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BOOK OF ABSTRACTS

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Consumers perception of traditional sustainable food: an exploratory study on pasta made from native ancient durum wheat varieties

Anna Paola Antonazzo, Francesco Contò, Alessandra Conte and Barbara Cafarelli

Traditional and ancient native crop varieties, abandoned over decades and recently recovered by farmers can be considered a special category of local foods whose importance is enhanced by social, economic and environmental meanings affecting both demand and supply in the food market. Native low-yields crops such as some durum wheat varieties cultivated traditional areas (i.e. Senatore Cappelli among others), were recently reintroduced and improved by farmers and breeders for their high-quality, pest resistance and their importance in the biodiversity conservation. Among the changes and trends affecting food demand and consumer habits, the re-orientation towards local food plays a crucial role in sustaining sustainable agriculture. Moreover, consumers consciousness for biodiversity influenced their reorientation to natural and sustainable agriculture and food processing. Recovering and processing traditional and native crops varieties to produce higher quality products is recognized as a relevant opportunity by farmers and processors to grasp particular claims of consumers and differentiate their products. The main aim of the article is to address consumers preferences towards different attributes of pasta. Conjoint analysis will be developed to assess consumer perception towards pasta made from native durum wheat varieties. On purpose more than 250 habitual consumers of pasta have been interviewed in the territory of Apulia region using web based tools.

Promoting sustainable durum wheat production in Italy: the Barilla Sustainable Farming project

Marta Antonelli, Ruini Luca Fernando, Cesare Ronchi and Filippo Sessa

Since the year 2010, the Barilla Company, a leading player in pasta market worldwide and one of the top Italian food companies, has implemented a project that is aimed to increase both the environmental and economic sustainability of durum wheat production. Wheat is used in over 95% of the company's products. The project introduced an integrated approach to wheat production, which mainly included an accurate planning of crop rotations and the use of a Decision Support System (DSS). The Barilla Sustainable Farming model was applied on 13 farms in 2011/2012 and 22 farms in 2012/2013, in the areas in Italy where durum wheat cultivation is more significant. The project was extended to over 800 farms in 2013/2014 over about 20,000 hectares of agricultural land. Results show that low input agronomic practices are both environmentally friendly and advantageous for farmers, as they increase valuable production and net income, while reducing direct costs and CO₂ emissions. About 104,000 tons of durum wheat has been produced through implementation of this programme in 2013/2014.

Price Transmission in the Sugar Sector: Result from an European Study

Maurizio Aragrande, Mauro Bruni, Enrica Gentile, Alberico Loi and Roberto Esposti

CAP regulation of sugar sector has frequently been questioned because of its potential effect on firm strategy concerning the structural dynamics of the sugar industry, its influence on competition and, finally, on price transmission. In 2006 the CAP reform of the sugar sector established a relevant break in policy trend, with potential effects on price transmission. In 2012 the EU-DG Agriculture and Rural Development commissioned a study to assess influence of the 2006 reform of the EU sugar regime on the price transmission within the sugar sector. The objective of this paper is to highlight about the effect of new CAP sugar regime on: (a) sugar retail price; (b) the degree of competition and concentration in the sugar industry; (c) the degree of horizontal price transmission in the world market. Different types of price transmission are considered, uneven or asymmetric price transmission between sugar producers and final consumers, the effects on competition and concentration in the sector.

Consumer attitudes towards social farm foods

Ivana Bassi, Federico Nassivera and Lucia Piani

This research aims to investigate to what extent consumers are sensitive to social and health concerns, and if this can be expected to influence the consumers attitudes towards foods produced by social farms. The study area is located in the Friuli Venezia Giulia region, in North East Italy. In order to investigate the consumers' attitudes towards social farm foods, the relationships among three latent constructs, i.e., social consciousness, health consciousness and social farm foods, is measured. The proposed hypotheses are tested via a structural equation model (SEM) that is calculated with the linear structural relationship (LISREL) method, via LISREL 9.1 software. A two-stage analysis is adopted, estimating, firstly, the measurement model and, secondly, the structural model. The results from this study, firstly, confirm the reliability of the latent constructs on the observed variables. Secondly, the analysis of the causal relationships between these constructs supports the hypotheses of the proposed model. This implies that if consumers are aware of social concerns such as those regarding people with special needs, as well as the fact that the quality of life is also related to the quality, in a wide sense, of the foods they eat, these consumers could be potential buyers of foods produced by social farms.

Adherence to the Mediterranean diet in Italy: exploring the role of socio-economic factors

Ilaria Benedetti, Tiziana Laureti and Luca Secondi

At first sight, the Mediterranean diet appears to be the best and most well-balanced diet to follow as it links environmental and human health. Unfortunately, it seems that Mediterranean countries are replacing the traditional Mediterranean diet with other less healthy eating habits and orienting their food choices towards products typical of the Western diet which is characterised by a high intake of animal products, refined grains, saturated fats without taking into consideration health issues and environmental sustainability.

By using repeated cross-sections of the ISTAT “Aspects of daily-life” survey over the period 1997-2012, we assess the adherence of the Mediterranean dietary pattern in the Italian population and explore socio-demographic and lifestyle factors that might influence adherence to the Mediterranean diet.

The social-life cycle assessment as an extended tool for the measurement of the social responsibility in the agro-food sector

Graziella Benedetto

The growing attention of consumers, intermediate and final, to the social and environmental aspects associated with the production of agro-industrial goods, is a key driver in leading companies in this sector towards greater attention to issues of social responsibility. The new type of consumers includes within its economic choices also the ethical quality and social responsibility of the manufacturing enterprises (Canavari et al., 2014; Marotta & Nazzaro, 2012) and distribution enterprises (Pulina, 2010). As underlined (Canavari et al., 2014) new types of socially conscious behaviour from producers have been observed. The attention to social and environmental issues increases the added value of a company in terms of image and credibility towards stakeholders. Today companies are induced to make decisions products that affect more or less directly, people and environment and increasingly are required to account for its social performance (Dreyer et al., 2006). Globalization and the consequent increase in the level of complexity of markets have led to the development of the concept of CSR (CSR) or to a wider corporate responsibility that leads to the creation of shared value (Nestlè, 2006). The importance for the corporate responsibility of the methodology of Social Life Cycle Assessment is due to the fact that it complements the traditional LCA tools and LCC (Hauschild et al., 2008). The aim of the paper is to suggest a better diffusion of the Social-Life Cycle Assessment in the agro-food sector, since the social dimensions of sustainability have still limited application worldwide. This scope is in line with the literature's recommendation to carry out more case studies to improve the methodology and highlight where the S-LCA is weak.

The paper includes two stages: firstly a description of the methodology is proposed; secondly we will present the results of some studies, focused on the agro-industrial sector, to see what information can be drawn from its application.

