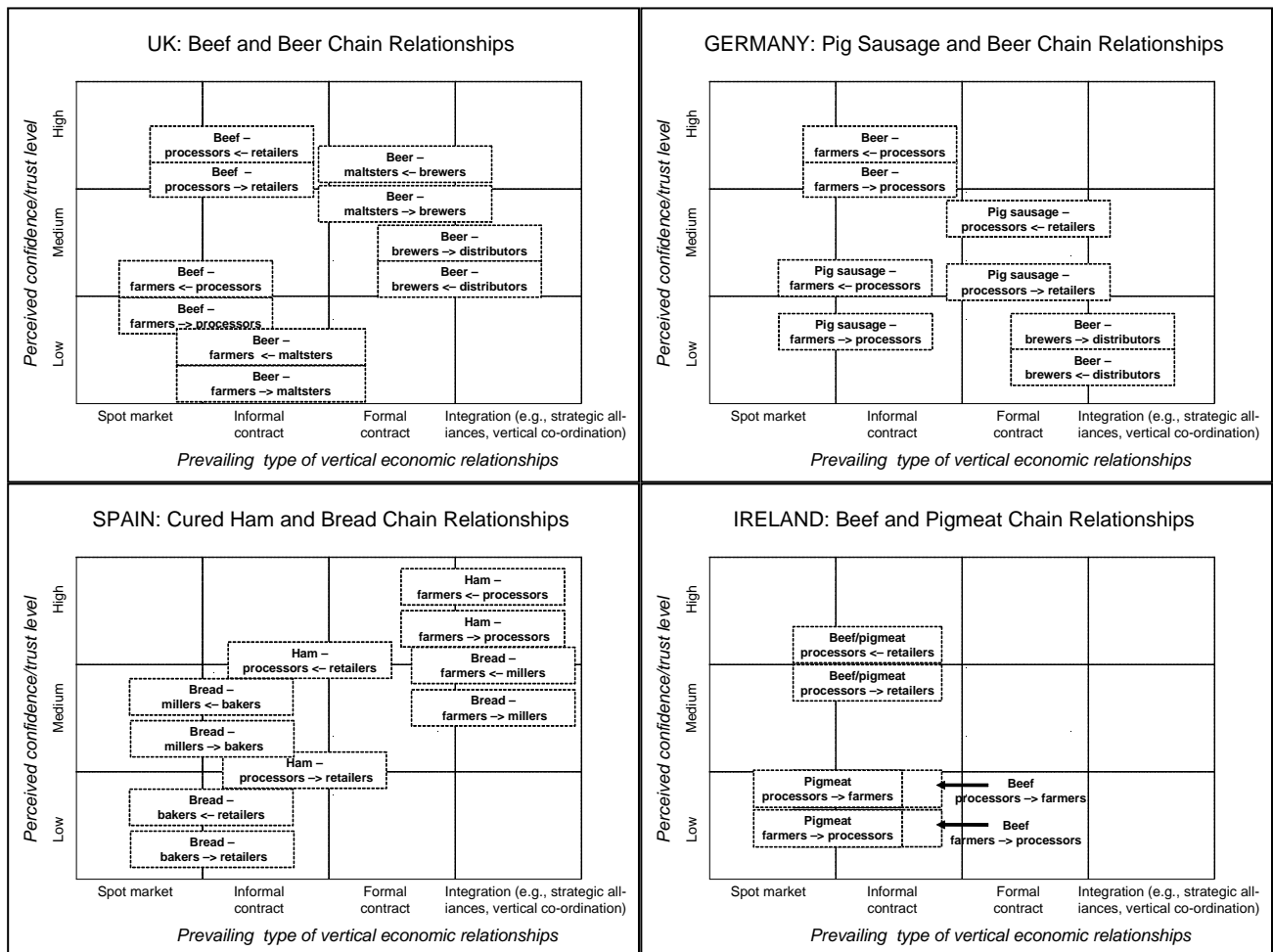


Figure 2: Agri-food supply chain relationships and trust levels in 8 analysed chains. (Source: authors' draft)

Note: Trust levels within a relationship may not be equally held. The direction of the trust perception is indicated by the arrow. Thus 'farmers -> processors' indicates the trust of farmers in processors.

