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Market transparency in the agrifood chain

IS PERFECT TRANSPARENCY DESIRED TO REGULATE BUYER POWER IN THE AGRIFOOD CHAIN?

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Abstract:

Agricultural commodity markets are characterised by increased price volatility, caused by information asymmetries and increased globalisation. In addition, agricultural markets are exposed to a certain degree of variability (seasonality, climate change) and risks (input/output prices, income). The Agricultural Market Task Force (AMTF), concerned with enhancing farmers' position in the supply chain, proposed several recommendations for increased market transparency in order to foster effective conditions of competition along the supply chain and to reduce current information asymmetry. Therefore, market transparency is one of the priorities on the political agendas and this paper aims at scientifically substantiating this by answering the question 'Is perfect transparency desired to regulate buyer power in the agrifood chain?'. First, the broader framework regarding competition is provided, followed by a literature review focusing on the results of implementing transparency, both in economics and management literature. This review shows that, despite increasing attention on market transparency, little consensus can be found on its implementation and effects in markets. Only limited papers are available focusing on the real effects of market transparency. Moreover, it can be concluded that increased market transparency does not automatically result in higher intensity of competition, higher

innovation capacity and more sustainability. Processing and distribution companies should, instead of using their bargaining power to shift risks or costs upstream in the value chain, look for profit maximization by innovation, efficient performance and value creation considering the other chain members.

Keywords:

Structural imbalances – market transparency – market power – price volatility – bargaining power – agrifood chain

Introduction

In recent years, there is increased volatility in commodity prices. Excessive market volatility is often the result of biased or uncertain economic information (Rusu, 2010). In addition, the agricultural markets in specific are characterized by a certain degree of variability (seasonality, weather, delay in supply response, etc.) and other structural factors which increase tension in markets (demographic growth, pressure on agricultural land, climate change) (Rusu, 2010). These fluctuations can provoke strong fluctuations in the income of farmers across years, or between companies in the same year (Madre and Devuyst, 2016). Risks can be related to changes in the price of the output products or changes in the price of the raw materials. This can have an influence on the firm's possibility to pay back its debts and on its opportunity to invest (Happiness et al., 2014). If the number of products produced is limited, price fluctuations can have a high impact on the income (Samuelson, 1967).

Furthermore, as the reform of the Common Agricultural Policy (CAP) enhanced linkages with world markets, the price volatility had increased in recent years (AMTF, 2016). Hence, the G20 Agricultural Ministers addressed food price volatility and identified five key priorities, among which the importance of market transparency. The 'Action Plan on Food Price Volatility and Agriculture' was established (G20 Agricultural ministers, 2011).

Market transparency can be approached and defined in different ways, due to differences in focus. According to the Agricultural Markets Task Force (AMTF), 'market transparency' is defined as 'the availability for all market participants of relevant market information related to for example prices, weather, production, trade, consumption and stocks' (AMTF, 2016). From the perspective of 'cost transparency', the definition by Lamming (1993, p. 214) is 'sharing of costing information between customer and supplier which would traditionally have been kept secret by each party, for use in negotiations'. In the European context, transparency is defined as 'decision-making processes should be understandable and open. The decisions themselves should also be reasoned and based upon information that, to the maximum extent possible, is

publicly available' (Södermann, 1988, p. 75). It is clear that a range of interpretations can be attributed to transparency, going from 'a subjective perception of being informed' to 'an (objective) understanding, supported by guarantees'. However, although perception and understanding appear to be very divergent, both views justify a common goal: providing transparency to value chain actors by reaching a level of understanding which allows informed decisions. In the food sector, the transparency challenge is summarized as follows: 'Transparency is being reached if everybody with stakes and interest in food production and consumption understands the relevant aspects of products, processes, and process environments that allow to making informed decisions' (Knorr et al., 2013).

It is often suggested that market transparency should be increased to foster effective conditions of competition along the supply chain. Without market transparency, information asymmetry exists and creates mistrust about price transmission and distribution of value added along the chain (AMTF, 2016).

