

# LONG AND SHORT SUPPLY CHAIN CO-EXISTENCE IN THE AGRICULTURAL FOOD MARKET ON DIFFERENT SCALES: OLIGOPOLIES, LOCAL ECONOMIES AND THE DEGREE OF LIBERALISATION OF THE GLOBAL MARKET

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## Abstract

This paper is intended as an approach to the complex matter of the co-existence of long and short chains. It introduces a stimulus to further study these questions more thoroughly, which current market situations lead us to believe will be an interesting field, and one well worthy of consideration.

It proposes analysing the advantages and weaknesses of the long and short chain in various different settings and environments. The ultimate aim is to help identify a better combination in the set-up of outlet methods into the agricultural-food markets.

The study performed highlights: The effects of the increasing power of large-scale retail distribution, hypothesis of future scenarios and the balance-restoring function of the short chain; SWOT analysis of the short supply chain with reference to MEDCs and LEDCs contexts; Connections between short supply chain, self-centred development and protectionism; The non-antagonistic relationship between long and short chain within the districts.

The results of the analysis, showing the various, severe repercussions of the individual market's action on the whole of the agricultural production economy and consumer well-being, highlight the trade-off, at times dramatic, between the various choices of economic and commercial policy.

In thus doing, this work remarks the need for new studies aiming to assess the environments of greater relative convenience, those where there may be an overlay, juxtaposition and opposition of the long and short chain, in order to identify optimal coexistence equilibrium in the various contexts, on a local and, overall, global scale, between the two methods of sale on the agricultural food markets system.

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**Keywords:** Market equilibrium, Globalisation, Short and long chain, Rural development, Environmental, social and economic sustainability

## 1. Introduction

### *1.1 Current relevance as to why alternative outlet circuits should be encouraged*

In the current difficult, controversial economic situation, in which consumption as a whole, including food, has declined<sup>28</sup>, and both consumer demand and first-stage supply of agricultural production are experiencing a negative climate, we look to various different types of solution to provide an answer improving the current state of affairs.

Clearly, generalised price increases, of food and other products, create problems for consumers, and particularly those on lower incomes. We can also see, however, that the price difference between input and output, leads to huge difficulties for farms (Cicatiello, Franco, 2008), which are on the one hand crushed by increasing production costs, and on the other, by scarce incomes from product sales (Van der Ploeg, 2006). The problem lies in the fact that the difference between the price of food products to the farm and to the consumer, is unsustainably high due to the increases sustained during the various steps of production and distribution in a conventional chain. This with regards to more economic developed countries. Worldwide, and particularly in less economic developed countries, the problem of production-consumption price polarisation is extremely serious, causing phenomena such as the progressive impoverishing of agricultural workers and hindering objectives of reducing malnutrition and famine.

Responses to this situation include searching for alternative outlets by which to reduce price increases during the distribution chain and, particularly with reference to poorer countries exporting food and other agricultural produce, and which do not allocate their own production to domestic food consumption, by which to reduce unbalances in contractual strengths and asymmetric information to individual farmers and companies importing products and exporting technical tools.

The long-standing debate on the opportunities offered up by the so-called ‘short chain’ or ‘short circuit’, intesa in tutte le sue manifestazioni (farmers’ markets, direct farm sales, *agritourism*, box schemes, ecc) , thus takes on current relevance. As is known, the short chain, also commonly

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<sup>28</sup> Worldwide, except for those countries that have undergone very recent growth. Please note, in discussing changes in consumption, we particularly mean the situation in more economic developed countries, whilst with regards to less economic developed countries, where average consumptions already fall well below subsistence levels, we should really consider our failure to reach the increases anticipated.

referred to as “direct sale” has the characteristic of creating a direct relationship between producers and consumers, individual or associated. It determines precisely a “shortening” of the chain through the elimination or reduction of the number of commercial intermediaries and the journeys travelled by products, for which final distribution takes place in the same area of production. It is a current commercial formula, even if in more economic developed countries it appears to be taken back up from traditional local markets of the past<sup>29</sup>. This method of marketing, the advantages of which have been highlighted in literature and by agricultural category organisations on several occasions, constitutes an alternative commercial outlet that contrasts with the so-called “long chain” or with “long circuits” chain, of which the latter is discussed with regards to the “logistics and globalisation of commercial flows” (Del Vecchio, 2008).

### ***1.2. Contents and significance of this study***

This study constitutes an analysis of the weaknesses and advantages of the long and short chain and the coexistence equilibrium of the two chains in the markets. This may be balanced to a greater or lesser degree in terms of marketing shares that may lie with each of these two different methods of sale, in the structuring of the mix of commercial outlets on the agricultural food markets on different scales, in different contexts and situations.

The analysis is a contribution towards identifying the most appropriate “economic place” of each chain and the discussion that therefore ensues - showing the problems present and the various, severe repercussions of the individual market’s action on the whole of the production economy and consumer well-being - highlights the trade-off, which at times is dramatic, between the various choices of economic and commercial policy.

In thus doing, this work highlights the need for new, more complex studies focused on identifying and above all on attempting to quantify in the market systems, the socially most convenient balance of the coexistence of the two chains, or at least efficient balances. These studies - of which this is only an introductory approach, aimed purely at clarifying the problems at hand - would be more appropriate today than ever before, as they would fill a gap in research on this specific, difficult aspect of the general, more extensively discussed subject of commercial outlets with alternative chains. In this regard, it should be noted that the importance and lack of specific studies on other single themes in some way connected to the research for this equilibrium has already been highlighted. For example, Renting et al. (2003)

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<sup>29</sup> When goods were to a large extent produced and marketed within the sphere of the same area. The short chain appears in developed countries as a re-visitation of the weekly markets. It is a type of distribution that in recent years has seen a progressive diffusion in these countries with regards to agricultural and farming products

- in observing the ferment underway in different areas of Europe, regarding both some current trends of food consumption and the new guidelines for the agricultural offer, after the failure of “industrial agriculture” - has sustained the need for more in-depth studies on the connection between short food supply chain and rural development, also highlighting the fact that “there is no one dominant model of development”, as is highlighted by the analysis “concerning the interactions between the farm, institutions, and the associational realm, and in appreciating the degree of variability”, considering that “these relationships must alter and reconfigure over time and space”.

## **2. Objectives and methods**

The study aims to analyse the strengths and weaknesses of the short chain as compared with the long chain in various different contexts and situations, to help identify the best possible combination in the articulation of methods for outlet release on agricultural food markets.

The method used is simply that of context analysis and, more specifically, the SWOT analysis performed on the short chain outlet method. This analysis was carried out with an in-depth reflection on the empirical evidence and with the support of extensive critical analyses of literature on the subject, data and information available; this has enabled a full investigation of the advantages and weaknesses of the short chain *versus* the long chain in different market contexts on various scales and of the repercussions worldwide of individual local action.

For simplicity, the SWOT analysis refers to just two different macro-contexts: more economic developed countries and less economic developed countries, grouping the different situations examined in various contexts.

## **3. Results and discussion**

The results of the analysis are given in an articulated discussion, in which:

- with reference to the long chain, the effects of the increasing power of large-scale retail distribution are carefully examined, after having noted the continual concentration of distribution chains and the reasons for this;
- the market evolution is discussed along with the need for a control over the power of large-scale retail distribution, on the future scenarios that can be hypothesised and the balance-restoring function of the short chain;
- the critical issues and advantages of the short chain, as concerned by the SWOT analysis performed, are analysed with reference to two different contexts;
- the situations are identified within different micro and macro-contexts in which the short or long chain find their most appropriate "economic

- place" and can be efficient;
- the connections between short chain, self-centred development and protectionism are considered;
  - the non-antagonistic relationship between the two different outlet methods examined is highlighted, within specific production districts.

### ***3.1.The growing power of large scale retail distribution and its effects.***

#### ***3.1.1 The long circuits and retail food distribution market structure***

The ease of transport together with the speed at which information circulates and the growing logistics organisation have resulted in a globalisation of trade flows.

This also takes place for food products, much of which are marketed through 'long circuits' involving a breakdown and delocalisation of the individual production activities, various commercial intermediaries and lengthy travel. We find products from all different countries available on the same market at the same time. At times we cannot even completely control origin, as the areas of farm production are entirely independent of those of consumption and also product transformation. These are circuits typically used by large-scale retail distribution (LSRD)<sup>30</sup>.

This type of chain, first considered to be at maximum efficiency at least in 'financial' or 'merchant' terms, has recently been criticised from an overall economic viewpoint that includes social and environmental aspects.

The evolutionary dynamics of retail food trade that initially occurred in the United States of America early last century, and which subsequently involved the whole of Europe followed by various countries of Africa, Asia and Latin America, have led to a progressive concentration of the market by increasingly fewer, but larger businesses (Lawrence F.,2004): multinational companies. Currently and prospectively, according to some forecasts, these multinationals would then tend towards a further significant concentration. This is the result of a long, articulated process of dimensional growth assisted by various factors that have, over time and by means of a continuous process of mergers and acquisitions and at times also of simultaneous internationalisation of the companies, determined the current global and local food market order, in addition to the "structural and functional relations order characterising modern food distribution" within (Pulina, 2009).

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<sup>30</sup> Even if in the various branches and settings in which LSRD is articulated, local products may also be marketed. Moreover, as we will see, it is not only the physical distance between the area of production and of consumption, but also the different contractual power with regards to producers that characterises respectively the long chain and the short chain.

The factors that above all have helped confirm these orders lie in the important role played by scale<sup>31</sup> and scope<sup>32</sup> economies in the sector of modern food distribution and by the large sizes required to reach an efficient scale. These factors are also related to the progressive expansion of market space and goods circuits on a global level<sup>33</sup>, which is in clear contradiction with the theoretical supposition that market expansion should increase, rather than reduce the number of companies involved<sup>34</sup>. This apparent contradiction with the existence of an inverse ratio between the level of concentration and market dimension can, in fact, be logically explained, as identified by Sutton (1991) in the differentiation of unrecoverable fixed costs (sunk costs)<sup>35</sup> in hexogens and endogens.

