

Trust, economic performance and the food system: can trust lead up to unwanted results?

(key words: trust; food system; economic performance)

1-Introduction

During the last two decades trust has received a great deal of attention from both economics and marketing. Traditionally, it has been the home of other disciplines such as psychology, sociology and ethics but trust is now widely used by economists to explain exchange mechanisms as well as market structures and strategies.

It is possible to identify the following topics which are related to the concept of trust and generally considered by economics and marketing:

- Economics: local development and compared economic systems; transaction costs and the theory of contracts; cooperative inter-firm relationship and industrial structure and organization.
- Marketing: relational marketing; supply chain management and buyer seller relationship; brand equity development.

Studies on local development and compared economic systems have underlined the role of social capital in enhancing economic performance of local systems. Social capital, which is determined by the degree of reciprocal trust exhibited within a society, can be considered an economic asset. Trust allows for the emergence of social norms and convention that mediate economic behavior, lowering transaction costs and avoiding risk of market failure.

The theory of transaction costs stresses the role of opportunism in hampering long-term contractual arrangements in the presence of incomplete foresight and asymmetric information. In this case the risk of opportunistic exploitation of a relationship's value accompanied by unforeseen events can lead to a failure to reach agreement, unless counter-parties highly trust each other. Trust lowers transaction costs, corrects market failures and makes contracts preferable to other organizational forms like vertical integration.

Self-enforcing agreements, which are contracts that cannot be enforced by the courts, are only feasible when an equilibrium based on reputation can be attained. Reputation for honesty can be achieved by making credible commitments, such as specific investment, nevertheless it needs a minimum amount of trust in the relationship.

Cooperative inter-firm relationships involve strategic alliances performed by groups of firms in order to attain a competitive advantage over rival firms. The large volume of literature on this topic which uses a wide variety of analytical tools (such as network analysis, theory of contracts, management science, sociology of organization) agrees that trust is essential to guarantee the success of cooperative relationships. It also suggests strategies to develop trust, identifying the level of investment which is able to reach the optimal trust level.

Recent developments in relational marketing have shown that trust is a key mediating variable in order to maintaining successful relational exchanges, influencing the level of commitment. Given that there is a continuum of customer relationships, ranging from transactional to relational orientations, it has been shown that differences in trust and commitment are the features that most distinguish customers that are involved in relational partnerships from those which simply make repeated purchases.

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A wide range of literature on supply chain management has investigated the role of inter-organizational trust as a governing mechanism that mitigates opportunism in an exchange context that is characterized by uncertainty and dependence. Buyer seller relationships are so positively affected by a high level of trust, that many strategies have been suggested in order to improve customer trust in sellers. Also an effective dissemination of information along distribution channels is facilitated by trust. Finally, recent studies have underlined the influence of trust on brand equity, demonstrating that brand performance outcomes (for example market share and premium price) depend on the brand trust exhibited by customers.

The paper analyses the role of trust in the food system, focusing on its effect on economic performance. The existing literature has emphasized the role of trust in facilitating vertical contractual relationship as well as horizontal coordination in the agricultural sector through grower associations and cooperatives. Some attention has also been paid to quality issues, brand proliferation, diffusion of biotechnologies and new information technologies as well as comparative advantages among different national food systems.

In the first section an effort is made to find out more about those definitions of trust which fit better into trust problems involved in the food sector. The distinction between impersonal and interpersonal trust seems to be very useful for the topics addressed in the following sections of the paper.

In the second section, the role of trust in enhancing network strategic alliances is discussed by reviewing current literature. The main finding is that the development of trust to support such organizational forms can sometimes lower social welfare, leading to some forms of subtle collusion with strong anti-competitive effects. Nevertheless in an optimistic scenario, based on the hypothesis of a greater diffusion of actor's unselfish behavior patterns, new technologies and economic organizational forms could lead to a better society.

The third section deals with the role of trust in promoting and enforcing the quality of food products. This role is particularly relevant for products rich in credence attributes and products (such as regional products) whose quality perception is based on conventions and social norms.

Conclusions summarize the main findings of the work and give some suggestions for future research.