The Agricultural Markets Task Force (AMTF), providing the European Commission with expertise regarding the functioning of agricultural markets and farmers' position in the supply chain, expressed several recommendations to increase market transparency, such as the availability of relevant market information for all market participants/actors concerning prices, weather, production, trade, consumption, stocks. Examples are the installation of a mandatory price reporting system for some priority products in useful intervals, or the creation of a better communication, exchange and dissemination environment for relevant market information, such as input prices and consumption data (AMTF, 2016).

Furthermore, the European Commission is publishing the main EU-market prices and launched in 2009 a public tool, the European Food Prices Monitoring Tool (EFPMT), to compare prices to increase transparency for price transmission in the food chain and to facilitate comparisons across the European member states, with the aim to improve the competitiveness of the European food system (Schouteten et al., 2014, Rusu, 2010).

Market transparency is hence one of the priorities of the political agendas, but is there a scientific underpinning for this? The aim of this paper/study is to answer the question 'Is perfect transparency desired to regulate buyer power in the agrifood chain?', by reviewing existing literature.

As the above discussed policy recommendations are based on insights from the neoclassical economists, arguing that perfect competition would produce the best possible outcomes for consumers, and society, this paper starts with providing the broader framework regarding competition, with focus on perfect competition, horizontal versus vertical competition, structural imbalances and governmental interventions, followed by a presentation of the global value chain theory from institutional economics. The first section ends with a focus on the agrifood supply chain. In a second step, literature is reviewed focusing on the results of implementing transparency, both in economics and management literature.

Search strategy

For section 1 about the broad framework of competition, the consultation of handbooks about economic theories was combined with a comprehensive search of internet resources from Europe and abroad to come to both published and unpublished papers and reports related to transparency. Initial search terms were 'transparency', 'perfect competition', 'horizontal competition', 'vertical competition', 'supply chain', 'value chain', 'bargaining power', 'agri' and combinations of this. Based on the findings, new search terms were introduced such as 'five forces', 'Porter', 'bargaining power', 'consolidation', 'antitrust' and 'welfare losses'. Although a number of sites and books were consulted, a study by BASIC (Bureau d'Analyse Sociétale pour une Information Citoyenne) focusing on power concentration and unfair trading practices in agricultural supply chains, and a report prepared by AMTF, an expert group aiming at improving the position of the farmers in the food chain, were important sources, especially related to the agrifood sector in specific.

For section 2 focusing on the effects of transparency both in economics and management literature, an extensive literature search was performed in Web of Science and Google Scholar, including terms as 'transparen*', 'asymmetr*', 'disclos*', 'information asymmetr*', 'competitiveness', 'efficiency', 'perform*', 'chain performance' and combinations of those words. Based on the reading of titles and abstracts, studies were excluded if 'transparency' was used in other contexts than markets, or if the effects of transparency were not the scope of the paper. No restriction on type of markets was employed. Also, based on references in the papers found, further interesting papers were identified. Due to the limited volume of studies found focusing on agrifood, an additional search was executed, not limited to scientific peer reviewed papers, leading to the consultation of a book focusing on transparency in the food chain in specific, but also with limited results related to the real effects of the implementation of transparency.

Market transparency in the broader framework of competition

Perfect competition

Perfect competition is a theoretical market model, developed by (neo)classical economics, in which the following five conditions are met (Parkin et al., 2014):

- There is a large number of independent buyers and sellers, each representing only a relatively small share of the market.
- All buyers and sellers are price takers, they don't have sufficient power to influence the market price and can only accept the price they pay/receive for the products and services they buy/sell.
- The market is fully accessible for everyone. No restrictions on the entry or exit of firms into or out of the industry exist.
- A homogeneous product is traded, i.e. no differences in quality exist. The products are identical, so buyers' preferences are only price related.

– All buyers and sellers have complete and transparent information on anything relevant to the market. They have perfect knowledge of the prices charged by each firm and the utility, the quality and the production method of the products. They know all details about the product being sold and the prices charged by each firm.