The first are determined by factors external to the business and refer to incoming market conditions (such as the costs for entering a sector marked by high scale economies). The second (such as investments in advertising and R&D<sup>36</sup>) are not determined exogenously from the market the business is looking to enter, but are decided by the companies and constitute strategic variables of choice for the companies themselves (see Giorgetti, 1998; Pulina, 2009).

Sutton confirms the truth behind the existence of an inverse relationship between the market dimensions and concentration for sectors characterised by exogenous sunk costs<sup>37</sup>, but shows that this is not the case for sectors characterised by endogenous sunk costs. This is due to the fact that whilst the first remain constant as market dimensions increase, the

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<sup>31</sup> Linked not only to the large surface areas in which sales are concentrated, but also to the whole commercial organisation complex.

<sup>32</sup> Large-scale distribution tends to offer ranges of products, not exclusively food-related, and increasingly varied services.

<sup>33</sup> In turn linked to the increasing 'facility' of transport over long stretches (increased transport speed and, at the same time, a 'banalisation' of the relevant costs, at least up until now, where, instead, we see an increase of these costs that could result in a reversal of trends) together with the speed with which information circulates and the increasing logistical organisation.

<sup>34</sup> The volume of demand in relation to the efficient scale dimension (of an installation or other investment type) and to the consequent quantity it is worth each company producing (for simplicity, hypothesising that each company uses just one installation or investment of efficient size), should empirically indicate the number of businesses that are able to exist on a market.

<sup>35</sup> These are fixed costs defined as such because, in adopting a scheme of "game theory", with several stages, as they are carried out in the initial stages of play, in the final stage they are no longer considered recoverable.

<sup>36</sup> As Giorgetti (1998) points out, it is important to stress that "the nature of costs is not defined by the type of expense (e.g. in advertising and R&D etc.), but rather by the purpose for which the expense is sustained". For example, amounts spent on R&D "when these are sustained to an equal extent by rival companies, they constitute exogenous sunk costs rather than endogenous".

<sup>37</sup> Sutton actually shows that at the Cournot-Nash equilibrium, the number of businesses entering a sector characterised by exogenous sunk costs is inversely related to the set-up costs, namely those costs that businesses have to sustain in order to enter an industry by purchasing an individual plant to operate on a minimum efficient scale. Sutton shows that this number is directly proportional to market dimension.

second grow. Consequently, in this case the number of businesses does not increase with the total market volume (Pulina, 2009).

In actual fact, what happens is that when businesses invest in unrecoverable endogenous costs (such as fixed costs for investment in advertising or R&D), they obtain more than proportional earnings for an increase of their commercialisation shares that is ever greater than the growth in market size. They are therefore encouraged to make such investments, thereby increasing fixed costs and consequently giving rise to a market structure that is progressively less fragmented.

The market structure that tends to be created spontaneously with the concentrations applied in a bid to reach the most efficient scale dimension by which to make best use of investments giving rise to these sunk costs is mainly of an oligopolistic type. We therefore have the conditions for a natural oligopoly.

According to Ellickson (2004), the conditions are created for a natural oligopoly that would appear not to tend to become a monopoly, insofar as no business gains standing over a specific market segment (a given area or product), but rather each is in competition with the others on all areas and on the whole range of products. A market structure therefore forms with few companies fighting “head to head”, always improving the quality of supply.

On this matter, we should note that in using the term ‘quality’, it is assumed that Ellickson was not so much referring to excellence in intrinsic product quality (linked to the agricultural production phase and which can generally be seen not as the primary objective of large-scale distribution), as to the quality of the organisation. A quality organisation, therefore, in these terms is one able to supply products that are, in any case, of relatively good basic quality, a standard guaranteed by specific labelling, but at limited prices, of homogenous sizing, with a wide variety of choice the whole year round, increasingly pre-prepared and ready for consumption, well packaged in a practical manner, with a view to time-saving (including layout, parking and opening hours) on the market. This is the quality that successfully meets the various consumer demands.

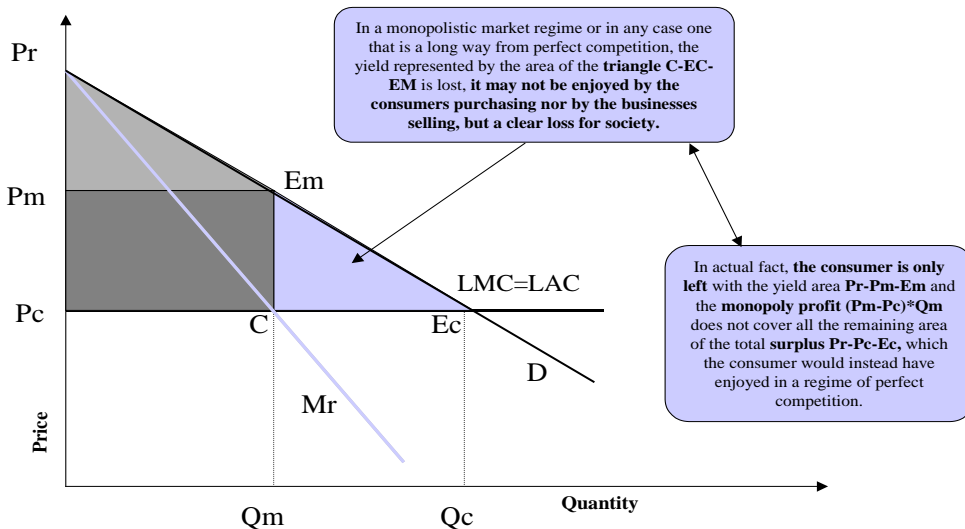
The same author, also pointed out that together with the few, large businesses concentrating most of the supply, a fringe sector of small retailers also coexists (whose presence is ignored in Sutton’s models). These small businesses manage to survive and, on the contrary to the mentioned large enterprises, tend to be more numerous as the market dimensions grow, as the type of sunk costs faced is exogenous rather than endogenous. The market share held by this fringe group of small businesses is significantly more minor than that held by the large sales chains (hence Sutton’s model on the prevalent effects of endogenous sunk costs towards concentration does not

cease validity), however we believe that, even if only small, it is of significant social strategic importance. This is because it can assume a controlling role that is such as to be able to mitigate the power of the few large companies in a market structure that remains basically oligopolistic. And it must be considered that amongst said fringe of small businesses, there may also be farmers’ market businesses, for which we wish to highlight the possibility of taking on that role.

*3.1.2 The positive and negative effects of the affirmation of large-scale retail distribution.*

The affirmation of the LSRD and its oligopolistic structure imply important consequences in terms of economic efficiency and social wellbeing. We need simply consider the breadth that the well-known Harberger triangle (1954) can take on, representing the loss of economic efficiency<sup>38</sup> caused by monopolistic power or even, in this case, by oligopolistic power (figure 1). The breadth of this triangle increases for market structures that are increasingly distant from conditions of perfect competition, until reaching a stage where it covers 25% of the total surplus generally realised in a market with perfect competition (Sexton, 2009).

**Figure 1. Social loss in the monopoly (and in the oligopoly)**



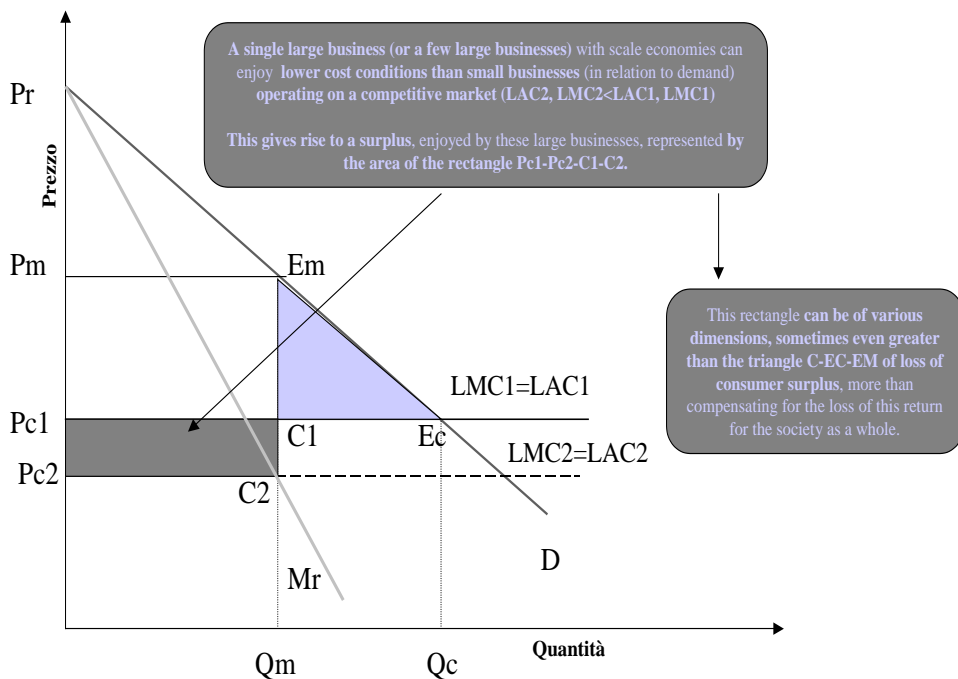
LMC =Long-run Marginal Cost; LAC=Long-run Average Cost  
 Em= Equilibrium in monopoly, with a quantity sold Qm, at a price Pm; Pm>LAC=LMC  
 Qm is the quantity that equals MR = LMC; Pc and Pm are the prices at which the demand D is willing to purchase respectively quantities Qc and Qm.  
 Pr= Demand reservation price; Ec= Equilibrium in competition, with a quantity sold Qc, at a price Pc  
 Pc=LAC=LMC; Mr= Marginal Revenue; Qc is the quantity that equals MR = LMC

<sup>38</sup> In terms of net loss of a share of consumer surplus, realisable and entirely usable by the consumer in conditions of perfect competition, which, in non-competitive market structures, cannot be used by consumers and is only partly reabsorbed by the profits that can be used by businesses with market power, and is therefore partly lost.