2-Looking for a “workable” definition of trust

In one of the most cited article in recent literature regarding trust, it may be seen that trust is referred to as an elusive notion (Gambetta, 1988). In a previous also widely cited article, Shapiro remarks that “the considerable attention the concept of trust has received in recent years.....resulted in a confusing potpourri of definitions applied to a host of units and levels of analysis” (Shapiro, 1987). Confusion is partly due to the fact that before being revealed by economists the concept of trust has been abundantly employed in diverse disciplines as moral philosophy, psychology, sociology, social psychology and anthropology. As long as these disciplines differ in research goals and methods, they give different notions of trust. However, a survey of trust concepts and definitions is not the purpose of this article, moreover, in this section we just review some recent definition of trust “suitable” for the specific topics we address in the following sections. By limiting the choice to a narrow range of definitions we closely follow Bigley and Pearce (1998), who propose a “problem-centered approach” to the trust topic, aimed at taking advantage of the existing variety of trust definitions rather than considering it as lacking a theoretical base. The idea is that different notions of trust can more easily fit different kinds of organizational problems.

Based on this premise we present two features of trust, stemming from two quite different streams of literature: 1) trust as a form of social organization (impersonal trust) and 2) trust as an exchange coordinating means or a governance structure (interpersonal trust).

A-Trust as a form of social organization (impersonal trust).

The most appropriate definition of this feature of trust is the view of Fukuyama (1995) whereby trust is the expectation of regular, honest, and cooperative behaviour based on commonly shared norms and values. In these terms trust is a key element in the construction of Coleman's social capital (Coleman,1990) and strongly contributes to the wealth of society. It helps to sustain conventions that regulate social and economic life instead of more costly and ineffective formal institutions. Trust feeds those kinds of impersonal principal-agent relationships which are essential to the life of society but characterized by lack of information for the design of the optimal incentive schemes and with excessive monitoring costs. "Impersonal trust arises when social-control measures derived from social ties and direct contact between principal and agents are unavailable" (Shapiro,1987). This kind of trust is founded upon feelings of moral duty shared by members of society and sustained by culture and the need for social approval along with personal cooperative behaviour attitudes. The assumption that at least the majority of people can sometimes act in a unselfish way is in sharp contrast with the standard view of economics of the selfish homo oeconomicus and makes this feature of trust particularly suspicious to economists¹ confining the analysis mainly to the fields of sociological literature.

Referring to the classification of trust definitions proposed in Hosmer's wide survey of organizational and ethical studies, impersonal trust can be viewed as strictly connected with individual expectation and social structure. Impersonal trust is at least an individual's optimistic expectation about the outcome of an event and it explains social structure, it can be considered as "a set of social expectations shared by everyone involved in an economic exchange" (Zucker, 1986). "It includes broad social rules, such as what is a fair rate of interest for a given situation, and legitimates social process, such as who has the right to determine that rate of interest in that situation" (Hosmer, 1995).

Impersonal trust is social and normative, while interpersonal trust is essentially individual and calculative. Impersonal trust does not exist without the existence of prior social relationships which are able to drive social actors towards cooperative behavioural patterns.

B-Trust as an exchange coordinating means or governance structure (interpersonal trust).

The best way to draw interpersonal trust is in the context of a relationship setting where two actors are involved in an exchange. One can also look at the relationship as a dyad, using the terminology of social network science, and consider trust as a key variable in designing the structure of the network (Wasserman, Faust, 1994). Combining different previous definitions McAllister² defines interpersonal trust as "the extent to which a person is confident in, and willing to act on the basis of, the words, actions, and decisions of another". This definition encompasses the three most recurring elements in various trust definitions from the organizational literature: 1) trust as a set of beliefs or expectations, 2) trust as a willingness to act on those beliefs, 3) dependency. Other definitions focus on another two basic topics of interpersonal trust, risk and vulnerability; in the sense that in trusting situations some sources of risk exist and are related to vulnerability and/or uncertainty about an outcome. A recent definition, stemmed from a deep review of relevant literature. It partially clarifies these elements referring to trust as "a willingness to rely on another party and to take action

¹ For example Williamson who states an even stronger form of selfishness (opportunism) contests the usefulness tout court of the concept of trust because either trust is conceived in its calculative aspect and therefore the concept can be substituted with those of expectation, risk and uncertainty, or it is in contrast with the hypothesis of opportunism. Williamson recognizes that some social institutions are based on unselfish behavior but notices that this is not the case of commercial exchanges which are the ultimate object of economic analysis. Therefore sociology and related sciences can investigate this particular form of social organization while economics can not refuse the basic assumptions of calculations and selfishness (Williamson, 1993). Trust is a component of the atmosphere in which transactions are embedded thus influencing governance structures. However, this is considered as an exogenous datum in economic analysis.