### (i) Trust levels

**Considerable mistrust is apparent at the farmer end** of many of the observed chains, with numerous farmers having limited confidence in the fairness of their treatment by downstream customers (e.g., UK malting barley and beef, Irish beef and pigs, and German pigs). Several factors seem to play a major part in this generation of mistrust, including:

- price pressure in a very competitive international trading environment which means that supply chain participants are competing for a share of the chain's margin which itself is under pressure (e.g., UK beef, Irish pigs and German beer);

- a lack of transparency in the quality achieved by agricultural products and the resultant price consequences, and of the economic pressures facing others in the chain (e.g., Irish and German pigs); and,
- an imbalance in the scale and market power between farmers and many of the downstream supply chain participants. A small scale of production, combined with chain fragmentation, may create a feeling of insecurity amongst those concerned (e.g., Spanish wheat producers and millers, UK malting barley producers).

**Further downstream** the pattern of trust between chain participants is quite varied. Regulation with respect to food safety and traceability has driven considerable chain integration in all countries, providing standards which set a minimum threshold for chain involvement. Major chain players, such as multiple retailers, have sought to add further supply conditions, narrowing their supply base and building closer relationships with relatively few suppliers. These developments might be regarded as assisting the development of trust in the competence of suppliers. Goodwill trust, where a party goes beyond contractual requirements to the mutual benefit of chain participants, is not generally apparent, although it may be constrained by inadequate communication on issues such as quality and price improvement. Moreover, in very competitive chains, with margins under pressure, goodwill trust is likely to be suppressed by self-interest.

**(ii) Factors influencing trust**

Figure 3 provides a schematic representation of the factors influencing trust. It derives from both the literature review and the observations made in the results section. Within the context of the macro environment, it represents trust as being developed at three levels: the macro or national level within which national, social and cultural influences may play a part in trust development; the meso or chain level; and the micro or personal influence level.

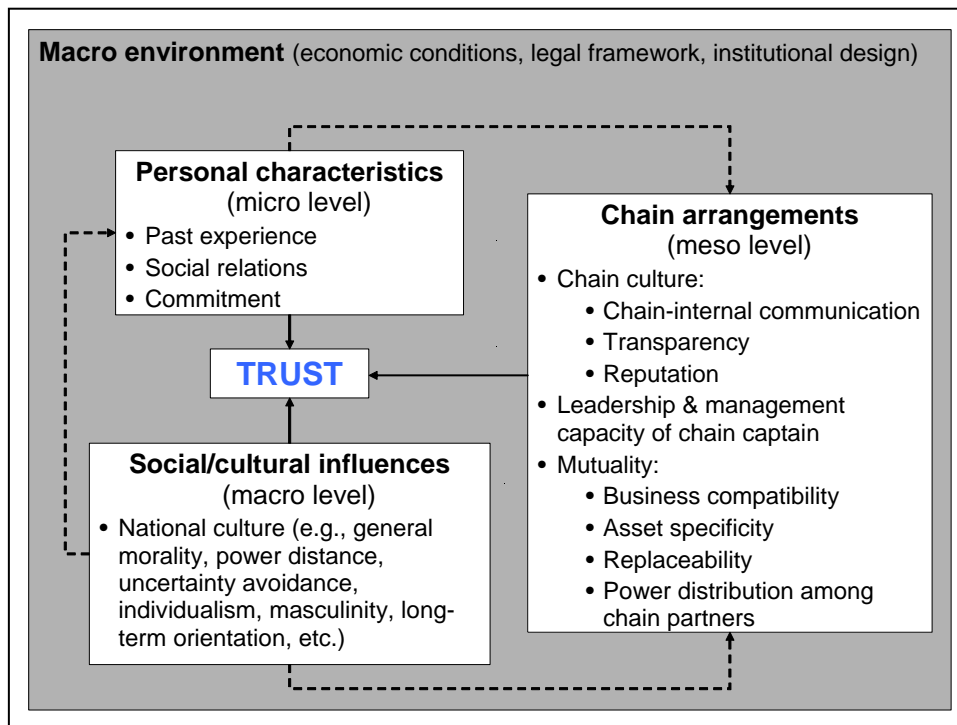


Figure 3: Factors influencing trust. (Source: authors' draft)

*(a) Personal characteristics*

**Personal relationships** are a key feature in the development of trust, which can give rise to benefits such as reduced (transaction) costs. Favourable past experiences, similarity in social circumstances (such as processors agents coming from a farming background) and shared interests, all serve to build trust. Moreover, chains benefit from enhanced trust where interaction is regular and of a personal nature.