This loss of economic efficiency may, however, be recovered by the reduction in costs caused by the scale efficiency arising in oligopolistic companies (as in a natural monopoly) due to the large sizes (figure 2). This latter can allow for a reduction in prices that small competitive enterprises, who may have an inefficient scale dimension, can simply not afford. On the other hand, it is a well-known fact that the spontaneous onset in the market of a competitive or non-competitive structure with more or fewer small enterprises, or the affirmation of a few businesses or just one large business, depends to a great extent on the minimum dimension required to reach an efficient scale and on the dimensions of the demand to be met.

Figure 2. Scale efficiency and social and economic advantages of the natural monopoly (and oligopoly)



LMC1 = Long-run Marginal Cost in competition; LAC1 = Long-run Average Cost in competition ; LMC2 = Long-run Marginal Cost in monopoly; LAC2 = Long-run Average Cost in monopoly  
 Mr = Marginal Revenue; D = Demand; Pr = Demand reservation price  
 Em = Equilibrium in monopoly, with a quantity sold  $Q_m$ , at a price  $P_m$ ; Ec = Equilibrium in competition, with a quantity sold  $Q_c$ , at a price  $P_c$  ( $P_{c1}$  or  $P_{c2}$ , in relation to possible different costs)

What is certain is that, rather than in terms of pure economic efficiency loss, we need to assess the effects of the LSRD market power, both oligopolistic and oligopsonistic, on the social wellbeing of consumers and producers.

With reference to the positive, or apparently positive effects on consumers, we can state that, in contrast with the normal effects of an oligopolistic market structure, large scale retail distribution has not yet shown a trend to raise prices; on the contrary, it tends to have a retail price-controlling effect, indeed we speak of a magnet function of consumer prices. There is even a tradition to this end, as this role has been played since the very start of the major sales chains, in the period of the “great economic depression”, to such an extent that it is considered a mission of LSRD. Furthermore, this task is inherent to the managerial structure of large scale retail distribution, based on the sale of high product volumes with profit margins that, even if overall, are high, are relatively low in terms of product unit (Lawrence and Burch, 2007; Pulina, 2009).

This limitation of unitary margins and consequently of retail prices has been made possible by the large dimensions of the sales chains, which, through the pursuit of scale and scope economies, allow for a limitation of distribution service costs. These are drastically reduced by the wide-scale availability of suitable infrastructures and technologies and the organisational efficiency of logistics. Pressure to lower prices may also be applied, within the oligopolistic structure, caused by the possible competition of new incoming businesses able to offer goods at lower prices than those already on the market, in a framework of a cyclical renewal of the sector structural organisation, envisaged by the fundamental theory of the evolution of the retail distribution system (McNair, 1958; Hollander, 1960; McNair e May, 1978; Brown, 1990; Pulina, 2009).

However, the limitation of retail prices of food products is not only due to the reduction of costs and limiting of distribution service unitary margins. Above all, this limitation is due to the contractual strength of the major sales chains, which allows them to reduce production prices of agri-industrial products, and in particular agricultural products to a minimum<sup>39</sup>, upon their farm gate purchase. In actual fact, it is not so much the unitary margins of large retail distribution that reduce (albeit with the aim of increasing total income), as those – unitary and overall – of the first productive phase in the farm.

The negative effects of LSRD power therefore occur more in terms of its effect on the initial producers than on end consumers. Producers, in fact, suffer this power both – as is clearest – with reference to its oligopsonistic

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<sup>39</sup> Considering that the dimensions and contractual power of farms, at the first stage of production, are considerably lower than those of agricultural-industrial businesses. With regards to the reduction of the prices of agricultural-industrial products, it is, in fact, the effects of a superior countervailing power held by large-scale retail distribution with regards to agricultural-industry (which, moreover, held it years back both with regards to agriculture and retail distribution, before the affirmation of LSRD). It is, therefore, a situation that differs distinctly from the preponderant market power exercised in an imbalanced manner by LSRD itself over agricultural producers, in entirely asymmetrical conditions.

aspect, but also, as Sexton (2009) points out, with reference to its oligopolistic aspect and, in any case, to their combined effect.

The first aspect (oligopsonistic) determines an unbalanced contractual relationship with agricultural producers, who find themselves imposed prices and conditions of sale. This clearly derives from the fact that the market structure of the stage of first agricultural production is "naturally" competitive, considering that in the agricultural sector, scale efficiency can be achieved by businesses with various dimensions, including small ones, given the presence of different technologies<sup>40</sup>. This is why (differently to in other sectors, including that of large-scale distribution), the demand for food products at the first stage of production can be met by the supply of a multitude of various different size businesses (and not necessarily by a few, or by just one large business that in order to achieve scale efficiency must be so large as to saturate the entire demand). Each of the many farms, with dimension of the supply having no influence over price, contrasts with the few businesses of large-scale distribution that concentrate the demand of a myriad of end consumers. Therefore, we have this imbalanced relationship between two market structures with different contractual powers: a supply of a type that is naturally competitive in relation to a demand that is of a type that is naturally oligopsonistic.

The second aspect (oligopolistic) however, can also result in a reduction of prices of agricultural produce at the first stage of production. On this matter, we must consider that despite its efficient organisation, the oligopolistic structure of large-scale distribution has negative effects lying in the very nature of oligopolistic power, which tends to reduce the supply of goods on the market in order to obtain greater profits. According to a normal logic for the exploitation of this power, the total supply of agri-food products to the end consumers, available from the enterprises of large-scale distribution should be lower (in order to raise prices) than as would be the case in a situation of perfect competition. It therefore follows that the demand for farm products (to then be offered to end consumers) from these large-scale distributors should also be lower. This possible reduction in the volume of the supply to consumption and consequently the demand to the

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<sup>40</sup> Therefore, in this case it is not necessarily true that only large farms can reach increased scale performance. Medium farms, and indeed small farms, can too, where efficient scale is reached within a fairly small dimension. In this regard, Chavas (2008) points out, also citing other authors (Hall and Leveen, 1978), that in the agricultural sector of developed countries, empirical evidence shows that the function of the average cost has a typical L-shape: the average cost tends to decrease as the small dimensions of the businesses grow and therefore reach a shorter continuous line of stabilisation of scale returns for dimensions of medium to large size businesses. In actual fact, the existence of multiple technologies allows different breadth farms to choose the technology most appropriate to their dimensions, thereby each reaching better scale performance, cutting average costs, or at least obtaining constant performance.

farm would therefore in itself reduce - even regardless of oligopsony power – the equilibrium price of food products.

In any case, it must be admitted that the prices imposed on agricultural producers are generally rather disadvantageous, to the point where, in some cases, production is discouraged and, in any case, the objective of striving for excellent quality is depressed. The minimal sales margins resulting in the obligation to maximum reduction of production costs does not, in fact, allow for a high intrinsic quality level to be reached in products, unless this quality excellence is recognised (certified) and protected under the scope of large consortia that enjoy a certain contractual power<sup>41</sup>. Alternatively, the stated minimal margins can be overcome where this quality is so high as to be appreciated and required by a few discerning consumers who are willing to pay the price difference – or alternatively willing to lose out in terms of time-saving – for the higher quality of specific products, which can then be conveniently sold outside the large-scale retail distribution circuit<sup>42</sup>.

We must also consider that the major sales chains determine a delayed, incomplete and, above all, asymmetrical transmission to consumption of price changes at production (Sexton, 2009). This transmission – due to the stated contractual unbalance with the agricultural counterparty – is far more sensitive (and complete) in relation to price increases (and relevant trading sales margins) and far less at their reduction, as widely shown by a great many studies (Pick, Karrenbrock and Carman, 1990, for citrus fruits; Zhang, Fletcher, and Carley, 1995, for peanuts; Richards and Patterson, 2003, for fresh fruit, partially perishable; Kinnucan and Forker, 1987, Carman, 1998, Frigon, Doyon and Romani, 1999, Carman e Sexton, 2005, for dairy products; and Li, 2007, for the avocado).

When, for example, in periods of economic crisis, there is a drop in consumption, even if limited<sup>43</sup>, this causes distribution to decrease retail prices, yet marketing margins tend to remain constant, insofar as the reduction is generally almost entirely transferred to production prices. As such, the consequences on the agricultural sector are more significant than may initially appear to be the case when examining the drop in consumption and retail prices (De Stefano, 1985).

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<sup>41</sup> For example, in Italy this is the case of *parmigiano reggiano* or *grana Padano* cheese<sup>41</sup>, *Parma ham*, etc., consortia for which the market power of the LSRD would appear to be fairly limited with respect to the suppliers (Sckokai *et al.*, 2009).

<sup>42</sup> In actual fact, the consumers of these products constitute a specific target, which accounts for a meagre share of the demand and that can be satisfied by the fringe group of small retail sellers. These may also comprise direct sales at farmers markets within specific market niches that are not attractive to large-scale distribution.

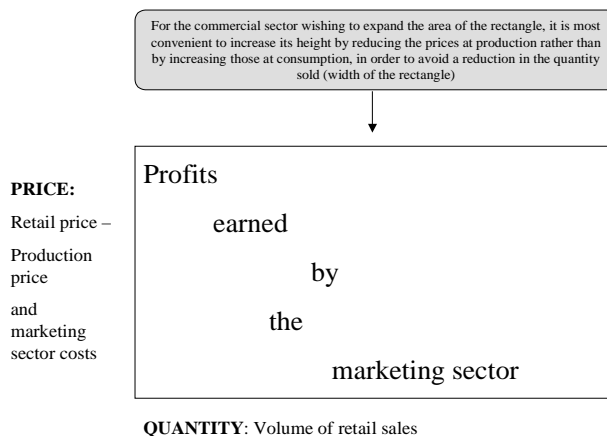
<sup>43</sup> Given that at least in developed countries, the demand for food is not particularly sensitive to income changes (Liefert and Shane, 2009).