Why is perfect competition desirable?

If the assumptions above are fulfilled, a perfect market arises in which the competition among sellers eliminates all profits. The market price is the same as the marginal cost and the marginal revenue (Parkin et al., 2014). It is proven that a perfect market will reach an equilibrium in which the quantity supplied for every product/service equals the quantity demanded at the current price. This equilibrium is a Pareto optimum, i.e. the allocation of resources is so that by reallocating, nobody can be made better off without making someone else worse off. As a result, competitive markets enable the most efficient distribution of assets/benefits among individuals (BASIC, 2014).

The last fundamental condition ‘complete and transparent information’, which is the focus of this paper, minimizes search costs, such as time and money spent to discover best prices, and contributes hence to perfect competition (Schouteten et al., 2014). According to Sanchez and Heene (2004, p. 14): “Having full information about prices of goods, buyers will only buy at the lowest price available in the market, and only when the utility they will derive from use of a good exceeds the market price of the good. Sellers, in turn, will allocate their available resources to producing goods that would bring them the greatest surplus of price over costs available in the market.”

Market power and structural imbalances

However, perfect competition is an ideal and the described conditions never apply to real-life markets (BASIC, 2014, Fine, 2012). In many sectors, a few actors are large enough to influence/control market prices through the negotiation power they achieve by buying/selling a large percentage of total demand/supply. In the extreme case, this concentration of power

results in a monopoly or monopsony. A monopoly occurs when there is only one single seller or a group of sellers controlling a significant share of supply, giving them the ability to drive prices up. When competition is reduced, sellers tend to set the retail price above the equilibrium price and as close as possible to the consumer's willingness to pay. A monopsony exists when a single buyer or a group of buyers has a substantial share of demand. By withholding demand, they are able to reduce the retail price below the equilibrium price. In addition, when far fewer sellers in relation to buyers are present, buyers can also exercise bargaining power and commit suppliers to accept terms that they normally would not accept but cannot refuse out of fear for revenge (BASIC, 2014). This bargaining power of buyers is, as well as bargaining power of sellers, identified by the theories of Michael Porter as a vertical competitive force (Steiner, 2008, Porter, 2008).

A firm's market power is found to be a joint function of both horizontal and vertical competitive forces that determine industry profitability and competitive advantage (Steiner, 2008). Vertical competition takes place between firms at successive stages and is opposite to horizontal competition, that occurs between firms at the same stage in the value chain. However, in economics and antitrust law, only firms at the same horizontal stage, and thus producing substitutes, qualify as competitors, meaning that market power is often a consideration for the approval of mergers. In these theories, firms at successive stages are described as having a solely complementary relationship (Steiner, 2008, Muris, 2005).

In real world, firms are vertical competitors of the suppliers from whom they buy and the retailers to whom they sell (Steiner, 2008). By bargaining/beating down the margins of their upstream and downstream competitors, they can obtain a lower invoice cost and a larger share of the retail price. As a result, the firm's vertical market share is boosted. Compared to their horizontal rivals, firms that buy cheaper, are able to sell at a lower retail price, and hence increase their horizontal market share, and again their negotiation power. This shows clearly how vertical and horizontal competition are closely intertwined and positively related. By

becoming a stronger horizontal competitor, a firm becomes a stronger vertical competitor, and vice versa (Steiner, 2008).

Government interventions

When a market is imperfect, implying that the standards of perfect competition are not met, unfavourable situations can arise, as described above. Governments can interfere in these imperfect markets to correct for market failures, to achieve greater equality by redistribution of income and wealth and to improve the performance of the economy (Pettinger, 2017).

There is a debate among economists about whether government interventions are justified when markets are imperfect. Some economist argue that government interventions are allowed to promote increased efficiency in any deviation from perfect competition. Others argue that this is only in some cases or hardly ever allowed, as governments may not possess the correct incentives or information to interfere correctly, making them imperfect as well (Pettinger, 2017).