*(b) Chain arrangements*

**Chain culture** both influences, and is influenced by, the interaction amongst chain participants. A favourable chain culture, embraces characteristics such as transparency, a reputation for ‘fair play’ and a willingness for all parties to engage in regular and meaningful communication.

**The chain captain** can play a major part in this development. The more developed the leadership and management skills and capacity of the chain captain, the higher trust levels are likely to be.

**Mutuality** between chain partners also plays a major part in trust development and its maintenance. This may take several forms, such as similarity in size, market power, business goals and philosophy, whilst relationship specific investments are both a reflection of the existence of trust and a force for its maintenance and development.

*(c) Social/cultural influences*

Initial analysis raises a question as to the importance of social/cultural influences in international supply chains operating within a global economy. In the past, many supply chains operated purely in local and national arenas, with limited external influence, but increasingly global influences serve to moderate the role of social/cultural influences. They do, however, appear to be more important within local food marketing systems.

**(iii) Trust and relationships**

With respect to the nature of transaction relationships, it is evident that spot market transactions feature at all levels within the chains. For many farmers this is associated with maintaining their independence (this is particularly apparent in the UK and Germany). The findings to date suggest that while the development of trust based on personal relations can offer (transaction) cost advantages in business relationships, it may be complemented by formal contracts or other forms of integration as the involved stakes rise. The role of contracts in competitive environments is not so crucial for those firms with extensive bargaining power, as they may be able to create partnerships which offer benefits such as a regular large volume outlet, and/or a share of a relatively good marketing margin. The exact level where the switch from trust based on social relations to the use of formal contracts or institutional systems occurs depends on a variety of chain (business), cultural, social and personal characteristics.

Overall, it seems that trust is more pronounced among SMEs, which are characterised by the existence of personal relationships between business partners. This is above all the case in the farm sector. However, as is clear for pork breeders, if a source of distrust exists, such as the lack of a clear definition of carcass quality and thus fair financial compensation, trust may not fully develop. Also, if the general economic situation is difficult, as is the case in many agri-food markets, the development of trust may be hampered, because all chain participants are struggling to command a share of a diminishing margin within the chain. Finally, if economic power is distributed unevenly in an agri-food chain, as is the case in Germany, Ireland, the UK and Spain where retailers dominate most chains, trust towards the more powerful may be limited.

## References

- Akerlof, G. (1970). The Market for Lemons: Quality Uncertainty and the Market Mechanism. *Quarterly Journal of Economics*, 89, 488-500.
- Ali, H. and Birley, S. (1998). The role of trust in the marketing activities of entrepreneurs establishing new ventures. *Journal of Marketing Management*, 14(October), 749-763.
- Anderson, J.C. and Narus, A.J. (1990). A model of distributor firm and manufacturer firm working partnerships. *Journal of Marketing*, 54(1), 42-58.
- Barney, J.B. and Hansen, M. H. (1994). Trustworthiness as a Source of Competitive Advantage. *Strategic Management Journal*, 15, 175-90.
- Batt, P.J. (2003). Building Trust Between Growers and Market Agents. *Supply Chain Management. An International Journal*, 8(1), 65-78.
- Chen, Y. (2000). Promises, Trust, and Contracts. *The Journal of Law, Economics & Organization*. 16(1), 209-232.
- Chiles, T.H. and McMackin, J.F. (1996). Integrating variable risk preferences, trust, and transaction cost economics. *Academy of Management Review*, 21(1), 73-99.
- Dapiran, G.P. and Hogarth-Scott, S. (2003). Are co-operation and trust being confused with power? An analysis of food retailing in Australia and the UK. *International Journal of Retail & Distribution Management*, 31(5), 256-267.
- Fearne, A. (1998). The evolution of partnerships in the meat supply chain: insights from the British beef industry. *Supply Chain Management: An International Journal*, 3(4), 214-231.
- Ford, D. (1980). The development of buyer-seller relationships in industrial markets. *European Journal of Marketing*, 14 (5/6), 339-354.
- Ford, D., Hakansson, H. and Johanson, J. (1986). How Do Companies Interact? *Industrial Marketing and Purchasing*, 1(1), 26-41.
- Freytag, P.V. (2004). The firm's sourcing strategy: the importance of culture. *Journal of Customer Behaviour*, 3, 257-380.
- Geyskens, I., Steenkamp, J.E.M. and Kumar, N. (1998). Generalisations about trust in marketing channel relationships using meta analysis. *International Journal of Research in Marketing*, 15(3), 223-248.
- Granovetter, M. (1985). Economic action and social structure: the problem of embeddedness. *American Journal of Sociology*, 91, 481-510.
- Grönroos, C. (1989). Defining relationship marketing: A marketing-oriented approach. *European Journal of Marketing*, 23(1), 52-60.
- Hinrichs, C. (1998). Sideline and Lifetime: the cultural economy of maple syrup production. *Rural Sociology*, 63(4), 507-532.
- Hofstede, G. (1991). *Cultures and Organizations: Software of the Mind*. London: McGraw-Hill.
- Hughes, A. (1996). Forging new cultures of food retailer-manufacturer relations? In: Wrigley, N. and Lowe, M. (eds.) *Retailing, Consumption and Capital: Towards the New Retail Geography*. London: Longman.
- IMP Group (1982). An Interaction Approach. *International Marketing and Purchasing of Industrial Goods*. Chichester: Wiley. 10-27.
- Johnson-George, C. and Swap, W. (1982). Measurement of specific interpersonal trust: Construction and validation of a scale to assess trust. *Journal of Personality and Social Psychology*, 43, 1306-1317.
- Kee, H.W. and Knox, R.E. (1970). Conceptual and methodological considerations in the study of trust. *Journal of Conflict Resolution*, 14, 357-366.
- Kwon, I. and Suh, T. (2004). Factors Affecting the Level of Trust and Commitment in Supply Chain Relationships. *Journal of Supply Chain Management*, Spring.
- Luhmann, N. (1988). Familiarity, confidence, trust: Problems and alternative. In: D.G. Gambetta (ed.) *Trust*. New York: Basil Blackwell. 94-107.