In actual fact, we can see that due to the substantial difficulty in reducing marketing margins, in periods of economic crisis the ratio of retail food prices and farm food prices worsens (Frascarelli, 2009). Vice versa, when an increase in demand encourages an increase in retail prices, this is less than proportionally transferred to farm gate prices.

On this regard, not everyone agrees on assigning large-scale retail distributors the merits of a ceiling limit to prices, whilst there is greater agreement on assigning them a ‘stabilising’ function, whereby repeated projections are prohibited, which is of some use in granting consumers a sense of security. This stabilising function is, however, seen exclusively in the consumers’ benefit, whilst the opposite can be said of the producers where large-scale retail distributors determine a continuous instability of prices<sup>44</sup> and insecurity in sales, given that where possible, they search for lower production prices and consequently change suppliers as they wish to obtain the most favourable purchase conditions.

Considering that the profits earned by the marketing sector in the market are represented by a rectangle whose height is equal to the difference between retail price and production price, less distribution costs, and whose width is equal to the volume of sales to consumers, any business with market power tends to *slightly* reduce the consumer price increase in order to maintain or increase sales volumes, and to *significantly* reduce the production price to be paid to farmers (Sexton, 2012), thereby extending the height of the entire rectangle (figure 3).

Figure 3. Profits of LRSD



<sup>44</sup> “ Retail prices to farmers that adjust only partially, or not at all, to shocks in the farm market are harmful, tending to reduce average farm income and increase its variability” (Sexton, 2009).

This would determine a simultaneous reduction in consumptions and excesses in production, with a consequent reduction in social wellbeing<sup>45</sup>. This therefore leads us to consider that the effect of the possible expansion of this rectangle would cause rather more damaging effects in terms of distribution of wealth and wellbeing than simply a loss of economic efficiency given by the breadth of the Harberger triangle (Sexton, 2009).

A consumer price limitation function is in any case carried out, albeit to a large extent to the detriment of the production stage. Those who sustain the positive effects of the power of large-scale retail distribution do, however, believe that it does not definitively damage producers but rather induces them to greater efficiency, forcing them to minimise the production costs of food and forcing them to form consortia, in order to offer high volumes of standardised product in the time frames and methods required by the large sales chains. With this, and with other initiatives directly undertaken to aggregate the supply and make it functional to their needs, large-scale retail distribution has the merit of rationalising the chain, eliminating the cost of some inefficient intermediations. Definitively, the LSRD tend to shorten the chain.

At this point it appears to make no sense to speak of a long chain when we refer to large sales chains contrasting with the short chain, in which the direct sales method of the farmers' market identifies itself. In truth, in this latter case, we should speak of a chain that is even very short (with a single passage producer-consumer), but at the same time, it must be considered that the organisation of large sales chains aims to rationalise distribution and therefore, as just highlighted, does not in itself tend to lengthen the chain, if not for the fact that its provisions, as they are carried out where the large businesses find the most convenience and the product in all seasons, involve very different, distant areas, which means transporting food products over long distances (completely the opposite of zero km) and longer distribution circuits with respect to the marketing of local products within the same area of production. Moreover, what distinguishes the short chain from the long chain is not so much the degree of commercial "disintermediation" in itself, as it is the type of more balanced contractual relationship between production, distribution and consumption (see paragraph 3.5).

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<sup>45</sup> "This point is of considerable importance because much of our market analysis is policy oriented, with specific policies designed to help farmers and oftentimes also poor consumers" (Sexton, 2009). The countervailing power exercised by large-scale distributors with regards the agri-food industry also translated into "consumer benefits through lower sales prices only where significant competition remains in the retail phase" (Pulina, 2009), namely conditions that are not far off perfect competition. These conditions refer to the situation whereby the services offered by retailers are perceived by consumers as close substitutes (Dobson and Waterson, 1997).

Going back to the problem of negative spin-off of LSRD power on producer wellbeing, it has been shown (Alston, Sexton, and Zhang's, 1997<sup>46</sup>; Zhang and Sexton (2002)<sup>47</sup>; Sexton et al, 2007<sup>48</sup>; Saitone, Sexton and Sexton S.E., 2008<sup>49</sup>) that this distorts farmers' production decisions and discourages their investments. Hence the effects of agricultural policies encouraging production or investment are in vain when in assessing their implementation, no account is taken of being faced with an imperfectly competitive market, with a varying level of market power<sup>50</sup> (Russo, 2009).

Marketing companies with even relatively modest market power can capture large slices of the benefits from policies focussed on farmers (Sexton, 2009). Clearly, the possibility of distorting the decisions of farmers, depressing their investments and production is higher, the more relevant market power of the marketing businesses is. As this power increases, in fact, the benefits of or a shift of the consumption demand curve, brought about, for example, by a promotion of the consumption of agricultural products, are partly increasingly captured by the commercial sector, thereby preventing farmers from investing in programmes aimed at increasing sales.<sup>51</sup>

This can have important spin-offs on policies for liberalising international trade too, under the scope of strategies aimed at encouraging

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<sup>46</sup> With specific regard to the effects on the distribution of the benefits of agricultural scientific research to businesses.

<sup>47</sup> With specific reference to product promotion investments.

<sup>48</sup> With specific reference to the effects on the benefits of commercial liberalisation.

<sup>49</sup> With specific reference to the effects on the distribution of the benefits of public grants (in the specific case, grants distributed in the USA to cereal crops for the production of ethanol). The assessment model, previously only competitive type, is extended in a framework that considers the market power both up and downstream of farms.

<sup>50</sup> This implies the awareness of the need for further public spending if we wish to allow farmers to benefit, considering that part of the grant by destined for them is used downstream trade intermediaries. It also involves the assessment of the distorted destination of the grant and the social worth of supplying it.

<sup>51</sup> Also the benefits of a shift of the supply curve of agricultural production determined by the effects of aids in favour of farmers or research in the agricultural field (in terms of innovations to be applied to agriculture) are partly absorbed by large-scale distribution (cases studies are showed by Alston, Sexton, and Zhang's, 1997) and partly by final consumers. This happens because, given the situation of competition among the agricultural firms, a reduction in the production cost it determines the new entry of enterprises in the market, an increase of the production and the consequent shift of the supply curve. Where demand is stable this shift is mirrored in a reduction in prices to consumptions, which is more than proportional than the increase in the quantity sold because the demand for food products is for the most part inelastic. If the demand is not increased, the reduction of the benefits for the farmers depends on the different elasticity ratio of the supply and the demand. Therefore in the long run this in itself can delete any profit for farmers, really the reduction in prices can decrease the total revenue. To worst this situation there is a far greater reduction in prices at the farm gates compared to that seen in final distribution to consumption, because it being almost impossible to compress the marketing margins of large-scale retail distribution, due to the stronger contractual power of large-scale retail distribution regards to farmers. So, the LRSB sells more volume of product almost at the same previous margins and increase its revenue, reducing farmers' and consumers' benefits.

farming in developing countries. On this, the analysis carried out by Sexton et al. (2007) shows, for example, that even a limited level of market power, when exercised on several stages of the distribution chain, allows commercial businesses to capture approximately half the benefits deriving from the liberalisation of international trade. Consequently, relatively little of these benefits remains for the farmers of less economic developed countries, the actual intended beneficiaries of the advantages deriving from free trade policies.

### ***3.2. The market evolution and the need to control the power of large-scale retail distribution: the role of the “short chain”***

As can be seen, LSRD enjoys undisputed, growing market power. This is expressed in significant positive and negative effects on consumers and producers. We can only ask ourselves if the market evolution, with the concentration processes still underway, will lead the system towards a prevalence of one or the other, even if on the basis of that discussed thus far, it would appear most likely that, for lack of corrective interventions, the social costs of concentrated distribution will exceed the benefits (apart from other aspects such as the loss of economic efficiency, which may be disputed).

We also wonder if it will be possible to control the effects of these dynamics through public regulation (at the level of individual states or supranational and global), considering that LSRD, by virtue of its contractual power, represents an authority (Pulina, 2009)<sup>52</sup> and, as such, plays a social role involving voluntary or compulsory (assigned by government) responsibility.

A control of the behaviour of LSRD, if carried out using regulatory tools, is problematic and particularly on a supranational level<sup>53</sup>, requires careful analysis and a significant political commitment.

With a view to attaining a re-balance, however, one simple measure that could be easily implemented both on a local and global scale, may be that of facilitating the creation of alternative marketing circuits (short chain), acting, without altering natural market dynamics, or not so much artificially

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<sup>52</sup> Authority recognised by consumers and ‘citizens’ in general (Zamagni, 2006; Pulina, 2009), who consider LSRD as able to impose its will on other stages of the chain and who, in many ways, hope for intervention not only in order to rationalise the very chain itself, but also to direct it in order to reach the various “social functions”. We speak of functions (Pulina, 2009) that in the citizens’ expectations range from price control and food safety (in terms of “health and quality guarantee of foodstuffs”) to the promotion of new supply directions more aware of “environmental and territorial protection, optimising typical, local and national produce and fairness and transparency of the production processes and managerial protocols applied throughout the whole chain”.

<sup>53</sup> Where wholesale market power crosses, as yet not organised, power relevant to the complex issue and, above all, the imposition of an international right.



encouraging the birth, in so much as removing any obstacles to their spontaneous development. On this, with reference to the possibility of spontaneous development, we must not underestimate this existence – albeit under the scope of a substantially oligopolistic market – of a fringe of small retail sellers (see paragraph 3.1). The fact that these businesses remain and their number grows as the market extends, is not exclusively due to the fact, already mentioned by Ellickson (2004), that these businesses do not deal with endogenous sunk costs, but we must also consider the fact that they are able of offering specific products or services, setting up a sort of monopolistic competition. This latter market structure, which blends in with the oligopoly in retail distribution, may also further develop in relation to the mutating demands and dimensions of the demand, but in any case its entire disappearance is not realistic.