The Seven Challenges for Transitioning into a Bio-based Circular Economy in the Agri-food Sector

Massimiliano Borrello, Alessia Lombardi, Stefano Pascucci and Luigi Cembalo

Closed-loop agri-food supply chains have a high potential to reduce environmental and economic costs resulting from food waste disposal. This paper illustrates an alternative to the traditional supply chain of bread based on the principles of a circular economy. Six circular interactions among seven actors (grain farmers, bread producers, retailers, compostable packaging manufacturers, insect breeders, livestock farmers, consumers) of the circular chain are created in order to achieve the goal of zero waste. In the model, two radical technological innovations are considered: insects used as animal feed and polylactic acid compostable packaging. The main challenges for the implementation of the new supply chain are identified. Recommendations are given to academics and practitioners interested in the bio-based circular economy model approach for transforming agri-food supply chains.

Development and management of winemaking sustainability: an explorative survey in Sicily

Valeria Borsellino, Antonio Asciuto, Marcello D'Acquisto, Caterina Patrizia Di Franco, Giuseppina Migliore and Emanuele Schimmenti

Sustainability is reshaping the global wine industry. This paper provides a fact-finding contribution to the knowledge on how the Sicilian winegrowing sector is facing the challenge of the new scenario of sustainable productions. To reach this goal we carried out an explorative analysis of those Sicilian wineries involved in 2 important sustainability programs in the Italian wine sector, Magis and SOStain, aimed at improve the implementation of sustainable viticulture and wine production. The results of our research concerning 5 wineries in Sicily reveal that adopting sustainable productive methods has lead in general to good technical and financial results by improving their business efficiencies and management systems, with positive socio-economic implications at a local level.

Synergies between food security, climate change adaptation and mitigation: The case of sustainable land management in Malawi

Giacomo Branca, Adriana Paolantonio, Uwe Grewer, Romina Cavatassi, Abiba Longwe, Andrea Cattaneo and Leslie Lipper

Climate-smart agriculture (CSA) aims at enhancing the capacity of farming systems to sustainably support food security in the context of climatic changes. This is particularly important in areas that face serious food security problems and which is exposed and vulnerable to climatic shocks like Sub-Saharan Africa (SSA). Sustainable land management (SLM) technologies may represent a valid option for CSA. However, questions arise about the profitability of investing in SLM technologies, whereby very little empirical evidence exists, compared to 'conventional' systems.

Ad hoc household and community surveys have been conducted in Malawi. Crop and livestock production data (socio-economic, agronomic, farm management) have been collected for 1,433 fields by 505 smallholders over 11 EPAs located in 4 districts (Mzimba, Kasungu, Balaka, Ntcheu) and different agro ecological zones. Primary data, completed with available secondary information, have been analyzed. Crop financial models have been built accordingly, and revenues and production costs have been computed for different sets of technologies and land management systems as opposed to 'conventional' ones. Key performance indicators (yield, gross margin, profit, returns to land and capital) in different agro ecologies are estimated using partial budgeting technique. Regressions are used in order to estimate the contribution of single factors of production and land management options.

Malawian farmers adopt a wide combination of land management practices, applied to various (food and cash) crops. Different systems are therefore taken into account in the analysis which shows interesting results. For example, maize cropped under minimum soil disturbance systems earns higher yields, profits and returns to labor than what can be obtained using conventional tillage practice. Differences are more significant in dry areas, indicating potentials to increase adaptation to extreme climate events (droughts). However, this may come at excessive costs in terms of capital and labor. Although it can be argued that production costs can be offset by higher gross margins realized under SLM systems, incurring additional capital costs can be a disincentive for adoption of no till systems for majority of smallholder farmers in Malawi. Interventions to prevent farmland areas from soil erosion, desertification and floods (e.g. agroforestry, soil and water conservation structures) are found to be costly and labor-intensive although they seem to provide higher outcomes than conventional land management systems.

SLM technology options also generate environmental benefits in the form of CC mitigation. Negative marginal abatement costs for all MSD options show synergies between increased farm incomes and climate change mitigation, and represent means of generating "win-win" solutions to addressing poverty and food insecurity as well as environmental issues (climate change mitigation). The cost-effectiveness of different land management practices is proposed as synergetic decision criteria allowing policy makers to prioritize support interventions on the basis of the economic efficiency of GHG abatements.

Performance Indicators of social responsibility: the case of agricultural enterprise in the inter-regional/trans-national project model

Lucia Briamonte and Sabrina Giuca

This project is designed to create a platform of social responsibility (SR) performance indicators within the inter-regional/trans-national project "Creating a network for the dissemination of corporate social responsibility." The project, created to initiate a process of exchange for public administrations and businesses, comparison and mutual learning on the subject of SR, is intended to carry out joint measures to spread best practices locally, nationally, Europe-wide and internationally. With the intent to establish a single framework so that, on the one hand, businesses and other organizations recognize and improve their SR path, inserting it into their strategy, and secondly, for public administrations (PA) to recognize and "reward" SR actions and paths, a grid of key performance indicators (KPI) has been identified, divided by production sectors and strategy areas. For these sectors we have highlighted "key performance indicators," or KPIs, considered peculiar to business activity by sector.

The contribution presented regards grid identification of "management indicators of significant risk" to the food and agriculture sector, aimed at the "assessing", "measuring" and "reporting" socially responsible actions: it has been found that the reputation which descends from the pursuit of effective SR practices decreases the riskiness of the company and increases its competitiveness and social positioning. The performance indicators, on the one hand, enable businesses to evaluate and adopt appropriate forms of extra-financial communication and to initiate sustainable paths, attentive to the social and environmental impacts of economic activities; on the other, they come together in a platform necessary for those administrations wishing to adopt "reward" mechanisms for socially responsible business behavior.

The development of a Piedmont mountain area through the valorisation of black truffle

Filippo Brun and Angela Mosso

The paper describes a valorisation process in a marginal territory of Piedmont and analyses the recovery process of Black truffles production, focusing on the importance of the associative forms of management, both for the valorisation process and for the recovery of abandoned areas. The objective is to describe the initiative of Valle Grana producers, analysing its distinctive aspects and evaluating its reproducibility in similar conditions, which are typical of Italian marginal lands. The valorisation action has started thanks to a new territorial strategy of local actors, setting up black truffle plantations and taking care, in the same time, of surrounding marginal lands. The success of truffles valorisation initiative has represented the background for the creation of a voluntary "land owner association" (association foncière) which involves as many as 64 private owners and a public administration and more than 100 hectares of surface. These lands will be recovered from abandonment thanks to controlled ovine pasturage, ensuring at the same time, fertility improvement and stability of grazing land and reducing the shrub invasion which is generally followed by landscape degradation.