- Mayer, R.C., James, D., Schoorman H. and David, F. (1995). An integrative model of organizational trust. *Academy of Management Review*, 29(3), 709-734.
- Meat and Livestock Commission (2005). *A Pocketful of Meat Facts*. Milton Keynes.
- Morgan, R.M. and S.D. Hunt (1994). The Commitment-Trust Theory of Relationship Marketing. *Journal of Marketing*, 58, 20-38.
- Omta, O., Trienekens, J.H. and Beers, G. (2001). Chain and Network Science: A Research Framework. *Journal of Chain and Network Science*, 1(1), 1-6.
- Pimentel, D. (2004). *Managing Business Networks and Buyer-Supplier Relationships. How Information Obtained from the Business Network Affects Trust, Transaction Specific Investments, Collaboration and Performance in the Dutch Potted Plant and Flower Industry*. Mانشolt Graduate School. The Netherlands: Wageningen University.
- Plinke, W. (1997). Grundlagen des Geschäftsbeziehungsmanagements. In: Kleinaltenkamp, M. and Plinke, W (eds.) *Geschäftsbeziehungsmanagement*. Berlin, Springer.
- Powell, W.W. (1990). Neither Market nor Hierarchy: Network Forms of Organization. *Research in Organizational Behavior*, 30, 67-87.
- Press, B. (1997). Kaufverhalten in Geschäftsbeziehungen. In: Kleinaltenkamp, M. and Plinke, W (eds.) *Geschäftsbeziehungsmanagement*. Berlin, Springer.
- Sako, M. (1992). *Price, Quality and Trust: Inter-firm Relations in Britain and Japan*. Cambridge University Press.
- Scottish Agricultural College (2004). *Competitiveness of the UK Cereal Sector - Final Report to the Cereals Industry Forum*.
- Sharma, A. and Sheth, J.N. (1997). The Evolution of Relationship Marketing: A Framework for Analysis. In: *New and Emerging paradigms: The Emerging Future of Marketing*. American Marketing Association, Services Marketing Conference in Dublin, Ireland, June.
- Sheth, J. and A. Parvativar (1995). The Evolution of Relationship Marketing. *International Business Review*, 4(4), 397-418.
- Sodano, V. (2002). Trust, economic performance and the food system: can trust lead up to unwanted results? In: *Paradoxes in Food Chains and Networks*. 5th International Conference on Chain and Network Management in Agribusiness and the Food Industry. Noorwijk, The Netherlands, 6-8 June, 104-115.
- Storer, C. (2001). Inter-organisational information feedback systems in agribusiness chains: a chain case study theoretical framework. Paper presented for the International Agribusiness Management Association. World Food & Agribusiness Symposium, 25-28 June, Sydney, Australia.
- Suh, T. and Kwon, I. (2003). The Role of Bilateral Asset Specificity and Replaceability on Trust in Supply Chain Partner. *Proceedings in the American Marketing Association*. Winter Conference. [http://business.slu.edu/centers/Consortium\\_Supply\\_Chain\\_Mgt/trust.pdf](http://business.slu.edu/centers/Consortium_Supply_Chain_Mgt/trust.pdf)
- Trienekens, J.H. and Beulens, A.J.M. (2001). Views on Inter-Enterprise Relationships. *Production Planning and Control*, 12(5), 466-77.
- Tuite, P. (2003). What is the true price of pigs. [www.teagasc.ie/publications/2003/pigconf/paper08.htm](http://www.teagasc.ie/publications/2003/pigconf/paper08.htm) (accessed 23/08/05).
- Uzzi, B. (1997). Social Structure and Competition in Interfirm Networks: The Paradox of Embeddedness. *Administrative Science Quarterly*, 42, 35-67.
- Weiber, R. (1997). Das Management von Geschäftsbeziehungen im Systemgeschäft. In: Kleinaltenkamp, M. and Plinke, W (eds.) *Geschäftsbeziehungsmanagement*. Berlin, Springer.
- Williamson, O.E. (1993). Calculativeness, trust, and economic organization. *Journal of Law & Economics*, 36, 453-486.
- Winter, M. (2003). Embeddedness, the new food economy and defensive localism. *Journal of Rural Studies*, 19(1), 23-32.
- Zylbersztajan, D. (2004). Organization of Firms Networks: Five Critical Points for Empirical Analysis. *Chain and Network Science*, 4(1), 1-6.