It is, in fact, difficult that the small businesses supplying products or services that are not easily replaceable (such as small stores offering the advantage of being located near the buyer's home, or the farmer's market offering a product with unique, unrepeatable characteristics). These are businesses in a situation that protects them from competition, even with stronger businesses. Clearly this occurs within certain limits that can be seen in the holding, by such small businesses, of interstitial market niches, the extent of which depends on the structure of the demand. Moreover, this can happen above all if the large companies have no interest in competing (making further investments aimed at pursuing other types of offer to acquire minimal market shares).

If it is not realistic that this fringe of small businesses should disappear, it is not unrealistic to suppose that – with the possible growth of their number – the total market share held by these should grow in a significant manner (and under the scope of these, we refer in particular to farmers' markets and other short chain modes).

We start from the idea that the free forces determining market efficiency lead to the affirmation of large-scale retail distribution and to a natural oligopoly, as, moreover, has effectively been verified. If the so-called "invisible hand" really does lead to this situation, it would be pointless and damaging to interfere, distorting the market balance, which would in any case be restored in an altered fashion.

But is it true that the current market mechanisms tend towards a situation of "Walrassian equilibrium"? Or do imbalanced situations instead tend to increase? Is that equilibrium generally restored or do we move away from it? How was the current situation determined? Have the "natural" forces of the market not already been altered on several occasions by interventions that have driven in different directions to beforehand?

Therefore, this “natural” affirmation of an oligopolistic distribution structure has been true in a given historic period, but it has not always been thus nor is it said that it will always be so. Without promoting obscurantist intentions and considering going back in history, without de-recognising the progress made by technology and logistics that lead to a certain type of efficiency in trade, it is in any case interesting to see what, at present, are the conditions that may promote a modern review and revaluation of the short chain.

Moreover, it is not entirely absurd to hypothesise that even in the success of certain market forms, a sort of adverse selection may exist, as is the case for some products. The success of a sales method, like that of large-scale retail distribution, apparently more efficient and satisfying multiple consumer demands, but substantially less in line, at least for some essential aspects, with social requirements<sup>54</sup>, can be determined by cumulative phenomena of the affirmation of (and suppression by) certain circuits, processes and behaviour.

Routes already taken are repeated according to a scheme of path dependency because this takes less effort and imagination, as *quasi* automatic routines have already been created. However, it is entirely legitimate to doubt the validity of these routes and ask ourselves: is it utopian to think about potentially returning to competition in distribution? Changing oligopsonistic contractual relations between production and distribution despite rationalising the chains? Does all this go against the “natural” equilibrium of the market, which brings about at least efficiency (if not equity)?

Is it possible to identify a situation of greater equilibrium on the market that assigns, if not most, at least a larger share of the market to the short (indeed very short) chain in the distribution of food products? Or does market efficiency inexorably lead to the ever-greater concentration of distribution businesses and an increase in their oligopolistic and oligopsonistic power? And in this case, what future scenario or future alternative scenarios can be hypothesised?

At present, we are faced with an imbalanced ratio of two different market structures: supply by a great many competitor businesses of various sizes, with respect to a demand by just a few, large oligopsonistic businesses. Moreover, farms do not always achieve efficiency and supply as a whole

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<sup>54</sup> Environmental protection, excellence of intrinsic product quality and optimisation of agricultural production with the consequent safeguarding from decadence of rural territories of market proximity, greater transparency on the evolution of product prices and on the quality-price ratio and finally, food security in terms of continuity of volumes supplied suited to the extent of the demand and not artificially reduced (according to the extreme possible consequences of a market logic connected with an oligopolistic power that could be ever stronger due to the further concentrations forecast).

suffers from organisational problems in relating to demand, with consequent malfunctions in the chain as a whole.

One future scenario that can be hypothesised in the event of the persistence of the ever-greater tendency we are seeing towards concentration in distribution businesses, is that the growth of this power may lead, by reaction, to a rationalisation and growing concentration of supply by farmers and the farming industry, until reaching a bilateral oligopoly (oligopsony/oligopoly) able to balance out the contractual strength of the LSRD.

The potential final formation of such a double oligopolistic structure in the food market is, however, assumed only to be able to develop very slowly and with difficulty, both due to the need for an artificial “de-naturalisation” of the already mentioned “natural” competitive structure of the agricultural production sector and due to a series of structural restrictions of farms and farmers cultures, with general organisational type difficulties, which would hinder the concentration process at the stage of the first agricultural production.

Moreover, it should be feared that its realisation, despite better balancing contractual strength ratios between production and distribution businesses, may generate major tension between the two counterparties, perhaps to the detriment of the end consumers. The latter, moreover, may in turn become concentrated into buying groups, creating a sort of three-dimensional “arm wrestle”, which in this case would perhaps tend to reduce precisely the margins of large-scale retail distribution.

Another scenario may be that rather than make the oligopolistic concentration of businesses extreme on several fronts, the market is moved in the opposite direction, privileging a more fragmented and competitive market structure. In this case, a market is hypothesised with less impersonal, more direct trade relations between producers and consumers, as in the case of the short chain. Growth of this latter outlet method, moreover, in addition to re-establishing more direct relations between the various stages of the production chain, may also facilitate the affirmation of a market structure that, despite the presence of large-scale retail businesses, would tend to be more competitive.

We wonder which of the hypotheses put forward may be realised and how the phenomenon of the short chain will evolve over time. According to Renting et al. (2003) “a major question remains as to whether this represents a long-lasting countermovement or a more short-term range of aborted initiatives?” In this regard, two different types of analysis carried out in Europe by the same author “have shown that their development, although uneven in Europe, is by no means marginal.....and in some countries SFSC centred trajectories have become key elements of rural development”.

To evaluate these hypotheses, it must be considered that there are elements that can currently facilitate a greater diffusion of the short chain, namely the higher cost of transport and the more accentuated environmental sensitivity (reevaluation of zero km products) in addition to the social reasons for the neo-protectionist temptations underway<sup>55</sup> both in more economic developed countries and less economic developed countries and for different reasons (see paragraph 3.5), without mentioning the search by consumers for cheaper products, which is an issue that can become ambivalent (see paragraph 3.4).

What goes against the favour of the short chain is, instead, the lack, at least up until now, of logistic efficiency and added value to the product, particularly in terms of time-saving services, which should be considered strategic with today's rates of working and living.

Other elements neutrally facilitate large-scale retail distribution and the short chain, such as the speed with which information is disseminated with electronic connections and the potential of e-commerce. Orders over the internet and home delivery (box schemes) can be sales methods to be pursued by both chains, as shown by the first experiences already seen.

However, the box scheme mechanism is believed to be considered a potentially less interesting route by large-scale retail distribution, whilst it may be a tool able to better value the short chain, if it can manage to create an efficient organisation by which to exploit this mechanism appropriately. In this way, in fact, it may, also supplying the consumer with a more "customised" service, partly recover the gap with large-scale retail distribution in terms of time-saving.

In competition with the large scale retail distribution businesses, the small businesses of the short chain may be less weak if able to identify new forms of managerial efficiency, focussed on flexible specialisation (Saba, 1994), in synergy with an optimisation of the territory and quality excellence of certain products. Suitable agricultural policies may provide small businesses with incentives in this sense, with perhaps indirect forms of aid, possibly organisational in type rather than financial, designed not to distort the spontaneous economic dynamics and, in any case, justifiable as a sort of compensation to these businesses, in recognition of their socially-useful capacity to rebalance the market<sup>56</sup>.

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<sup>55</sup> Reasons connected with aspirations of local populations to defend their territorial resources from exploitation determined by oligopolies and market globalisation. The current scenario "has nothing to do with the historic debate or liberists and protectionists" but rather concerns the dispute "between power policies and local populations", between governments, countries and citizens for the use of the territory (Perna, 2008).

<sup>56</sup> In actual fact, recognised elements (Kjiaernes *et al.*, 2007) able to resize the level of asymmetrical market power marking contractual relations in retail phases, are the protection level ensured by the individual states to domestic production and the level of horizontal coordination and organisation

### 3.3. *A SWOT analysis of the short supply chain in two different contexts*

The following SWOT analysis tables (figure 4 and figure 5) classify the endogenous strengths and weaknesses of the short chain, and the exogenous elements that can be seen as opportunities encouraging, or as risks/threats hindering, a positive outcome.

This analysis is here referred in a very simple way to just two different contexts: More Economic Developed Countries (MEDCs) and Less Economic Developed Countries, (LEDCs), macro-aggregated, in which – in this work, that as has already been mentioned, is purely a first approach to the problems of the short chain – the multiple situations examined by a fairly in-depth, but definitely not exhaustive empirical investigation, are approximately grouped and summarised.

Moreover, this type of analysis is used here merely to aid classification, and is aimed exclusively at providing an initial, unfinished clarification and order of ideas, without yet identifying the most appropriate methods by which to transform at least some of the weaknesses into strengths, making best use of all the opportunities shown and avoiding the risks/threats arising with different ‘weightings’ in the different contexts (here split only into: more economic developed and less economic developed countries) and in the different possible scenarios.

A complex aspect which was instead taken into account, is the consideration of the effects of the short chain, not only within the area and country in which it is realised, but also outside this, in markets that may even be physically distant (for example, an attempt was made to identify the effects on LEDCs of a variation in the consumption customs of the MEDCs).

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attained by the local agricultural offer. With regards to this last, essential aspect and its links with rural development, Renting et al. (2003) points out that “sustaining rural development through the evolution of SFSCs must be based upon both institutional support and new types of associational development involving a range of actors operating within the chains and their surrounding networks”.