Price rigidity in food retail sector: the retailers' strategy for pasta

Luca Cacchiarelli and Alessandro Sorrentino

In the Italian agro-food industry pasta represents a strategic product since Italy has the peculiarity of being, at the same time, the main producer and consumer of pasta. In the last years, Italian food retailing, as in all developed countries, has experienced some developments. A way to evaluate whether the development of the modern retail affects the price distribution along food supply chain is to consider measures of retail price rigidity. The goal of this work is to investigate retailers' strategies and assess price rigidity in pasta retailing according to brands, market segment and regional areas. To approach such a goal we estimate frequency, magnitude and asymmetries in retail price changes keeping in account the role of promotion.

The results seem to indicate that retailers' strategies for national brands, in terms of price rigidity and price promotions, are completely different with respect to private labels. Among the various national brands, retailers adopt a different approach by employing the tool of price promotions rather than intervene with the price changes.

The Value of different Quality Clues in the Italian Olive Oil Market

Luca Cacchiarelli, Anna Carbone, Tiziana Laureti and Alessandro Sorrentino

This study focuses on medium-high segments of the Italian olive oil market in order to assess the role and effectiveness of different quality clues in the creation of value. To meet this goal, the work relies on a hedonic price model where the price of a bottle of oil is regressed on different quality clues. In order to obtain a more complete picture of the relationship between olive oil characteristics and price, an ordinary least squares (OLS) and a quantile regression models (QRMs), which allows us to investigate on the different market segments, are estimated. The analysis covers about 1000 olive oils from Italian markets as reviewed by Slow Food guide, 2013 edition.

Results indicate that the highest segments of the Italian olive oil market is increasingly sophisticated and follows the main tendencies established in the quality wine markets where many quality attributes are intensely active.

Trusting is good? Hints from an exploratory survey on trust in agri-food professions

Anna Carbone, Saverio Senni and Serena Lucchin

Without trust, says Niklas Luhmann, we would not be able to get out of bed in the morning (cited in Pelligra, 2009). Trust is nowadays considered a fundamental requisite for markets to work properly. In 2014, GfK Verein published a study on “Trust in professions” that measured the trust that ordinary people of 25 countries of the world feel in towards over 30 professions. While the overall results of this study reveals that Italy is among the countries with the lower general trust in professions, in almost all the countries surveyed farmers are among the professions in which people trust more.

Moving from this evidence, the paper presents a preliminary exploration on the level of trust for professions of the agricultural and food chains in Italy.

An empirical explorative analysis has been carried out through a questionnaire submitted to a group of university students enrolled in different degree courses at various years. The sample interviewed confirmed that professions involved, at different stages, in the agri-food chains receive a high degree of trust: farmers (83%) are the most trusted in, followed by chefs (78%), wine producers (75%), organic farmers (72%), and butchers (70%). The higher level of trust in farmers as a generic category may be explained with the multifunctional role of farmers often considered, in developed countries, as biodiversity and landscape preservers as well as keeper of traditions. The family nature of farm businesses may be also be a factor that induces higher trust in this profession.

Farms' structural adjustment to the increasing competitive pressure: specialization vs. de-specialization in Italian agriculture

Concetta Cardillo, Daniela Fusco, Valerio Moretti and Carlo Russo

This paper provides an application of micro-data statistical analysis for agricultural economics studies. We use data from the 2000 and 2010 Censuses to build a short, two-year panel of 823.771 farms that are present in both surveys. Three variables were used to identify the panel: the Unique Code Farm, the address of headquarter and the name of the farm.

We used the panel to describe specialization in Italian agriculture. We classified Italian farms into four groups: those who adopted specialized Type of Farming (TOF) in 2000 and 2010, those who exhibited a de-specialized TOF in both surveys, those who changed from a specialized to a de-specialized TOF and those who changed from de-specialization to specialization. We found that the degree of specialization in Italian agriculture increased over the decade. The result was driven mostly by a relevant shift toward specialization of farms located in the mountain areas of central and southern Italy. Because this change was associated to the adoption of labor-extensive productions (cereals, olive and – partially – grapes), the competitive impact of the specialization process is unclear.

We also found an association between the age structure of the family workforce and the choice of adopting a specialized TOF.

The Italian coffee trade: a gravity model analysis

Bárbara F. Cardoso, Deborah Bentivoglio, Elisa Giampietri, Adele Finco and Pery F.A. Shikida

After the US and Germany, Italy is the third world's largest importer of green coffee, above all from Brazil, Vietnam and India, being also the second roasted coffee producer, exporter and consumer in EU, after Germany. Given the importance of coffee import in Italy, this paper applies the gravity model to investigate the influence of the main variables affecting the Italian coffee import. In particular, the aim of this paper is to identify the most influential factors determining the level of import flows between Italy and its 11 main coffee trade partners. Our results show that the exporters' GDP, their coffee production, the distance between the Italian capital town and those of the other partners, and finally the continental territorial boundary affect the Italian coffee import, as well as the tradition to drink coffee and the consumers' demand for quality.

Vertical integration in agribusiness. Is it a bargain?

Felicetta Carillo, Francesco Caracciolo and Luigi Cembalo

This paper aims to test whether vertical integrated farms show a significant higher economic performance when compared with those not integrated. The Italian Farm Accountancy Data Network was used, for the years 2008-2011, focusing on farms producing durum wheat. Empirically, a propensity score-matching model was implemented in an attempt to estimate average differences, in some farm performance indexes, including costs and profitability, between vertical integrated and non-integrated farms. The analysis on the effects of a vertical integration showed that supply chain integration increases farms' competitiveness and profitability.

Competitive strategies of Italian bottled water industry: evidence from a hedonic analysis

Domenico Carlucci, Bernardo De Gennaro and Luigi Roselli

Bottled water has become a global business and Italy is one of the most important producer and consumer countries. In Italy, consumption of bottled water began in the 1970s and, since then, per capita consumption has increased considerably from 47 litres in 1980 to a maximum of 192 litres in 2008. Currently, Italian bottled water market seems to have reached the maturity stage of its lifecycle and, therefore, the competitive pressure is strongly increasing. In this new context, bottled water producers need to revise their marketing strategies in order to build or reinforce their competitive advantages and preserve their profits and market shares. We built a hedonic price model to measure whether, and to what extent, the unit price of bottled water depends upon its extrinsic (brand, packaging, origin), and intrinsic characteristics (mineral composition). Data on prices and characteristics of bottled water were collected via direct observation of the shelves in some modern retail stores located in the Province of Bari, one the most populous Province of Southern Italy. Results show that bottled water is, surprisingly, highly differentiated and its retail price is mainly affected by extrinsic characteristics, in particular brand and packaging (bottle size, bottle material and type of cap). Other extrinsic factors, i.e. the type of store where retail sales occur and the distance between the water source and the point of sale, also have a relevant effect on price. Conversely, intrinsic characteristics affect the price of bottled water moderately. On the basis of these results, we give some suggestions about the main profitable competitive strategies that could be adopted by firms involved in the Italian bottled water market, and we have also drawn some interesting policy implications.