Free markets are very good at creating surplus, but sometimes they fail or produce unacceptable results. Free-market economies may have outcomes that seem unfair, because they yield many poor people who lack basic necessities, or individuals receiving more or less than they deserve.

The question is whether government interventions can create outcomes that are more acceptable to members of society, and considered as fair.

Possible government interventions are price and quantity regulations and taxes and subsidies. Examples are labour markets with minimum wages for low-skilled people, a housing market with a rent ceiling to help poor families with their housing, or penalties in markets for illegal goods (Parkin et al., 2014).

Global value chain theory

Institutional economic theory provides a broader view on the real economy and international trade compared to neoclassical economic theory and proposes the theory of global value chain (GVC). While neoclassical economic theory only looks at transactions, global value chain theory focuses on all activities from production to consumption, including all the links in between. Similar, in traditional trade theory buyers and sellers are independent actors, in contrary to the presence of power relations in which trade is embedded in the global value chain theory (BASIC, 2014, Gereffi et al., 2005).

As a result, as described above, traditional economists aim for a Pareto optimum, an equilibrium in which no one can be made better off by exchange without making someone else worse off, and for the largest possible transparency. In global value chain theory, social losses are not considered accidental, exceptional cases or minor disturbances, but the normal result of market competition. These losses are closely related to power relations between business actors and there is no absolute attainment of transparency (BASIC, 2014, Gereffi et al., 2005).

The concept of global value chains was not instantly shaped but evolved over time and roots in various subfields. Globalisation led to two stages of unbundling of economic activities – geographical (steam revolution) and technical (ICT revolution) – but this concept captures only one dimension of the dynamics of the world economy (Inomata, 2017).

Vertical integration, defined as the internalisation of various segments of a production process in a single management structure, is another critical aspect in the GVC. Vertical integration is implemented when the production inefficiencies associated with trading relationships are minimised, more specific when the benefit of attenuating the opportunistic behaviour of exchange parties, caused by contractual hazards such as information asymmetries, outweighs the bureaucratic costs of unified hierarchical organisations (Inomata, 2017, Joskow, 2008).

All this is in contrast to the neoclassical perspective, in which vertical integration is considered as a market imperfection, i.e. a deviation from the assumptions attributed to (market

transactions under) perfect competition. Therefore, they interpret vertical integration as a response to pre-existing market power distortions or as a strategic move to create or enhance market power in upstream or downstream markets (Joskow, 2008).

Agrifood supply chains

Agriculture is the industry that most closely resembles perfect competition in real life (Sexton, 2015). Ideally, this means that a homogeneous product is traded between many buyers and sellers, who are well informed about prices, in a market that is characterised by free entry and exit. The large number of producers creates a situation where one firm does not have enough power to influence total supply, making all firms price takers. The intersect of supply and demand determines the market price. On a theoretical level, this market model makes sense, but also in the agricultural sectors, the rigorous standards of a hypothetical perfectly competitive market are never fully met (Fine, 2012).

The agricultural sector is characterised by unique traits. First, uncertainty is a large inherent risk of agriculture, more than in other industries (AMTF, 2016, Madre and Devuyst, 2016). Farmers are somehow in ignorance about the amount and the quality of the output that they will produce with a given set of inputs. This uncertainty is mainly caused by uncontrollable events, in particular weather patterns and diseases/pests. Further, long production lags exist due to the biological processes on which agricultural production is based (AMTF, 2016). Production decisions have to be taken in advance when there is only limited knowledge about the market situation in the future influenced by for example food scandals with psychological effects in case of media coverage (van der Vorst, 2000, Gold et al., 2017).