**Figure 4 a. SWOT analysis of the short supply chain - Context: MEDCs**

**Strengths**

- Higher and more profitable prices, with a fair return for producers
- Lower and more accessible price for consumers
- Fresher products for consumers (particularly fruit and vegetables, which can be sold within 24-48 hours of harvesting)
- Product is generally good quality, guaranteed by the direct sale from the producer, who benefits by earning a good reputation
- Product closely linked to territory, transparency of product origin and production method
- Good connection with food and wine-related tourism (Gardini, Lazzarin, 2007)
- Good connection with multipurpose nature of agricultural farms, encouraged in E.U. policy
- Appropriate release for disadvantaged areas
- Appropriate release for small farms
- Release method that allows smaller farms to diversify production, creating an outlet for small quantities of different products
- Release method that allows smaller farms to overcome administrative and hygiene-related barriers (Brunori, 2006)
- Appropriate release for typical products
- Appropriate release for organic produce
- Independence, perception of the importance of their work, moral satisfaction for producers
- Greater appreciation of the food's cultural and other value, and moral satisfaction for consumers as they can discover the product's traditions and their historical links with the agricultural social tissue of the territory of origin, directly from producers
- Social sustainability linked to the personal relations developed through direct exchange
- Environmental sustainability linked to the reduction of transport (reduction of food miles phenomenon) on a global level

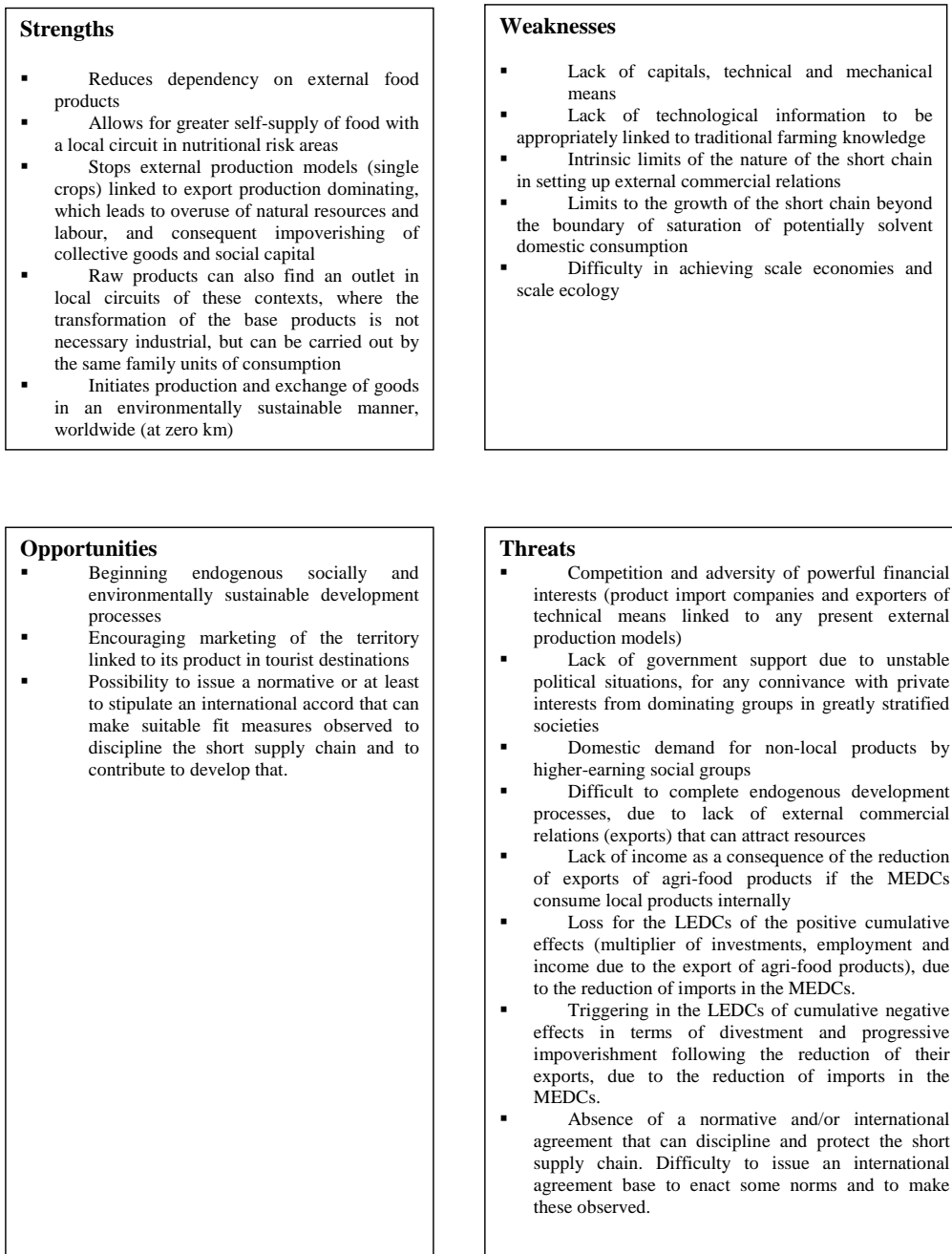
**Weaknesses**

- Niche market
- Limited range of products
- Limited quantity of products
- Outside certain areas of concentration, demand is insufficient to allow for the release of production to farms that are not economically very small. In agricultural areas located further from town centres or major tourist resorts, "direct sales alone are not sufficient to guarantee an appropriate economic return", taking into account the minimum investment required (Brunori et al., 2007)
- Difficult to calibrate supply and demand in forecasts
- Organizational and coordination difficulties and limited preparation of agricultural entrepreneurs
- Not all agricultural products are suitable for direct sale, but only those that relate to end products for immediate use (differently from less developed economies, where the transformation of the base products is not necessary industrial, but can be carried out by the same family units of consumption)
- Not time-saving markets or products
- Release methods not compulsory for organic produce, despite being most appropriate
- Limited logistics-commercial organization
- No scale economies, insufficient solutions (for example, associationism) searched for, to find a scale of suitable commercial size for small farms
- Less environmentally sustainable linked to scale ecology (Schlich, Fleissner, 2005), which can better be achieved elsewhere

**Figure 4 b. SWOT analysis of the short supply chain - Context: MEDCs**

<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>▪ Growing demand from low-income consumers (linked to price and quality)</li> <li>▪ Growing demand from higher band consumers (linked to quality and cultural value of food)</li> <li>▪ Growing demand from restaurateurs (linked to price and quality)</li> <li>▪ Increase in food and wine-related tourism</li> <li>▪ Connections with cultural slow food movements</li> <li>▪ Connections with organic production will strengthen if relative regulations include stricter rules governing distribution</li> <li>▪ Survival (returning to a margin, to a greater or lesser extent) of small farms and/or farms in disadvantaged areas, thus able to increase income</li> <li>▪ Rural development in general, and particularly of disadvantaged and marginal areas</li> <li>▪ Possibility of enlivening town historic centres or other urban areas (abandoned or green areas), by using these to hold corner markets</li> <li>▪ Possibility of using town parks as points of sale, where locals can spend their free time as consumers offered a personalised commercial service to be enjoyed as a “hobby”, with no need to find time elsewhere</li> <li>▪ Possibility of creating single outlets in individual farms or aggregates in given points in rural areas, thereby animating the countryside</li> <li>▪ Educating consumers on diet by providing direct information on food</li> <li>▪ Improving sales and production methods according to expressed consumer needs</li> <li>▪ Encouraging marketing of the territory linked to its products (particularly to tourist consumers)</li> <li>▪ Possibility of exploiting promotions and public incentives for social services provided</li> <li>▪ Institutional support and various legislation still in a preliminary state or lacking entirely in many countries This constitutes an opportunity, insofar as it leaves plenty of room for manoeuvre for the policies to be implemented (but it is also, at present, a risk factor).</li> </ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>▪ Competition with professional traders and possible conflicts</li> <li>▪ Change in the characteristics of the short chain as it takes on those of other methods of commerce (competitive markets in terms of size and logistics organised by associations of agricultural workers, without, however, direct dialogue with consumers, and with a mixture of zero kilometre local products and those from associate farmers based in other regions)</li> <li>▪ Difficult to reach non-farm low cost sales areas</li> <li>▪ Difficult to identify and achieve the best volume sizes of exchange to exit from the niche</li> <li>▪ Limited growth of demand due to time-saving related problems</li> <li>▪ Difficult to identify best possible logistics-commercial organization, which must be less complex than the long chain, but just as efficient</li> <li>▪ Difficult to obtain consistent development of volumes exchanged without the efficiency of an appropriate logistics-commercial organization</li> <li>▪ Institutional support and various legislation still in a preliminary state or lacking entirely in many countries This is configured as an exogenous risk variable, insofar as it can allow for the worsening or in any case expression of critical issues of various types as already mentioned in the weaknesses. (However, this regulatory-institutional deficiency also constitutes an opportunity, as it is a gap that can still be filled in most appropriate way)</li> <li>▪ In terms of global equilibrium, income denied to LEDCs for the replacement of imports with local domestic products of the MEDCs, lacking an increase in the demand for agri-food products</li> </ul>
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**Figure 5. SWOT analysis of the short supply chain - Context: LEDCs**





### **3.4. The debated advantages and limits of the short chain: the ‘economic place’ of its efficiency**

The advantages of the short chain (Bullock et. al., 2000; Hilchey et. al., 2000) mainly comprise the sustainability of this method of sale from the various viewpoints:

- economic: lower prices for purchasers and more profitable for producers,
- environmental: reduction in energy consumption and pollution connected with transport and refrigeration storage of so-called ‘zero kilometre’ supply,
- and social: direct consumer control of price and quality, fresher goods and healthier products, relationship of trust and direct exchange of information between producers and consumers, induced circuits and cumulative circuits of rural development in marginal areas.