The assessment of the New CAP Reform: the case study of Tuscany

Leonardo Casini, Gabriele Pagnotta and Gabriele Scozzafava

The last CAP Reform, introduced through Reg. 1307/2013, deeply modifies the old system of First Pillar payments (Reg. 1782/2003). Indeed, as of January 2015, the Single Farm Payment Scheme (SFPS) has been replaced by the Basic Payment Scheme (BPS). The overall aim of the paper is to evaluate the impacts of distributing direct payments in Tuscany in 2019, as provided by Reg. 1307/2013, compared to the pre-Reform SFP payments in 2014. It will thus be possible to analyse in detail the redistribution effects on farms and on the territory of Tuscany. By means of a microanalysis on the farm level and the spatial distribution of payments, we shall be able to identify specific farm typologies or specific areas that might show criticalities that could induce phenomena of abandonment of farming activity.

Regulation of supply for Cheese with a protected designation of origin or protected geographical indication

Gabriele Chiodini and Angelo Frascarelli

During the last years, the European dairy sector faced the phenomenon of price volatility; this means that the price of dairy products is not stable and suffer huge variation.

In response to this difficult situation, a High Level Expert Group on Milk (HLG) was set up in October 2009 with the purpose of discussing mid- and long-term arrangements for the milk and milk products sector which, in the context of the end of dairy quotas in 2015, would contribute to stabilising the market and milk producers' incomes and to enhancing transparency in the sector.

The HLG obtained oral and written inputs from major European stakeholder groups in the dairy supply chain representing farmers, dairy processors, dairy traders, retailers and consumers.

The HLG delivered its report on 15 June 2010. The report contained an analysis of the current state of the dairy sector and a list of recommendations in response to the problems of dairy sector.

In response to the recommendations, the European Union approved on the 14 March 2012 the Regulation N°. 261. This regulation reorganizes all the dairy sector with new tools to operate in replacement of the dairy quotas system. In particular, the new Regulation suggests 4 tools to achieve the goals: Use of contracts; Producers organizations; Interbranch organizations; Regulation of supply for cheese with a protected designation of origin or protected geographical indication.

Under the political lens, the introduction of these news tools, defined as indirect tools, in substitution of the more tested direct tools, as quotas, duties or export subsidies, represent an important changing in the European agricultural policy. This change towards indirect tools is particularly relevant in the latest documents of European agricultural policy, but is the first time that is authorized the regulation of supply of agricultural products.

In Italy the market of cheese with a protected designation of origin or protected geographical indication is very relevant and the possibility of regulation on supply could bring some benefits.

The aim of the work is to evaluate the effectiveness of the regulation of supply of cheese with a protected designation of origin (PDO) or protected geographical indication (PGI).

The role of local food chain in the sustainable management and promotion of territories. A comparison case study of Umbria region in Italy and the sub-region of Pest county in Hungary

Adriano Ciani, Mihaly Vörös and Filippo Fiume Fagioli

“Food is a microcosm of the macrocosm... If we are concerned about industrial farming, agri-business, food miles, soil erosion, cruelty to animals, fast foods, fatty foods, and non-foods then we have to look at our plate and what is on it. The food in our pantry and in our kitchen is ultimately connected to climate change and global poverty, as well as to our health” (Kumar, 2008).

From agro-food economics to culture economics: some inceptive reflections

Gian Luigi Corinto and Francesco Musotti

The paper aims at illustrating the possibility to adopt the concentric circles model of Throsby from the cultural industries even into the agro-food sector. The economics of culture is a relatively new section of the economic science, at least considering a very new textbook appeared not more than fifteen years ago (Throsby 2001). Together with other sections of the economic thinking, such as economics of local development, economics of knowledge and economics of heritage, it shares the possibility to give a sound organization of the discipline in terms of theory and methodology. On one hand, we can consider the economics of culture in a minimalist sense, thinking it should provide the integration of studies on a particular ground (highly symbolic in term of the sociology's jargon) of human activities with the economic standard theory. In this case, the job will be simply the delimitation of a sector, better a macro-sector, that of the cultural one in itself. This macro-sector can gather activities to be traditionally classified partially within those producing goods (manufacturing, agriculture) and partially those producing services. In this macro-sector, in particular, the outputs do actually face a high-income-effect and then are oriented to play a strategic towing function within those economies which can satisfy desires instead of primary needs, such as necessity of nourishment. On the other hand, and following a more incisive point of view, the economics of culture should be intended as a separate intellectual system, being capable of treating the culture as a meta-factor of production. The culture is to be intended as produced by a set of very creative activities, which are capable of continuing innovations, even sedimented in the complex of the cultural heritage. As a meta-factor of production it will be able to join and shape a vast set of productive processes.

The authors of this paper suggest that the agro-food productions, excluding the mere artistic productions, are those within which the permeation between technology, craftsmanship (the Severino's *téchne*) and culture is very high. In other words, the agro-food sector is arguably to be rethought as capable of combining the scientific knowledge (specialized, intrinsically private, oriented to study of commodities) and the socialized knowledge (intrinsically public, substantially oriented to contaminate and connotate any material goods with significative symbols). We believe that our way of thinking is even supported by the statement of Unesco about the new classification of the cultural industries, cast in a concentric circles scheme, firstly presented by Throsby in 2008 in order to make possible the empirical analysis, after his previous foundation of the theoretical principles. Unesco (2009) put in the core of the concentric circles, and thus in the same matrix of any other cultural activity, the natural heritage. The interest of agricultural economists will then naturally increase to this topic. The natural heritage is the physical ground of agriculture and is becoming a productive goal for farming, besides the production of services coming from selected entrepreneurs, such as didactic and kindergarten farms. Following these suggestions, it should be possible to re-focus many agro-food activities, especially those regarding the production of new products, the linkages between the typical products and landscape and the territory, the generation of cognitive abilities in consumers, the way by which big names and masters of eno-gastronomy are giving sense to food-design and food-branding.