Transparency in the agrifood supply chain is an old requirement brought forward by both consumers and the industry (Schiefer and Deiters, 2013). Management approaches often limit their focus on the end of the chain, the customer, missing to integrate all actors in the chain and network. Furthermore, agrifood chains are often complex structures, with farmers and processing companies situated thousands of kilometres apart from each other, involving

companies from different countries with different backgrounds. These factors lead to deficiencies in transparency on the origin of products and on production activities. For example related to food quality, the most challenging issue is not to obtain the information, but to transfer this information along the food chain, due to its multi-step nature and complex interactions. Documentation is often incomplete but also stakeholders are unwilling to share information, leading to an information gap between food supply chain members. Increased importance is put on the flow of information by governments and retailers to deal with safety issues and produce high quality products. By obtaining data at each critical point of the chain, stakeholders can undertake well-directed actions. To improve quality control, transparency and cross-stage traceability, different approaches for (gapless) monitoring and reporting data and information exist, such as RFID technologies (Radio Frequency Identification) and fluorescence spectroscopy. However, no results of the application in practice are found.

The power concentration and international competiveness in agricultural supply chains is an issue of increasing concern (BASIC, 2014). Agriculture is characterised by the presence of a large number of producers and consumers. Much of agriculture around the world is still in the hands of small-scale farmers, despite rapid urbanization and the emergence of large-scale commercial farming (Vorley et al., 2012). Over a third of the world's populations is rural and depends on agriculture for living. On the consumer side, more than 7,5 billion mouths have to be fed. In between producers and consumers, a strong consolidation in agricultural supply chains can be observed (Grievinck, 2003). This power concentration appears to be structural and converges on input suppliers, traders, processors and retailers. Mergers and acquisitions lead to tight oligopolies and global vertical integration in the downstream chain. Narrow conduits are thus created, through which all goods must pass in order to reach the final consumer (BASIC, 2014). All these actors possess now the negotiation power instead of the primary producers, and are able to influence and set the prices of the agricultural products. A lot of primary producers are losing control and are depending on state interventions to survive (BASIC, 2014, AMTF, 2016).

289 At the bottom of the chain, a large amount of small-scale farmers exist. Small, implying they
290 lack economies of scale and therefore their productivity is relatively low. A large amount,
291 implying they have low bargaining power and are price takers. Downstream, processing and
292 distribution companies can make use of their bargaining power. They often limit their efforts in
293 being innovative, efficient, or customer driven, as they can make use of their power and shift
294 risks or costs upstream in the value chain towards producers, making unilateral unanticipated
295 changes to agreements with suppliers, holding back of important market information to obtain
296 favourable contract conditions, paying suppliers with delay etc. (Maglaras et al., 2015). Instead
297 of looking for profit maximization, they are fulfilled with satisfying profits, and gain an
298 overproportionate share of benefits in the chain (Maglaras et al., 2015). The exertion of market
299 power induces hence a biased allocation of resources within the value chain, leading to welfare
300 losses with suboptimal resource allocation (Bakucs et al., 2009).

301 Concerning government interventions in agriculture, a continuing trend of reduced support
302 through classical EU market management measures such as public intervention or private
303 storage aid is observed. The use of these measures has become not more than a safety net
304 in times of market crisis and is no longer a regular feature in the CAP (AMTF, 2016, Madre
305 and Devuyst, 2016). Further, also the economic and financial crisis (2009-2016) reduced the
306 available budgets for rural areas and agriculture in general in many EU countries. Nowadays,
307 policy measures try to fulfil some of the functions of classical market management but by
308 implying a much greater reliance on the self-help and self-organisation abilities of the sector
309 and the supply chain, facilitated by adequate rules at EU and Member State level (AMTF,
310 2016).

311 **Economics and management literature focusing on market transparency and its**
312 **effects in different markets**

313 Although we found a lot of papers concluding with the suggestion to increase transparency,
314 the literature search showed that only limited papers are available focusing on market

transparency and its real effects. The majority of the relevant papers found were situated in management literature, focusing on the effects of transparency for the involved chain members. However, also some articles were found in economics literature focusing on the effects on welfare of the society as a whole.