These advantages are not limited to a mere reduction in consumer prices, and to a more satisfying sales price for producers, which, given the present crisis, could alone be a determining factor, but also to the way in which the demand is set up, with a search for typical, or in any case local, products, to which a series of merits is attributed, that add value to the goods themselves, as shown by studies on these matters concerning willingness to pay (A.A.V.V., Ohio State University, 2008). These motivations for consumption concerning a food’s “cultural worth”, relate to the medium-high income band of consumers, who are willing to pay *premium prices* for local products, in the same way as a reduced sales price can, instead, provide the prevailing motivation for lower income consumers. Furthermore, motivations both for consumption by private individuals and for public authorities to encourage zero kilometre supply are linked to environmental sustainability.

In relation to environmental sustainability, analysed in particular by studies on food miles (A.A.V.V., DEFRA, 2005), it must be considered that the environmental advantages of supply at zero kilometres may be doubted when the energy costs of the short chain versus the long chain are calculated with exclusive reference to the transport of the product and not the whole production cycle (Saunders et al., 2006; Kissinger, 2013). In this regard, the different production systems used in different geographic and climatic zones must also be considered (which involve the use of different technologies with diverse energy consumptions) and a “scale ecology” (Schlich, Fleissner, 2005), which calculates the energy savings connected with the greater or lesser dimension of the production and transformation businesses, enabling an evaluation of all environmental compared costs of productions obtained and marketed by different types of businesses in the different parts of the

world (with various dimensional, logistical-organisational and climatic situations). Nor must other evaluations concerning consumer food choices<sup>57</sup> (Weber and Mattheus, 2008; Garnett T. 2011) be neglected (considering that the energy expense of production varies according to product type) and their journeys (Coley et al.,2009): routes that may be longer travelled (to reach, rather than the large retail market, the places of purchase, even nearby, of local products).

With regards to social and economic sustainability, despite the fact that locally, prices of products exchanged through a short chain are not always lower to purchasers than those offered by larger sales chains<sup>58</sup>, which have the advantage of working with significant scale economy in the long chain, and that in areas with low demographic density, there is too little demand (Brunori, 2007) to establish a market that is able to adequately remunerate the producers, there are other advantages. The fact remains that the short chain therefore allows consumers to directly control price and quality and their human relationship with the producers<sup>59</sup>, as well as allowing agricultural workers to make more independent production choices (Cicatiello, Franco, 2008), with consequent moral satisfaction. Furthermore, the short chain fully exploits the value of human and social capital, and of local, natural resources, thereby potentially leading to endogenous development both in marginal rural areas of more developed countries, and in less developed countries, where it can more efficiently oppose the phenomena of progressive impoverishing, both of natural and human resources, linked to the massive and rather careless introduction of external production models (Shiva, 1995) for intensive productions for export.

The short chain, furthermore, is by far the best solution to all problems, and in certain contexts, where it fails to find its natural setting or

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<sup>57</sup> For example, the choice of a vegetarian diet.

<sup>58</sup> It could be objected that in a competitive market, the uniqueness of price is automatically imposed for undifferentiated products, as traditionally were agricultural products. However, there is now a differentiation also for agricultural products, which no longer only perform the basic function of nourishment, but rather incorporate in various ways – through their intrinsic quality, origin, method of packaging and marketing – the satisfaction of other needs. These latter can range from time saving – specific to products marketed by large distribution chains – to aspects connected with the above-mentioned cultural and environmental value, to health or typicality of taste, presumably or actually seen in products marketed by means of the short chain. Consequently, the market is not perfectly competitive (despite the different contractual power of the commercial businesses). This is why the products – in some way differentiated – sold in the farmers' markets can have differentiated prices, even independently of their different cost of production and, in particular, of marketing. These prices are normally more contained with respect to those of the conventional chain, probably because the products sold on the farmers' markets do not satisfy certain needs, but may be equal or even higher in relation to the entity of demand, which reflects "trends" and the different importance attributed by the mass of consumers to the different type of quality incorporated in the products.

<sup>59</sup> For example, with 'joint purchase groups' the direct relationship between production and consumption "acquires specific features that go beyond a simple economic exchange" (Brunori, 2007).

“economic place”, it then becomes less efficient than the long chain. Generally speaking, it is particularly well suited to solving the problems of smaller, multipurpose farms, offering niche products (local, typical and/or organic). It is, on the other hand, less well suited to all situations dominated by medium and large enterprises, with the creation of economic and/or ecological type scale economies, where company supply is specialised and constitutes a consistent critical mass of product that can more easily be released onto a wider market than merely local, and consequently in types of companies where an efficient use of the entrepreneur’s time and work, makes it difficult for him to carry out a variety of tasks that would include the direct marketing of farm produce. Here, a long chain may be to greater advantage. Furthermore, direct sales are the perfect for products ready for consumption (Cicatiello, Franco, 2008), and not for products to be transformed, at least with reference to the organization of advanced societies ‘consumptions. Whilst in less developed countries, the short chain would appear to be most suitable when it creates local circuits also for the sale of raw products, such as basic cereals like wheat, which can here be transformed directly by the consumers.

Moreover, once the efficiency and advantages of the short chain have been ascertained in some areas, when the evaluation does not close on a local level but implies consideration of the global effects, due consideration must also be given to fall-out in terms of the movement of income that - for lack of an increase in consumptions - may occur between different regions and countries caused by alterations of the import-export balance (see paragraph 3.5 below).

### ***3.5. Spread of the short and long chain and Level of market liberalisation***

In evaluating all this, we must state that the potential of the short chain must not be overestimated, as it currently plays a limited role in developed country trade, with market shares that, although growing, are forecast as modest even in the near future, and in developing countries, we see an increasing market penetration by large scale retail distribution. However, the short chain can constitute a strategic tool to be offset or associated with different outlet alternatives promoted by globalisation. A greater spread of the short chain – or, where more present in developing countries, a strengthening of this in efficiency terms, aimed at its prospective non-drastring reduction – may prove profitable in any case. This greater presence may be useful to better balance the market and, if associated with appropriate supports, perhaps linked to micro credit, to allow, developing countries in particular to make a more direct food supply in the poorer areas, also - for example in the case of supplies not only for domestic consumption

but also tourism - giving rise to endogenous development processes (both in developing countries and in marginal rural areas within developed countries).

In less economic developed countries, promoting self-supply circuits, and contrasting the potentially socially destabilising effects (Shiva, 2008) of the long chain, when it identifies with the presence of major companies with oligopolistic and oligopsonistic power<sup>60</sup> the short chain may constitute a tool enabling a partial “de-linking” (Amin, 1990) from international trade and relations based on asymmetrical contractual strength. In fact, it must be considered that a greater development of the short chain presupposes the presence of self-supply circuits with a potential reduction of international trade that can, absurdly, not always be advantageous in situations of unbalanced contractual strength. This does not mean upholding the theory of the ‘*dependentistas*’, overcome by more complex overall market visions, nor failing to recognise the claimed benefits of free trade, but rather considering situations where such benefits are not seen. This can occur in the exchanges between strong exporting countries and countries that mainly import (UNCTAD, 2003), between richer, more developed countries and poorer, less developed countries, between countries with different institutional and social frames, where situations far from perfect competition of businesses with different contractual strength are created, which can alter trade relations and cause (for the weaker country) the mutual benefit of the exchange to fail, even in conditions of different compared cost advantages of the products exchanged by the countries. For example, estimates made on the impact envisaged by a “plausible” scenario of the Doha Round, envisaged benefits deriving from the liberalisation of trade that differ greatly between developed countries and developing countries<sup>61</sup>.

Moreover, the ‘neoprotectionist’ measure, considered too strong, of the limitation or prohibition for export adopted by some countries to protect against speculation on food products in relation to the financial and economic crisis of recent years (and in particular we refer to countries such as Vietnam, India and Thailand<sup>62</sup>, producers and consumers of rice), shows how promoting self-supply circuits is still relevant today in specific

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<sup>60</sup> This power, as has been shown by the empirical evidence (Sexton et al., 2007), also cancels out much of the advantages for poorer farmers deriving from free trade (approx. half the benefits would be absorbed by commercial intermediation).

<sup>61</sup> These envisaged “benefits deriving from free trade that are far higher in developed countries than in developing countries”. Some estimates even show that for some of these latter countries, “loss is forecast”, even if it must be specified that there is “significant divergence in the estimated results, not only between models but also in simulations of the same model made with the database of reference of different years” (Pascantili, 2006).

<sup>62</sup> Which have respectively imposed a net cut of 11%, complete embargo and quota restriction to the exports of rice in order to prioritise internal supplies (Rampini, 2008).

situations, despite the fact that it must always be combined with the activation of profitable trade circuits.

Again with regard to developed countries, the short chain results in a release of weak enterprises or relatively poor areas from competition with stronger areas and companies, bringing the consumer to the product rather than vice versa, by optimising links between product and territory.

On the other hand, we must also highlight the opposite, namely the fact that an indiscriminate practise of the short chain can result in significant social and economic negative impacts, particularly when this combines too much with the stated protectionist measures, limiting free trade on the international market. More specifically, an accentuated, at times ideological and intransigent, predilection for the short chain by consumers in wealthy countries<sup>63</sup> can seriously damage exporting less developed countries of some agricultural food products, on whose proceeds the survival of entire populations of some of their rural areas depends<sup>64</sup>. This is, in any case, true, despite the continued validity of the above (see paragraph 3.1) on the elimination for the poorer farmers of part of the advantages deriving from free trade, due to the share absorbed by commercial intermediation.

We therefore need to analyse and assess prudently, on a case-by-case basis, what can occur in different contexts and situations, in order to evaluate the dramatic trade-off between environmental sustainability (with reference to the reduction of food miles) or social-economic (with reference to the safeguarding of income in less developed countries) and the development of rural areas in importing or exporting countries, due to the movement of income that is seen between them, for lack of an increase in consumption<sup>65</sup>. One choice between the development of the rural areas of importing countries, with increased local productions (Meter and Rosales, 2001; Swensen, 2006, 2009, 2010; Sonntag, 2008; and others), or in exporting countries, with the increase of goods transported by international trade, may be misleading, when due consideration is not taken of the unsuitability of food miles as an indicator of overall environmental impact generated by food (Defra, 2005; Saunders, 2006; Weber and Matthews, 2008; Kissinger, 2013, and others), as well as the obstacles that arise, particularly in less developed countries, hindering the creation of a virtuous circle linked to export, or that can be generated alternatively by an increase in domestic trade.