The concepts of economics of culture can help us in understanding the nature of heritage-public goods as the Made-in-Italy food and the Mediterranean Diet. Nevertheless, it should help to clear some recurring dyads regarding the agro-food and the environment reproduction, as in the followings:

- 1) food need (primary need *stricto sensu*) versus taste-desire (which is the result of a social experience, if not an actual community experience of cognitive enablement);
- 2) commodity (undifferentiated good coming from an undifferentiated producer) versus speciality (differentiated good from a producer who uses a differentiating symbolic communication capable of modifying all the consumers' perception);
- 3) speciality (differentiated good conceived to satisfy a singular taste-desire) versus integrated speciality (cluster of differentiated goods and services satisfying a cluster of taste-desires) ;
- 4) nourishment (set of nutritive elements-substances) versus food (good capable to satisfy even the primary nourishing need but also an educated taste and, then, to transmit sensations of the so called gastro-sphere (Mangano 2014));
- 5) notion of capital (set of goods subjected to physical consumption) versus notion of heritage (complex of goods reproducing by means of use);
- 6) economic value (exchange value) versus cultural value (the symbolic value compatible with the exchange value, contrarily to some extra-economic philosophy, if not harshly anti-commercial positions against the use of cultural heritage);
- 7) notion of knowledge (separating and positional knowledge) versus notion of culture (shared knowledge within a population which increases during the interpersonal circulation);
- 8) process and/or product innovations (coming from the new knowledge) versus innovation in use (coming from the re-use of the sedimented knowledge yet become culture able to incremental expansion by the circulation among the individuals of the same population);
- 9) profit (retrievable from the new products generated by the re-use of handicrafts of a specific agro-food and eno-gastronomic culture) versus rent (coming from the static and museum use, typical of the perennial reproduction of the same tradition).

The authors propose the paper for the topic 'New forms of Marketing and Local Markets', having the goal of a first lightening on this new possible research issue, diverse from the traditional empiric attention of the agricultural economics, and aiming at giving sense to possible future lines of research. Thus, the paper actually aims at giving a systematic discussion about the literature on economics of culture and some linked theoretical acquisitions of the agro-food literature.

Our methodology will be the reasoned selection and discussion of the two above mentioned sectorial literatures. The results are the identification in the agro-food system of the categories suggested by Throsby and the eventual insertion of them in his concentric circles scheme. We conclude with the proposition of possible lines of research and suggestions for the policymakers.

Consumers' preferences for ethical attributes of coffee: a choice experiment in the Italian market

Marta Cosmina, Gianluigi Gallenti, Francesco Marangon and Stefania Troiano

The world coffee market shows that coffee is a widespread consumption product characterised by significant growth, with considerable potential for further increases. In particular, coffee is one of the world's most valuable traded commodity, second only to oil, and the most widely traded agricultural product. Its consumption has doubled in the last forty years as the drink has come to form part of a modern affluent lifestyle in the Global North (Tucker, 2011).

The coffee market is also defined by high price volatility and long-term declining profits for the producers, in particular for small producers (ICO, 2014 2015) who are the weaker agents of a complex supply chain with many actors.

Moreover, since the late 1990s and the beginning of 2000, the sustainability debate has been directly linked to the coffee sector so that coffee is regarded as the pioneering industry for sustainability standards and certification (IIED-IISD, 2014).

Finally, coffee is one of the most important goods produced in developing countries (in many producing countries, coffee accounts for over 75% of total export revenue) and consumed (and also transformed) in developed countries. It therefore represents a symbol of the economic relations between these two world areas in a market characterised by imperfect competition where the market power distribution between the agents (in particular between producer on one hand and traders and roasters on the other) is asymmetrical. For these reasons, the distribution of the added value between coffee market agents represents a fundamental ethical aspect of a traditional economic problem.

Organic and Fair Trade are two of the most important ethical attributes of coffee with specific labels. Organic refers to food grown without pesticides and herbicides. Fair Trade concerns mainly a supply chain management characterized by: products imported from small-scale farmers in developing countries, fair prices guaranteed to producer, respect of safe working condition for farmers and human rights for local community, environmental protection. Therefore, these two ethical attributes include some common characteristics; they may be related, and one brand of coffee can have both attributes (e.g. organic and Fair Trade coffee).

In particular, the Fair Trade coffee supply chain impacts all the critical aspects of the world coffee market through 1) a more equal distribution of added value among the actors of the supply chain, 2) a sustainability production system concerning not only social and economic aspects but also environmental aspects, 3) a vertical coordination to reduce price volatility and 4) product differentiation (ensured by certification process and product labelling) to answer the ethical demands of a growing share of consumers.

The success of an organic and/or Fair Trade coffee depends on several factors. One of the most critical is the willingness of consumers to pay a premium price for ethical attributes.

This study uses a choice experiment (CE) in accordance with several other studies (see a review in Liebe & Andorfer, 2012) to investigate the attitudes towards organic and Fair Trade coffee among Italian consumers.

Effects of land related factors on child labour in agriculture: evidences from Peru

Marco De Gaetano, Francesco Caracciolo and Maria Rosaria Carillo

This study analyzes the relationships occurring between household characteristics, children individual factors, community/rural context, and their effect on agricultural child labour in Peru. Furthermore, land related factors were explicitly taken into account. In Peru the majority of child workers are engaged in farming systems characterized by great heterogeneity. Data used in this research derives from the 2013 Peruvian National Household Survey. A child labour supply model shows that a strict relation exists between land related factors and child labour in agriculture, both in terms of its incidence and intensity. Moreover, this relation changes according to land size patterns likely related to different agricultural systems. Policy makers should take in count the complex relationship between land and child labour especially with respect to child labour eradication and other development program that could directly and indirectly increase child productivity in agriculture as well as labour demand and supply.

Consumer approach to food waste: evidences from a large scale survey in Italy

Luca Falasconi, Clara Cicatiello, Silvio Franco, Andrea Segré, Marco Setti, Matteo Vittuari and Ilaria Cusano

In the EU alone, 89 million tons of food are wasted every year, the largest fraction of which at the household level. Despite the key role of consumers in waste production, their approach to food waste has not been deeply analyzed so far. This paper aims at exploring the consumer attitude towards food waste, by analyzing the results of a survey held in two Italian cities in 2014, focused on the extent and reasons of the household food waste, and on consumers' perception of effects and possible remedies to food waste.

The analysis of the data show a general awareness of the and effects of food waste, although the perception of such effects is more developed when the impact is directly perceived by the consumers. The main reasons of food waste, as declared by the consumers, are a lack of attention to expiration dates, over-purchase, over-cooking, and a lack of knowledge about how to reuse the leftovers.

A cluster analysis has been conducted to identify consumer profiles with a similar approach to food waste. Such profiles have then been analyzed across the two samples in order to check for possible overlapping, which could lead to a careful generalization of the results. Namely, we found 4 consumer profiles, named as "careful", "virtuous", "aware" and "unconcerned", in both the samples analysed.

Despite the many limitations of this very first analysis on the phenomenon of household food waste, some interesting insights emerge, which might be usefully deepened in order to design effective strategies against food waste.

Food waste in the phase of domestic consumption: the causes and preventive actions

Maria Rosa Fanelli and Antonia Di Florio

This work is part of a research field still little explored both nationally and internationally and which are used in different theoretical approaches and methodologies for quantitative analysis of the dynamics of food waste. Most of the research, globally, it focuses on the formation of waste in the stages of production and distribution. In such links in the food chain, as it is known, food waste seem inevitable because most of them comes from an erroneous inventory management, from production surpluses, by damaged or deformed.