² McAllister 1995 distinguishes between two principal forms of interpersonal trust, cognition-based trust, grounded in individual beliefs about peer reliability and dependability, and influence-based trust, grounded in reciprocated interpersonal care and concern. Such a distinction highlights the double side of trust, the calculation one and the emotive one. It also suggests that to fully accept the concept of trust in economic analysis one must abandon standard thought and accept the critiques of alternative approaches such as institutional economics which lead to refuse the fundamental assumption of individualism and pure selfish behavior.

in circumstances where such action makes one vulnerable to the other party”(Doney., Cannon, Mullen ,1998).

The given definitions of interpersonal trust help us to understand the connections between trust literature and transaction cost economics. Paradoxically, Williamson’s organizational theory, in spite of the author’s explicit statements against the usefulness of the concept of trust in economic analysis (Williamson, 1993), offers one of the most suitable (and even most cited in trust literature) frameworks to explain the relevance of trust in economic life. Without the revolutionary idea of analyzing economic transactions in an interpersonal relationship setting characterized by hypothesis of opportunism and bounded rationality of actors and influenced by the three fundamental dimensions of transactions (uncertainty, frequency and asset specificity), it would have been very difficult to assess the real role of trust in organizational “affaires”. Transaction frequency and asset specificity accounts for dependency; uncertainty and opportunism explain risk and vulnerability; procedural rules of choice led by bounded rationality give birth to that “leap of faith” that constitutes the non-rational side of trusting behavior. One way to look at the connection between trust and transaction cost economics is to consider the two of them as complementary rather than alternative approaches to organizational problems. In a sense trust completes the theory of transaction cost allowing for another aspect of human behavior (attitude toward cooperation or trusting behavior) that gives rise to control structures (informal relationships, such as “handshakes”) which are alternatives to the contractual line that defines the continuum between markets and hierarchies. To understand this last statement one must follow the view of Lewicki, McAllister and Bies (1998) concerning trust and distrust (and hence indirectly opportunism) as separate and opposite elements which can both exist within multiplex relations. An excess of distrust stemming from an overestimate of the opportunistic side of an actor’s behavior can actually be “bad for practice” (Ghosal, Moran, 1996). Instead the right balance of trust and distrust and the research of the “optimal trust” (Wicks, Berman and Jones, 2001) matching different relational settings, drive the economic system towards more effective exchange coordination mechanisms.

Summing up, trust shifts the organizational analysis from contracts (as elementary analysis units) to a multidimensional spectrum of possible trading relationships ranging from the two extremes of arm’s length contractual relationships to obligation contractual relations. Arm’s length contractual relationships involve a single specific, discrete economic transaction, with an explicit contract specifying tasks and duties of both parties. Obligatory contractual relationships, in contrast, are more embedded in social relations between trading partners and are also characterized by a sense of mutual trust (Scharj and Skjott-Larsen, 2001, p183).

3-Trust and the food system

Literature on the food system deals with at least two important topics related to the concept of trust: 1) the emergence of new organizational forms which are able to cope with changing technologies and power equilibrium within the vertical supply chain; 2) problems of quality control and signalling related to credence attributes of food products.

In the next sections the role of trust is described for each of these topics. We have strived to show how different features of trust fit different problems and how a firm’s trust strategy can lead to losses for some actor within the food system.

3.1- Trust and vertical coordination within the food System

As time goes on structural and technological changes in the food sector discourage vertical integration. Moreover, the market has become an ever more ineffective governance structure for exploiting existing profit opportunities. The result is the widespread level of vertical coordination forms that act between markets and hierarchies, with a major role played by strategic alliances and vertical networks (Sporleder, 1994). When firms engage in formal or informal agreements to strategically exploit a common advantage stemming from the venture’s synergic effects, a strategic

alliance is said to take place. When the result is a stable cooperation relationship with shared information and goals, such strategic alliances give rise to a network. Vertical network alliances within the Global Food System seem to spread as “the foundation of rivalry within the system is shifting away from tangible assets towards intangible assets” (Sporleder, 2000). New forms of procurement and marketing relationships based on new information and electronic technologies, such as EDI (electronic exchange data), ECR (efficient consumer response system) and CM (category management), have been able to succeed only within cooperative networks with trust as a key organizational variable (Galizzi and Venturini, 1999).