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<sup>63</sup> Consider the '*localvore*' movement or the successful slogan '*buy fresh, buy local*' linked to an ideology concerning environmental, health and/or support aspects to local development.

<sup>64</sup> On this, Muller (2007) speaks of the 'moral duty' of English consumers to buy strawberries imported from Africa at Christmas, rather than local products.

<sup>65</sup> Furthermore, also within a single country the promotion of local production-consumption circuits, although able to start of employment and income growth processes in the area where it is introduced, it does pose the problem of the choice of increasing farming income in different regions, respectively importing and exporting internal agricultural products.

In actual fact, to produce for export does not always result in advantages for less developed countries. In some cases, an agriculture that is mainly focussed on export can increase food insecurity, trapping small farmers in a debt cycle and pushing them away from the land (DeWeerd, 2009). It all depends on the way in which sale take place and the type of contractual relations. A study carried out on small farmers of the state of Santa Catarina in south Brazil, Pretty (2006?) reports better economic returns for these small farmers deriving from the direct sale of their products to consumers nearby, rather than from grow contracts of products to large commercial companies operating globally. However, the economic advantages deriving from the implementation of the local food systems has been shown in some a few cases (DeWeerd, 2009), due to social-economic constraints hindering the start-up of virtuous circuits.

Only an ideal combination of products exchanged on the international market (when it is possible to actually exploit the comparative cost benefit) and products obtained and consumed locally, with holding the new wealth produced within rural areas (when capable of multiplying investments and therefore employment and income) can allow the rural economies of both countries (MEDCs and LEDCs) to develop in the same way. This is why we need to remove the commercial mechanisms generating said obstacles to the positive effects.

It is by no coincidence that when talking, for example, about fair trade procedures, which, however, constitute market niches, albeit growing on a world level, the problem of assessing the real benefits of export for less economic developed countries does not exist: the advantage is clear. Neither can the trade-off of exports and local circuits be seen as a dilemma. In actual fact, we can see that some joint buying groups - striving for the mutual benefit of consumers and small producers - support both the short chain within a country and the import from developing countries, when this is carried out through fair trade circuits. These latter circuits, furthermore, despite the distance, in some way “shorten the chain”, eliminating much commercial intermediation and relevant margins. The behaviour of these buying groups, focussed on identifying alternative food sales chains, do not therefore show clear conflict between these different commercial circuits, both rejecting logics linked to oligopolistic and oligopsonistic market power.

In actual fact, what respectively positively characterises the so-called short chain with respect to the long chain, is not so much the reduction of the physical distance between the place of production and that of distribution (not always efficient also in terms of total environmental benefit), nor the more or less accentuated commercial “dis-intermediation” (also partly implemented by the search for efficiency of large-scale retail distribution, but which becomes non influential on the income of producers and

consumers when the benefit of the reduction in the gap between production and consumer price is incorporated by the large-scale retail distribution itself), as it is the type of more balanced contractual relationship between production, distribution and consumption. And so also the absence of useless circuits<sup>66</sup> that increase food miles, and relevant packaging miles, together with the related economic and environmental costs of transport, due to the type of LRSD logistical organisation in order to exploit wider profits in the global market.

### ***3.6. Short and long chain, production and outlet opportunities: not necessarily alternatives***

Up until now, we have discussed the conflicts between the short and long chain in various contexts. However, they need not always oppose each other in a given context, but on some occasions and in some contexts the two different production and outlet circuits can actually coexist, as seen in studies performed in Italy on “Marshallian industrial districts”. This may come as a surprise, given that, generally speaking, the districts, which exalt the links between the product and the unique characteristics of the land of origin, for their very nature are best associated with the short chain, and when we talk of encouraging mechanisms by which to promote the founding of agricultural or rural districts, we are almost always talking about advancing short circuits.

Instead, it is precisely here, in these districts, that dualism is almost cancelled out (Castellani, 2007) between the short and long chain and the different types of enterprises, when beneficial, can exploit the opportunities offered up by each or both of these. The choice of the most convenient alternative for individual businesses is determined by their specific dimension and particular value chain (Porter, 1985) that affects the choice of whether or not to delocalize production (Micelli, Chiarvesio, 2003).

Medium-sized enterprises particularly benefit from both these opposing production and sales methods, often used simultaneously, where an ‘economic place’ is created, making this an appropriate choice. The production circuit can even partially, therefore, be delocalized, as is typical of the long chain. This delocalisation is used to reduce production costs by smaller enterprises than those of the long chain too<sup>67</sup>. At the same time, sales can exist both *in loco* through a short chain, and externally, through a long

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<sup>66</sup> It has highlighted by Wuppertal Institute researchers using the typical example of the yogurt with strawberry sold in Stuttgart’s market.

<sup>67</sup> Perhaps through the preferential use of contractual instruments rather than with direct investments abroad, usually used in the production internationalisation of large companies (Micelli, Chiarvesio, 2003).

chain, but incorporating the advantages of product reputation, typical of the short chain and valued by its simultaneous presence.

In this way, a formal apparent connection is maintained with the territory-district of production origin, which in this case, is the “historic” place of knowledge and production tradition, and where the company’s headquarters, organization and production assembly continues to be based, and from where all directives concerning production methods, are imparted (production rules) and certification of product supplied. We speak of certification of goods which, even if the final products are obtained through steps carried out in different areas, comply with quality standards and the typical nature of the district product, of which they bear the name.

This reality, already seen in studies in industrial-manufacturing districts, now also appears in agri-food districts, where the ultimate transformation of the product may take place with commodities that are only partially local, or at times where raw materials may even be produced for transformation elsewhere.

This type of situation is feared (Amin 1993; Rullari 1997, 2002) able to potentially bring about a dissolution of the district systems over time, lacking in the basic characteristics that are so closely linked to production localisation and the specific characteristics of the territory in which they were spontaneously created; this is, however, the result of the adaptation process adopted by dynamic businesses striving to survive market globalisation.

International competition leads to a reduction in production costs through delocalization, which assumes acquiring various inputs, each in the area of least cost, and subsequent assembly of the various steps in any space, identified more than anything else, according to the best organization and lowest logistics costs, but at the same time, this competition heads towards an ever-greater appreciation of the so-called positional goods, namely those associated with a different level of quality-related reputation.

The current market trend looks towards increasing commerce of goods defined (Yotopoulos, 2007) as “*decommodified*”, i.e. differentiated goods protected by intellectual property rights and/or trademarks, differently from the traditional undifferentiated products (“*commodities*”). And competition, which is increasingly “based on quality (real and/or perceived) rather than on production costs”, becomes positional in type, and appreciated by companies, as its very nature leads to the formation of undisputable markets that generate income (Romano, 2007). This income, please note, accentuates asymmetries between more developed countries and less developed countries, in the first’s favour, considering that the latter mainly produce undifferentiated goods.



With the simultaneous presence of different structures of production branches and sales circuits, district companies, therefore attempt to compete on both fronts (reducing costs by delocalization and keeping product reputation linked to the area of origin), even if we can assume that both competitive advantages, although possible, cannot continue to be coupled long-term. The “typical” product quality, which gives it its reputation, is, of course, at one with local production.

It is not currently possible to forecast just how the district model may evolve through the de-construction and reconstruction of relationship systems. What we do know, however, is that if it does not transform into something new and different, it will have to head towards the choice of a circuit that, in addition to guaranteeing an albeit specific standard quality, will also regain (through re-localisation?) truly typical aspects, as failure to do so would result in the progressive loss of the traditional reputation, in addition to the loss of that inherent creativity within the district, which – even if benefitting from exchanges with the outside world – primarily gives businesses the capacity to innovate, taking an original route.

To this end, we should clarify a basic misunderstanding: we need to distinguish long production and sales circuits from those that relate exclusively to product sales. Whilst the first do not well adapt to district traditions, separating the close link that identifies the product to a territorial matrix, the second can happily coexist with short circuits, as differentiated outlet opportunities for goods that can be consumed *in loco* not only by residents, but by tourists too, or alternatively exported from the district area, each time either taking the consumer to the product or the product to the consumer (Sini, 1998), without this affecting the reputation of the goods and its positional competition

If referred to sales alone, the two circuits can reciprocally benefit each other where a high quality product internally and externally blends marketing of both product and territory.

#### **4. Conclusion**

The analysis performed is a contribution towards the assessment of alternative opportunities for product outlet releases for the different types of farms in different environments. Amongst other issues, it highlights the fact that the type of relationship between long and short chain is not always one of conflict, with specific reference to areas constituting agri-industrial districts.

To conclude, we must stress the importance of specific studies aiming to assess the environments of greater relative convenience, those where there may be an overlay, juxtaposition and opposition of the long and short chain, in order to identify an optimal coexistence in the various

contexts, on a local and, overall, global scale, between the two methods of production and sale of products on the agricultural food markets system. This optimal combination (or at least the choice of the most efficient combinations) in the articulation of market outlet methods may provide a useful tool, amongst others, to help achieve greater stability of the global market, limit prices and to their efficiency in allocating resources under the scope of attaining an economic benefit that is not separated from social and environmental sustainability.

As concerns the immediate possibility of carrying out these studies, we note the lack of suitably-designed *ad hoc* market simulation models with which to consider the problems presented and the difficulty in constructing them and having them function, both due to the complexity of the situations to be represented and the scarcity and inhomogeneity of the data available, particularly on a local scale

Moreover, even if a solution to the problem were to be reached in technical terms, there would be significant hindrance to actually transforming any indications of economic policy that may arise from the results of the evaluation into operative developments given the interests at hand and, above all, the international dimension of the process, which, by its very nature, is difficult to govern.

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