Few studies were concerned, however, an analysis of food waste in the phase of domestic consumption. Therefore, this paper aims to fill this deficiency by providing the results of a survey, carried out at a representative sample of the population, to quantify, qualify and identify the causes of food waste as well as actions that consumers put in place to reduce or better even to prevent it.

The same survey is conducted on a representative sample of 500 individuals, of which 68.4 % residing in Molise. Such individuals have self-selected by filling out the questionnaire developed using the Google Drive . The questionnaire was launched in April 2014 and remained on-line until June 2014. The same has been spread through the social network " Facebook " .

The 45 information relating to the characteristics of the individual respondents, the composition of the household, to the habits and attitudes of expenditure and food, guidelines and behaviors to reduce or prevent food waste in the phase of domestic consumption, thus collected are been developed with the use of the software R .

Data analysis was conducted in three phases: an analysis of simple correspondences, a cluster analysis and causal maps.

The first allowed to identify why, how and how much is wasted, the second group of respondents into three groups " homogeneous " inside them and uneven between them and finally causal maps are used to identifying the causes of food waste in the phase of domestic consumption.

Innovation in agriculture and sustainability transition: methods towards an integrated approaches for extension services and education.

Elena Favilli

The issue of sustainability of the agro-food sector and the ways to achieve a transition path in this direction, is of increasing interest both for scientists and practitioners. Moreover, there is a growing awareness that the technological and organizational solutions undertaken in the past by the agricultural sector are no longer always compatible with the constraints and opportunities that society will face in the near future (Moschitz et al. 2015). Globally, there are three main factors of pressure that the agro-food system is facing: climate change, the progressive scarcity of non-renewable resources and the growth of the global population (Konefal 2015). These elements not only highlight the critical environmental issues that agriculture will face, but also represent the major global challenges in the near future. This has, therefore, generated increasing attention regarding a transition to new business models, new technologies and new political strategies that address the challenge of sustainability.

This research aims to contribute to the current debate on the tools and methods available or potentially developable to promote a transition to sustainable agriculture. The specific objective is analyzing the strategies of support towards innovation for sustainability in the agro-food sector and veterinary science, in order to identify methods for the organization of an extension services system responding to the challenges that the sectors are facing: we specifically focus on the need to support collective action.

To address the issue, we propose a network approach to study innovation for sustainability, which considers the integration of skills and abilities and the co-creation of knowledge from different fields of activity (scientific, technical, operational) as prerequisites for the definition of action strategies to meet the challenges of the agricultural and livestock sector.

With theoretical inputs from the multilevel-perspective on socio-technical transition (Rip and Kemp 1998; Geels 2002, 2014) and the theory of boundary objects (Starr and Greisemar 1989; Benn et al. 2013), we developed a framework for the analysis of two case studies of innovation networks - the Red Cows Consortium and network of Razza Reggiana breeders and Crisoperla Association - in order to understand their organization and functioning and what kinds of support (technical, economic etc.) have been effective in facilitating their transition pathways.

The data for the analysis of the cases were collected using a participatory action-research approach (Lewin 1958), which involved also stakeholders (farmers, agronomists) etc.) in the definition of research objectives and strategies to be developed (O'Leary 2004). The analysis of two case studies has highlighted the importance of the collective action around a common goal of sustainability; furthermore, the presence of boundary objects and the activity of some actors (or groups of actors) acting as brokers have proven to be key elements for the success of the two initiatives.

Overcoming the individual dimension, the different categories of actors within the networks act collectively around a common goal of sustainability, making possible the realization of projects that otherwise would not have been realized.

The research carried out, thanks also to the methodological approach adopted, has allowed to highlight some important aspects that affect the transitions and innovation for sustainability.

Innovation refers to the ability to mobilize resources and tangible assets to facilitate organizational innovation processes among multiple stakeholders, consolidating relations between subjects and the ability to develop collaboration (Laville and Gardin 1999; Mouleart and Vicari 2009). So it may be acknowledged that innovation for sustainability needs of a kind of support that goes beyond the technical and technological skills, covering also the fields of relationship building and the ability to facilitate the production of new knowledge.

These findings allows us to focus on the opportunity to integrate the extension services in agriculture with methods that facilitate cooperation among farmers and the collective action around common objectives of sustainability; tools supporting innovation and cooperation are needed to unleash the potential of changing of innovation networks.

The extension services system in different areas of the agro-food and veterinary sector should be addressed towards processes of co-innovation and overcome the traditional approach that transfers and disseminates predefined knowledge and innovation (Birner et al. 2006; Rivera 1996). The challenge is so to reform the extension service system so that it can act as a facilitator than as service provider (Benson and Janfry 2013).

This challenge could have implications for education and training in the agro-food and veterinary sector: the technical knowledge should be integrated by the development of other skills and ability, such as capacity building and facilitation, in order to create new professionals able both to understand a single farmer needs and to support the development of collective initiatives.

Food styles in a multidimensional perspective of sustainability. some methodological insight

Maria Bonaventura Forleo, Annalisa De Boni, Cinzia Di Cesare, Rocco Roma and Giancarlo Salvatori

The paper deals with the analysis of eating habits in a multi-dimensional sustainability perspective. Conventional and organic food styles are deeply analysed to evaluate their economic characteristics, nutritional adequacy and environmental impacts, and to propose some research hypothesis for a multifaceted analysis of consumer food styles. Organic consumers follows more carefully nutritional recommendations; their diet is characterized by a reduced fat content and a higher intake of dietary fiber, fruit and vegetables and vitamins minerals; they present a better environmental profile. The awareness of the environmental impact of household's lifestyle, even if is not a prerogative of the organic consumers, appeared more evident among them. Instead, conventional consumers appear less aware of the nutritional facts; their diet has a high lipid content and a reduced intake of fiber, fruits and vegetables; on the other side, they have a higher environmental burden. Environmental impact and nutritional characteristics of foods do not trigger a significant need for information, nor a high willingness to pay a premium price among conventional consumers. Those results need to be further tested in their general validity because of the small sample size. Even though, a multidisciplinary methodological approach is considered more useful than single disciplinary approaches that, although valuable in deeply defining specific profiles of consumers, may not comprise several significant drivers and implications that consumption patterns have under the nutritional, economic and environmental profiles.