Economics literature

In a study restricted to transparency of trade and quote data only, Bloomfield and O'Hara (1999) investigated among others whether diversified market information affects market performance in securities markets**.** Trade disclosure was found to create more informationally efficient markets, while quote disclosure seemed to have no observable effects. However, the enhanced informational efficiency arises at the expense of reduced transactional efficiency, implying the lower need to compete for order flow and resulting in increased spreads and therefore trading costs. Hence, Bloomfield and O'Hara (1999) suggest for regulatory policy makers that the degree of transparency may be more important than its absolute attainment. A trade-off between informational and transactional efficiency has to be made as transparency not necessarily improves market efficiency and competitiveness.

Another example where increased market transparency is in conflict with efficient market performance is the study of Albaek et al. (1997). Following a decision of the Danish antitrust authority to regularly publish transaction prices of individual firms in the ready-mixed concrete industry, average prices rose sharply however the purpose was to prevent oligopoly collusion, promote seller competition and push prices down. By reporting firm-specific information, in particular previously confidential discounts, the Competition Council unconsciously reduced the intensity of oligopoly price competition and allowed firms to increase prices. As other parameters in the industry did not change during the period observed, no other explanations for the rise of concrete prices can be found. Before the introduction of this reporting service, literature already stressed the importance for tacitly colluding oligopolists of observing rivals' transaction prices and considered price-shading as a natural feature of a competitive oligopoly.

Hence, this paper suggests that the improved flow of information can be in conflict with efficient market performance (Albaek et al., 1997).

Another piece of evidence to support this is provided by Schmitz and Fuller (1995) and Fuller et al. (1990), in which the effect of contract disclosure legislation was researched. The mandatory disclosure of selected terms for contracts between grain shippers and railroads reduced the use of contracts and extended the adoption of published tariffs for price communication. The increased reliance on published tariffs facilitated rate coordination by the oligopolistic rail industry, by enhancing (tacit) collusion, and pushed railroad rates upwards. However, only when strong intermodal competition was ineffective or absent, railroads were able to increase rate levels. In the case of direct barge competition, implementation of the disclosure regulation did not yield rate increases, even though they relied more on posted tariffs for price communication (Schmitz and Fuller, 1995).

Management literature

In a paper on supply chain management in agriculture, focusing among others on the economic aspect of transparency, Mau (2002) argued that transparency in terms of information, e.g. all measures applied during the plants' growth, is a key requirement for the quality of the process chains for foods. Transparency in processes leads to easier allocation of responsibilities in delivering qualitatively exceptional products (high added value) and is facilitated by using standardized production procedures, in the format of quality manuals and activity lists, own controls and certification, improving the conditions for consumer acceptance. Thereby, it is emphasized that these measures should be communicated as a complete message and not as a many bits and pieces of information and statements (Mau, 2002).

Further, information asymmetries between companies and their consumers can negatively influence agrifood supply chain performance. In a study by Gold et al. (2017), it was pointed out that supply chain performance attributes related to credence, such as ethics and sustainability, cannot be verified by consumers due to lack of empirical information as

companies are overly secretive on this topics. Informed decision-making is hampered by this information asymmetry and innovative labelling and other information-oriented measures (e.g. certification) to transfer production information are proposed as facilitator of supply chain performance in the agrifood industry for credence attributes (Tukker et al., 2010). However, as various supply chain performance dimensions are inherent contradictive, it is important to acknowledge that a trade-off between them should be made to push the performance frontier of the agrifood supply chain outwards (Gold et al., 2017).

Dingwerth and Eichinger (2010) researched the contribution of transparency to empowerment of information users when sustainability data is disclosed. Transparency is considered to enable stakeholders to make informed decisions and as a tool for holding powerful actors accountable. A particular disclosure scheme was evaluated to examine how transparency policies empower the users of disclosed information and the tensions related with this. The reporting mechanism had only a small impact in shifting the balance of power in corporate governance towards civil society, in accordance with previous studies. However, hopes associated with transparency policies are often unrealistically high. Transparency policies may work to a certain level, increasing transparency fails to empower stakeholders because reported information is often too complex. Further, achieving empowerment was never a target of transparency policies (Dingwerth and Eichinger, 2010).