Collaborative relationships between retailers and suppliers in the supremacy of the marketing channel create gain opportunity by maximizing consumer satisfaction and minimizing costs. ECR may change the zero-sum game traditionally played between suppliers and retailers in a non-zero sum game, where the potential for extra-gain exists and is associated with cooperative behaviour (Galizzi and Venturini, 2000). Nevertheless, given that these non zero sum games take often the shape of a prisoner dilemma, even if cooperative solution (as tit-for-tat strategies) can be adopted, these are not the only Nash Equilibrium strategies and neither are they stable in an evolutionary setting, unless a great deal of trust feed the relationship (Galizzi and Venturini, 2000).

Findings from empirical studies on trust games show that in order to attain a cooperative equilibrium the social norm of reciprocity must be assumed even in an infinitely repeated interaction with strong reputation effects. Furthermore, experiments suggest that reciprocity can be either grounded in a pure selfish behaviour (imitate reciprocity), either grounded in a non-pure selfish behaviour (genuine reciprocity), with the second type having the principal role in sustaining cooperative equilibrium (Gächter and Falk, 1999).

Hence also looking at cooperative strategies through the lens of non-cooperative games, it may be seen that not only does trust seem to be the core variable but particularly important seems to be the kind of trust affect rather than cognition based (McAllister, 1995). Shapiro, Sheppard and Cheraskin stress that to make handshakes an effective governance structure in business relationships the major role is played by the identification-based trust, while deterrence based and knowledge based trust are weaker and less stable enforcing mechanisms³. Wicks, Berman and Jones identify three level of trust by considering the relative weight of cognitive and emotional dimensions. In their definition a low level of trust primarily relies on rational prediction (e. g. monitoring, incentives and penalties to induce cooperation); high levels of trust rely primarily on affect-based belief in moral character, while moderate trust gives rise to an equal use of both cognitive and affective behavioural patterns. The authors stress that to attain the “optimal trust” one must shift from low to high levels of trust as the degree of interdependence of the relationship increases.

So far, by reviewing literature on the role of trust in shaping the global food supply chain, the following results have been attained:

1. Networks, and primarily strategic alliances seem to be the best organizational firm’s response to new challenges and opportunities offered by biogenetic and information technologies:
2. Trust is a basic asset required to build stable and effective networks.
3. The kind of trust with the highest effectiveness (“productivity”) in promoting networks is the less rational one: the influence-based trust in McAllister’s denomination; the identification-based trust cited by Shapiro, Sheppard and Cheraskin; the high level trust reported by Wicks, Berman and Jones.

³ “Deterrence trust exist when the potential costs of discontinuing the relationship or the likelihood of retributive action outweigh the short-term advantage of acting in a distrustful way” (Shapiro, Sheppard and Cheraskin, p366). This kind of trust captures the reputation-effect. Knowledge based trust is grounded in predictability and breeds from mutual understanding achieved through regular communication and courtship. Identification-based trust, the highest order of trust emerges when one party has fully internalized the other’s preferences and is associated with empathy and benevolence. Deterrence-based and knowledge-based trust relate to cognition, while identification-based trust is essentially affect-related.

4. Supply chain management through inter-organizational network is generally expected to enhance total system efficiency and welfare.

While the first three findings are quite well supported by both theory and “real world” economic deeds, the third statement does not necessarily tell the truth. More specifically the emergence of networks does not protect the food system from social losses associated with excessive market power, and does not assure more equity in gains distribution among the actors in the system. Consequently more trust does not necessarily mean more cooperation, more equity or more ethics. To make this last statement more clear one must consider: power asymmetry inter and intra networks as well as power asymmetry and goal divergence between networks and society.

Networks do not arise by chance, but from strategic choices of firms pursuing competitive advantages. With regards to vertical alliances is the more informed firm (e. g. the firm who develops intellectual property rights, or the firm with an easy access to market information sources) which takes the role of a hub firm, that is the firm which visualizes the need for and purpose of a vertical network. “The hub firm recruits vertically-allied firms to participate in the network and takes a proactive attitude in the maintenance of it” (Spolderer, 2000). The hub firm on the one hand stimulates network partners’ cooperation by sharing information and profits (with a positive equity effect); on the other hand, by virtue of its greater capabilities, better exploits alliance’s positive synergic effects, increasing its coordination power and profit access (with possible negative equity effects). Moreover as time goes on switching costs can change asymmetrically among different actors in the network, turning the prior cooperative relationship of the more “sunken” actors of the network to one of dependence.