## Appendix

### Key Informant Interviewee Details

<i>Country</i>	<i>Interviewee Name</i>	<i>Job Title</i>	<i>Organisation</i>
Germany	Herbert Siedler	Head of Section	Bavarian State Dept. of Agr. and Forestry, Wuerzburg
	Michael Starp	Managing head of dept. for livestock & meat	German Farmer's Association (DBV)
	Roland Demleitner	Managing Director	German Association of Middle-Sized Private Breweries
	Thomas Vogelsang	Managing Director	German Association of Meat Product Manufacturers (BVdF)
	Günther Guder	Managing Director	German Federal Association of Beverage Wholesalers
	Angela Schillings-Schmitz	Meat sector specialist	European Retail Institute (EHI)
Ireland	James Brady	Exec. Sec. to Pigmear Comm.	Irish Farmers Association
	Brendan Lynch	Head of Pig Advice & Research	Teagasc
	Kevin Kinsella	Exec. Sec. to Beef Committee	Irish Farmers Association
	Michael Barry	Meat Industry Executive	Irish Assoc. of Pigmear Processors
	Cormac Healy	Meat Industry Executive	Meat Industry Ireland
	Pat Brady	Chief Executive	Irish Association of Craft Butchers
	Michael Murphy	Manager of International Markets	Bord Bia
Spain	Rolando Pola	Cereal Sector Manager	Arento (cooperative)
	José Oliván	General Manager	Llograsa, S.A.
	José Villamayor	General Manager	Harineras Villamayor, S.A.
	Isidro Martín	General Manager	Turolense Ganadera, S.A.
	Mario Moreno	General Manager	Panishop, S.A.
	José María Rubio	Meat Sector Manager	Sabeco, S.A.
UK	Lisa Webb	Livestock Policy Manager	National Farmers' Union Scotland
	John MacIntosh	Group Chairman and farmer	ANM Group Ltd.
	Alan McNaughton	Sales Director	McIntosh Donald (Grampian Country Food Group)
	Bill Dobson	Strategic Sourcing Manager	Coors Brewers
	Elaine McCrimmon	Senior Policy Adviser - Brewing	British Beer and Pub Association
	Christopher Ling	Buying Mgr (Beef and Lamb)	Tesco
	Pamela Bates	Snr. Policy Adviser - Pubs & Leisure	British Beer and Pub Association
	Duncan Sinclair	Economic Manager for Beef	Meat and Livestock Commission
	Chris Barnes	Manager - Cereals Industry Forum	Home Grown Cereals Authority