Neither Brakes Nor Umbrellas: Efficiency and Productivity in European Dairy Farms During the Milk Quota System Phasing Out

Roberto Furesi, Fabio A. Madau and Pietro Pulina

The new CAP 2014-2020 will support milk producers through direct payments and other measures aimed to ensure a policy support to the sector. The efficiency and the productivity capacity of producers will play an important role in this game in order to expand production and, as a consequence, profitability. The aim of this paper is to evaluate the efficiency and the factor productivity change of the dairy farms in the EU countries in the last years in order to determine which countries have shown the best performance adaptations when the quota regime was relaxed and to evaluate the technical conditions of European farmers at the starting point of the new regime. A Data Envelopment Analysis (DEA) was applied on aggregate data related to 22 European countries over the 2004-2012 period. Results suggest that milk farms show small rooms for improving efficiency in using their own technical inputs. Furthermore, estimation of Total Factor Productivity and its components suggests that European milk sector has suffered a decline in productivity changes. It means that external factors independent from farmers' capacity in using technical inputs can play a greater role than efficiency in conditioning productivity and profitability in the next future.

Factors in bread choice

Oriana Gava, Fabio Bartolini and Gianluca Brunori

This study attempts at pointing out some of the factors that can drive bread purchases in a sample of Italian consumers. The paper analyses the importance that a sample of Italian consumers attach to stated determinants of bread choice. A web survey with closed-end questions was administered via snowball sampling, after having identified possible determinants of bread choice via interviews across the bread supply chain in Italy. Researchers and experts from the retail industry were interviewed as well. The underlying motivations of consumers' choice of bread are classified by means of principal component analysis (PCA); then, the identified components are used for segmenting sampled consumers. Results show that sensory attributes are consumers' preferred variables. PCA returned four components, i.e. ethics, sensory quality, health, and price, that were used to predict the distribution of sampled consumers on their main motivational concerns with respect to bread purchase. Despite being a relatively simple product, bread choice has a strong cultural component, with beliefs and habits playing key roles however, consumer profiles are also able to affect bread purchases. "Origin" and environmental "sustainability" concerns drive ethic consumers. Bread production chain seems an attribute with a marginal importance.

The valorization of local large wild ungulates meat: information about hunting activity and opportunities for a controlled food supply chain

Anna Gaviglio, Eugenio Demartini, Maria Elena Marescotti, Mattia Bertocchi, Alberto Pirani and Roberto Viganò

The supply chain of large wild ungulates meat shows interesting characteristics in terms of market opportunities. Nonetheless, local hunting activity can not satisfy domestic demand both in terms of product quality and quantity. As a result, the demand is met by a relevant amount of meat imported mainly from Poland, Austria, Hungary and Slovenia, among the European manufacturers, or New Zealand, USA and Australia among non-EU Countries.

Therefore, assuming that large wild ungulates meat represents an economic resource that could revive the local economy especially of marginal mountain areas, the research aims to estimate the volume of production of the Hunting Districts of Val d'Ossola (VCO2 and VCO3 - Piedmont, Italy). The potentiality for a large wild ungulates supply chain is measured in terms of volumes and compliance with trading quality standards.

Considering our findings, the hunting activity of Val d'Ossola presents very interesting characteristics for large wild ungulates meat's market in term of amount, but hunters still lack of the skills guaranteeing hygienic and quality standards required for trade. By an analytical point of view, the questionnaire used for the survey showed good capacity of market and context investigation, suggesting it could be used for a general assessment of Italian large wild ungulate meat production. This approach allows to collect information about hunters and their behaviors in performing their activity and, as it is replicable, to promote wild game sector analysis.

Comparing Italian and Brazilian consumers' attitudes towards Short Food Supply Chains

Elisa Giampietri, Bárbara F. Cardoso, Adele Finco, Fabio Verneau, Teresa Del Giudice and Pery F. A. Shikida

According to the Theory of Planned Behavior, this work investigates consumers' attitudes towards the intention to buy local food in Short Food Supply Chains (SFSCs), carrying out a survey among university students in Italy and Brazil. Results show that sustainability and food safety mostly influence consumers' behavior in both countries. However, the main differences emerged are related to the fact that Italian consumers recognized the SFSCs as a catalyst for new employment opportunities and local development, whereas the role of short chains on life quality and wellbeing is stressed by Brazilian ones.

IT-based tools for the integrated management of the food chain: the development of the cereal territorial chain of the PGI “Pane di Matera” within the Rural Development Program of the Basilicata Region by means of technological innovations.

Piermichele La Sala

The purpose of the research is the analysis and implementation of an IT-based system for PGI Matera Bread food chain management and integration system. The work, developed in the context of the activities financed by the supported by the Measure 124 of the RDP Basilicata Region 2007-2013, in the Integrated Project of Food chain (IPF) “Mangiare Matera: il grano, il pane, la pasta”, is mainly based on the gathering and elaboration of data pertinent to the manufacturing, transformation and commercialization of PGI “Pane di Matera” cereal food chain productions. The issues observed during the analysis of this particular food chain, and the evidence collected during the data gathering phases carried out through the interaction between companies and operators, pushed the research towards the individuation of a methodology and a technology aiming to integrate a vertical with a horizontal food chain coordination. In relation with the results obtained, an IT architecture has been identified, useful for pinpointing and supporting the crucial and most efficiency lacking manufacturing steps. Acting upon the IT system identified and its architecture it was therefore possible, through their combination, to construct and test the technological HUB instrument as an ITC platform of services for the food chain, and test how it influences the economic results of companies within the IPF. More specifically, the survey that has been carried out concerns the costs and benefits connected to the utilization of services relied to each phase of the chain food and to the chain food as a whole, and how the identified solutions respond to the intervention requirements. Such system can represent a really useful instrument for evaluation and improvement cooperation levels between the companies involved in a given food chain, as well as for the individuation of the right organization and functioning model for the chain itself and, more in general, of a territorial productive system, with the aim to generate competitive advantage for the operators, especially during the manufacturing phase.

International trade regulation and food safety: the case of Italian imports of fruit and vegetables from third Mediterranean Countries

Giulio Malorgio, Cristina Grazia and Luca Camanzi

Compliance with mandatory Sanitary and Phytosanitary Standards (SPS) and food safety requirements are crucial issues for international trade (Reg. UE 396/2005, Reg. UE 178/2006). A particularly controversial issue is that of the implementation of food standards and control systems by each Member State that can favour opportunistic behaviours by upstream producers and increase the transaction costs for downstream players. These issues are of high relevance especially for fresh agricultural products, such as fruit and vegetables, imported by EU southern Member States from Third Mediterranean Countries.

Thus, the present study intends to evaluate the effectiveness of the current regulatory framework in terms of compliance with sanitary standards of fruit and vegetables imported in Italy from Mediterranean Countries and to suggest possible improvements in policy action. The specific objectives of the paper are (i) to identify the main expected benefits and difficulties of compliance with food safety standards, (ii) to provide recommendations on suitable policy intervention tools favouring ex-ante compliance with food safety requirements and (iii) to assess the main interactions (substitutability/complementarity) between public and private standards in the governance of international food chains.