Burt’s concept of structural holes helps us to better understand some possible anticompetitive effects of network-based food system organization. According to the general view of social network analysis, networks’ economic results (at both aggregate and single actor level) are affected much more by the structure of the network than by strategies performed by actors. “Players in the competitive arena are connected to certain others, trusting of certain others, obligated to support certain others, dependent on exchange with certain others.... The holes in social structure, or, more simply, structural holes, are disconnections or non-equivalence between players in the arena“ (Burt, 1992, p 1). The more a player’s network is rich in structural holes, the greater the structural autonomy and the greater the power of the player. “In economic transactions producers with networks rich in structural holes can negotiate favourable terms in their transactions with suppliers and customers, and so should enjoy higher rates of return on their investment” (Burt, p82). To the extent that supplier and customer are many and disorganized, producers are expected to attain higher profit margins. In a marketing channel the higher the level of concentration in a stage (i.e. a stage with few structural holes) with respect to the degree of concentration in the connected downstream and upstream stages (i.e. stages with many structural holes) then the higher the profit opportunities in that stage. This means that when vertical strategic alliances occur, if the firm in the hub position (e.g a biotechnological firm who owns the property right of the innovative technology that accounts for the network’s opportunities) possess an high market power on its own market, while sectors in downstream stages (e.g. food manufacturers and retailers) and in upstream stages (e. g. farmers) play in a competitive environment, the benefit from the alliance will be unequally distributed among vertical related allied (with the greatest advantage for parties with less structural holes –or more structural autonomy-).

Finally, the net total welfare effect from networks can be negative when their subtle collusive effect is large and when the goals of the network differ from those of society as a whole. In a sector such as the food sector there are many goals attainable to improve social welfare, when considering this in the broadest sense. Food security and food safety for all people over the world, environmentally “sustainable” production methods, patterns of food consumption consistent with health protection, and so forth. As a result, the development of trust which is needed to keep networks stable and effective could result in some risk but also in opportunity. The risk is that the strengthening of collaborative relationships within the network leave all the competitive effort outside the network,

with opportunistic behaviour patterns facilitated because of the informative advantages the network gives their participants. The opportunity comes from the fact that as long as networks develop trust at its higher level (influence-based trust and identification-based trust) ethical firm behaviour seems easy to reach. In fact one can expect that once genuine reciprocity and empathy pervaded intra-network relationships, they can easily spread over inter-network relationship, including also non-profit and public network organization. Public organization in particular could make an effort in reducing their structural holes, while looking for good contacts with private organizations and promoting an ever higher level of trust based on the ethical perspective.

To attain positive social effects the kind of trust the food system should make use is that corresponding with the definition of moral philosophy: “trust is the result of “right”, “just” and “fair” behaviour- that is, morally correct decisions and actions based upon ethical principles of analysis- that recognizes and protects the rights and interests of others within society” (Hosmer, 1995). The main difference between this and those given by organizational sciences is that while the latter define the “common” interest with regards to a finite relationship (such as a network of firms), the former is concerned with the common interest of the whole of society. Hence to make trust a real moral virtue not only genuine reciprocity and benevolence must take place, but moreover they must address the entire society (and not be limited to a sub-group).

3.2- Trust and food quality

Trust is related to food quality with reference to two main issues: -A- market failure of high quality products plagued by information problems; -B-the organization of markets for regional products.

A-Trust, information, and market failures

Information asymmetry between buyers and sellers, with the second possessing private information, can lead to a sub-optimal vertical differentiation of the market, with bad products (i.e. low-quality products) driving out the good ones (i.e. high-quality products) (Akerlof, 1970). When formal institutions that are able to correct this kind of market failure, such as guarantees and certification, are not feasible, informal institutions such as trust are the only way to keep high-quality products.

For experience goods with high purchase frequency, reputation effect (Shapiro, 1983) is sufficient to correct the market. Trust involved in reputation games is of a “low level” in that it involves rational prediction and “imitated reciprocity” and is suitable for governing transactions with a low degree of interdependences.