The study by Zhu (2004) explored the social and private desirability of information transparency in B2B electronic markets. It was shown that, in contrast to the popular belief that open sharing of information is beneficial to all participating firms, information transparency could be a double-edged sword. The actual effects of a transparent environment are complicated and not necessarily good for all participants. Although its overall effect on social welfare is positive, its private desirability is deeply divided between producers and consumers and even among producers themselves, as competitive risks are increased when information is made public (Zhu, 2004).

Lamming et al. (2004) researched the concept of transparency for use in supply relationships. They suggest that a significant factor in the success of a relationship is (the lack of) transparency at the interface between buyers and sellers. Transparency is considered as a manageable element of relationships, rather than a general property, that can be employed in commercial relationships between customers and suppliers and may have advantages for both parties, without risking commercial instability or vulnerability. The two-way exchange of selected sensitive information and tacit knowledge does not need to be symmetrical, a balance should suffice as the exchange is only worthwhile if both parties gain value as a result. They conclude that practicable ways of handling selective, managed, bilateral transparency should be developed for secretive information exchange.

However, this does not imply that transparency could be implemented in all supply relationships nor that it is a state that should always be sought. Total transparency would be too time-consuming, too information-intensive and untenable within traditional interorganizational behaviour. Even ‘open-book’ is not considered as a full clarity. Excess of information may be used to dazzle the receiver or to hide the fact that critically important information is missing. On the other hand, opaqueness is not necessarily a problem. It only becomes an urgent issue for a customer/supplier when it is linked to value creation, nurture and delivery. Also, opaqueness may represent an honest response to a request for sensitive information that cannot be met. Therefore, in practice, most supply relationships exhibit elements of opaqueness and transparency. They are seen as translucent relationships and enable managers to undertake sufficiently informed actions with acceptable levels of confidence (Lamming et al., 2004).

Conclusion

In neoclassical economic theory, complete and transparent information is considered a necessary condition for perfect competition. In competitive markets, an equilibrium with the most efficient allocation of resources is reached. As such, the Agricultural Markets Task Force

(AMTF) has proposed several recommendations for increased market transparency to foster effective conditions of competition along the supply chain and to reduce current information asymmetries. Among other things, mandatory price reporting and enhanced dissemination, better communication and more comparability were suggested to the European Commission.

Despite this increasing attention on market transparency, there is little consensus on its implementation and effects in markets. Theoretical research, especially from the neoclassical school, suggests that market transparency matters, stating that perfect competition, and thus perfect transparency, would produce the best possible outcomes for consumers and society. This is also the reason why policy makers all over the world often set this course. Hence, a lot of literature was found concluding with the suggestion to increase transparency. However, the literature search revealed that only limited papers are available focusing on the real effects of market transparency. Moreover, our review of both management and economics literature showed that increased market transparency does not automatically result in a higher intensity of competition, higher innovation capacity, more sustainability and a better world in general.

Transparency or the lack of transparency is a significant factor in the success of a relationship. However, rather than the absolute attainment of transparency, an optimal degree of transparency should be achieved. An appropriate balance between information transparency and data confidentiality has to be made to minimize competitive risks. Transparency could be a double-edged sword as it is social desirable but not always private desirable. Transparency in the chain facilitates the allocation of responsibilities and is more reliable when the standardized production procedures are used and when the communication is done as a complete message. However, transparency policies may only work where information needs are limited. As already stated by AMTF, cost effectiveness of measures has to be considered. It is not intended to obtain increased transparency at the expense of too much cost and efforts.

As stated before, processing and distribution companies use their bargaining power to shift risks or costs upstream in the value chain towards producers and limit their efforts in being innovative, efficient or customer driven. They are fulfilled with satisfying profits and hence

induce a biased allocation of resources. Instead, they should look for profit maximization, as by innovating, efficient performing and creating value for their costumers, bargaining power abuses will automatically lower or even disappear.

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