For credence goods (or experience goods with one-shot purchases) a higher level of trust must be present. Consumers who pay a premium price for high quality products which have quality characteristics they cannot check neither before nor after the purchase, need a certain amount of “blind” trust in suppliers. Firms’ investments in brand equity and the whole marketing effort in building and sustaining brand loyalty can be considered as ways of fostering customers’ trust⁴. It is rather complicated and not in the purpose of this work to assess the net welfare effect associated with investment in brand equity. Literature on the welfare effect of firms’ advertising bill has stressed either positive effects, associated with quality improvement, or negative effects, associated with possible excesses of market power and unfair behavior patterns towards consumers. In the present work we want to highlight how different efforts in consumer trust investments, unequally carried out by different players in the food system, can lead to the exclusion of some products even when their maintenance gives rise to a better structure of market differentiation. An example is given by competition between GM (genetically modified) and NGM (non genetically modified) products.

⁴ Brand trust, along with brand affect, affects brand loyalty (in its both components of purchase loyalty and attitudinal loyalty), which in turn affects firm’s performance outcomes (market share and relative outcomes) (Chaudhuri, Holbrook, 2001).

As long as GM and NGM products are perceived in the same way by consumers, with the exception of the possible environmental and health risks associated with GM products⁵, NGM products are considered to be of a higher quality than the GM ones by those segments of consumers with a higher risk perception. Consequently, the market appears vertically differentiated (Coppola, Gorgitano, Sodano, Verneu, 2001), and the exclusion of NGM products from the market entails a welfare loss for consumers with a higher risk perception.

To maintain both products in the market a great deal of trust is required. On the side of NGM products, since their high quality is a credence attribute, there is a demand for certification⁶, where certification is broadly defined as a process for transforming a credence attribute into a search one. The more expensive the certification process, the higher the probability for NGM sellers of losing their market share. The more consumers trust firms and certification institutions then the more NGM products will be competitive. On the side of GM products, firms will need to invest in trust to enter market segments with consumers' high risk perception. If trust building policies are based on effective and loyal behavior (more accuracy in testing new products, more ethics in management's choices, more transparency in information diffusion), trust investments are likely to improve welfare. In contrast, if trust building policies are based on unfair practices, such as hiding firm's private information on the level of risk, trust investment can lower social welfare.

Summing up, trust seems to be the key factor in the spreading process of new technologies. As the consumers' concern regarding the safety of genetically engineered food rises, the level of market differentiation depends ever more upon the level of trust, considering both trust in GM products (or trust in science) and trust in NGM products (or in certification institutions). While trust development seems to be a successful firm's competitive weapon (more trust, more profits), it is not sure that more trust entails higher social welfare. To make trust "good in any case" two assumptions must hold: firms' trust building policies must involve ethics besides its profit maximization task; the society where markets are embedded must be so rich in social capital as to enforce certification contracts.

B-Trust and the markets for regional products.

By regional products we refer to those products whose peculiarities rest on culturally and historically rooted methods of production and consumption

In the case of regional products quality can be considered as a social construction. In consuming their regional product people are guided by social norms and consequently by that kind of impersonal trust involved in the construction of social capital.

In organizing markets of regional products trust operates on three levels (Sodano, 2001):

1. In the construction of a reference standard (accounting for the horizontal dimension of quality). To attain the European label of origin denomination, which operates as a voluntary formal reference standard enforced by the law, regional products must prove to have been historically produced according to specific and definite rules. This means that before the formal standard came out, informal standards already coordinated the market. These informal standards or conventions (Eymard-Duvernay, 1989; Sylvander, 1995; Foray, 1993) are unanimously accepted rules of behavior resulting from repeated interactions among trustful actors.
2. In enforcing the standard. While formal standards are enforced by law (through legal means), informal standards must be informally enforced. The enforcement mechanism may rely on competitive as well as on cooperative behavior. In an agreement, when each part incurs losses by cheating, there are private incentives to fulfill promises. If cheating can

⁵ Consumer's attitude towards biotechnology depends upon different factors, such as global attitudes towards technological change, government oversight, and environmental concern (Parker and Jolly, 2000).

⁶ In presence of mandatory labeling certification cost are partially shared by the public sectors, while some share of the total information and risk-guarantee cost is paid by GM producers. At contrast, in the case of unregulated market, such as the US case, NGM producers pay the whole certification cost, while public sector and consumers bear the most risk.

benefit somebody, with losses for somebody else, the free-riding problem prevents parties from fully enforcing the agreement and the relationship can fail. In the cooperative case parties recognize, besides individual payoffs, a common interest in enforcing the contract and a mutual commitment not to deceive prevails as a result. This kind of cooperative behavior-based enforcement mechanism feeds on feelings and behavioral patterns, such as trust and reciprocity, and takes the form of a social norm. In the case of regional products the enforcement of the standard seems to have been guaranteed more likely by this kind of cooperative behavior (standing for a social norm) than by a non-cooperative-game.

3. In raising the value of the product. Since regional products give consumers socially and psychologically rooted benefits, different from those given by the closest substitute products, they are perceived as high quality goods. This allows a vertical dimension in the quality characterization of regional products. We can consider the expected high quality generated by social norms as an externality (though derived from a social rather than an economic activity) that adds value to the regional product, raising the bargaining power of sellers in the buyer-seller relationship. In other words, sellers benefit from a reputation, like high quality sellers do in vertically differentiated markets, that is an outcome of social norms rather than a firm's investments.

From these three statements we can deduce that in the case of regional products trust is an effective exchange governing means as well as a public goods whose externalities can be fully exploited by producers. Since it takes the form of impersonal trust, involved in the construction of social norms, it also seems to be founded on ethical principles. Nevertheless, in spite of its virtues, trust can turn into a threat for regional products when they strive to enter markets geographically (and culturally) far from those of its origin. In new markets regional products are anonymous goods and even if consumers' attitudes are likely to meet the peculiarities they offer, high prices and concerns about producers' reliability and originality can prevent initial purchases. By "trusting" trust which governs the market in the country of origin, producers can be unable to carry out marketing strategies effective to compete in new markets. To get hold of customers in new markets, producers must substitute formal for informal contracts to enforce quality, and invest in interpersonal trust along the marketing channel. The public sector has been the first to be aware of the "trust problem" of regional products and in the early 1990s gave producers the means to formally enforce quality. The EU reg. 2081/92 enables producers to voluntarily establish both a collective brand and a production reference standard, enforced by the government through a system of public guarantees on private quality control activities. While the public intervention has been quite successful, given the numerous PDO (Protected Designation of Origin) and PGI (Protected Geographical Indication) products that have been registered, producers are still far from effectively managing their "trust constraints and opportunities", and many regional products have not yet succeeded in foreign markets.

4. Conclusions

The word trust has been widely cited in recent literature on food system organization. Trust has mainly been considered as a means for facilitating the exchange relationships – by lowering transaction costs - and for enhancing the total supply chain economic value – by allowing for a full exploitation of the new bio-genetic and information technologies-. The paper has investigated how different concepts (and definitions) of trust can fit different problems in the food system, and has addressed the question of how much trust enables the system to reach the best solution from the social welfare viewpoint. Some general conclusion can be summarized in the following statements:

1. Among several classifications proposed by the multidisciplinary literature on trust, the distinction between interpersonal and impersonal trust seems to be particularly useful in food system research. Interpersonal trust is related to topics addressed by the emerging literature on social networks, and helps to understand the role of strategic alliances in

reshaping the vertical structure of the food system. The concept of impersonal trust is related to the literature on social capital. Applied to the food system it helps to address signaling and certification problems of credence goods. It is also essential to understand market organization and competitiveness regarding regional food products.

2. While the extant literature is generally enthusiastic about the welfare enhancing effect of trust, we argue that sometimes too much trust can damage some actors in the system. When trust fosters firm networks which act in a collusive way, some excesses in market power can occur. For potentially risky products, such as GM products, an excess of firm investment in consumer trust can lead to socially negative effects if firms act in a totally selfish way (i.e. when there is a lack of ethics). If producers misunderstand the role of trust in their market organization –this can be the case of regional products-, emphasis on trust can ultimately result in ineffective organizational choices.

The paper addressed only a narrow range of topics related to the role of trust in the food system, and represents the first stage of a wider research program we are carrying out. Further topics that we did not deal with in the article –but which are particularly important- include: 1) the role of trust in coordinating the agricultural sector on the horizontal level (e.g. through grower associations and cooperatives), 2) the role of trust in influencing the performance of public intervention in the food market; 3) national differences in social capital and their effects on the competitiveness of food systems.

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