As a first step of the research, drawing from previous scientific literature, we developed a general conceptual framework linking the main factors affecting ex-ante compliance capacity with food import safety standards (information, vertical integration, partner selection and monitoring costs).

As a second step, based on the conceptual framework developed, we carried out a direct survey on key players and representatives of both public and private bodies involved in sanitary and trade issues (N=20) by means of a questionnaire, aimed at assessing the expected benefits and difficulties of compliance with food safety regulation.

According to the preliminary results obtained, the issue of sanitary safety in the fruit and vegetable value chain entails both institutional problems (lack of harmonization between Member States regulations and the excessive fragmentation of bureaucratic procedures) and relational problems between economic agents, i.e. difficulties in both the selection and monitoring of suppliers. Further, most respondents underline the need for unambiguous and simpler procedures and they agree that on-site inspections in the countries of origin could be effective to increase manufacturers' capacity to comply with safety standards. Finally, in order to improve relationships between EU Member States and Mediterranean Countries, the cooperative approach is considered the most appropriate, entailing participation in programs of bilateral cooperation, and structural enhancement in the countries of origin.

An empirical analysis farmers beliefs about climate change challenges

Gaetano Martino, Flaminia Ventura and Francesco Diotallevi

Farmers can contribute to climate change mitigation adopting adequate technology. In the last decades, one of the main efforts of the Common Agricultural Policy was to promote a better use of natural resources in agricultural and food production. The adoption of environment-friendly technology depends in turn on farmers beliefs in the different solutions offered by the knowledge-based systems. In this context, farmers beliefs are recognized to be the critical drivers of the possibilities of adopting new technologies in the field of climate change mitigation (Grothman and Patt; Dietz et al., 2007; Vainio and Poliniemi, 2011). This study considers the beliefs as drivers of the farmers evaluation of the possibility to contribute to climate change mitigation and frame them in wider conceptual framework of institutional change. The objective of the study is to address the question on whether or not the farmer beliefs are influential of the potential farming activities contributions to mitigation. The results confirms the role of the beliefs and of their institutional dimensions.

Farmer participation in short supply chain: is it a social entrepreneurial behaviour?

Giuseppina Migliore, Giorgio Schifani, Shadi Hashem, Pietro Romeo and Luigi Cembalo

This study verifies whether farmers' participation in alternative food networks (AFNs) is driven by the social entrepreneurship dimension to satisfy social and environmental needs. We develop a more inclusive view of how social entrepreneurship is present among farmers participating in AFNs by using a behavioural approach based on three main psychological constructs: Attitude, Objective, and Behaviour. The empirical results show that two types of farmers participate in AFNs. One type is closer to commercial entrepreneurs; the main attitudes and objectives affecting their behaviour are oriented toward profit maximization and farm progress. The second type is closer to social entrepreneurial activity; the main objectives affecting their behaviour are oriented towards satisfying social and environmental needs. The study's results offer implications and suggest recommendations concerning social entrepreneurial practices and the motivations of the farmers who participate in AFNs.

Shared value and responsibility in agriculture: the short supply chain model

Concetta Nazzaro, Giuseppe Marotta and Marco Nerino

Theoretical background – The post-modern citizen-consumer appreciates lifestyles characterized by less waste, environmental sustainability and preference of brand products with a greater attention to ethical and value dynamics. These aspects are promoted by the new model of multifunctional and multivalue farm through the valorization of the short supply chain. In the new models of value creation, the short supply chain becomes a competitive instrument for multifunctional and diversified farms, as a response to the asymmetric contractual power, allowing the farm to regain margins of value added, and the consumer to save on the purchase of healthy and safe goods and exercise a function of direct control on the quality of the products.

Both producer and citizen-consumer share the value created for behavioral strategies. The direct relationship creates a "welfare effect" due to the use of localized positive externalities, that makes the citizen-consumer available to recognize a premium price (willingness to pay) to the basket of goods and services offered by the farm and the territory, compared to competing products distributed through traditional channels.

The short supply chain generates different value chains and plays a social responsibility function not only for the producer and the citizen-consumer but also for the whole local context, generating new forms of value sharing.

Territory, Typical products, and consumer preferences: the case of the Capicollo Azze Anca Grecanico Presidio Slow Food of Calabria

Agata Nicolosi and Valentina Rosa Laganà

This study examines the production and consumption of the Capicollo Azze Grecanico Slow Food from the province of Reggio Calabria. The research provides a first step analysis of the producers, and the identifying touristic, historical, cultural, scenic, and culinary characteristics of the Grecanic area. In a second phase, the research considers the main characteristics of the consumer of Capicollo Azze Anca Slow Food, a typical local product of the area. To examine the characteristics of the sample of consumers was used the method of multiple correspondence analysis (MCA), allowing you to identify the behavioral patterns related to the consumption of capicollo Azze Anca Grecanico. In addition, it applied a logit regression for each of the four factors identified to evaluate the relationship between individual motivations and socio-economic characteristics and behavior that most affect the decision making of consumers to purchase a traditional local product. The results show a strong propensity of consumers to the link between territory and product quality and the importance attached to food security. Capicollo is considered tasty, quality, storable and lends itself to a variety of consumption occasions (snacks, appetizers, entrees, snacks, dinner, lunch). The purchase decision is connected with the traditions, habits and eating patterns of consumers surveyed.

The role of Producer Organisations in the vegetable value chain: an application to the red chicory from Veneto

Maria Nucera, Giovanna Maria Ferrari, Antonella Finizia, Stefano Merciai and Alessandro Sorrentino

This paper is about agricultural value chain and aims to evaluate the impact of Producer Organizations (POs) on a vegetable value chain. In particular, the objective of this study is to compare added value distribution among players in the vegetable sectors, in different supply chain scenarios: supply chain with a PO as intermediary; supply chain with a wholesaler as intermediary. From this general objective two questions arise: the first aims to assess whether POs can transfer any benefit to their members, the second aims to assess whether product differentiation has an effect on the distribution of margins along the supply chain, with a real benefit to the farmer. We propose an empirical application of ISMEA value chain to the supply chain of two vegetables: the “Radicchio rosso di Treviso tardivo IGP” and the equivalent not certified product the “spadone” chicory, which are both produced only in Veneto. The case study evidence suggests that POs can assess efficiencies into the value chain, allowing farmers to reach a greater benefit, than ordinary supply chain, for at least two reasons. Firstly, their capacity to internalize some activities and services, avoiding the use of too many intermediate steps to get the product to the consumer (development of direct contracts with large retailing); secondly, their cooperative view: POs act for mutual economic benefit that is to pay to the farmer a higher price than the market. Since the substantial review and reduction of direct support to agricultural income, the tools improving supply concentration appear as the few tools which can enable a return to profitability, as well as efficiency of the supply chains themselves.

Rules, Organizational Structures and Economic Performance: The case of Prosecco Cooperative Wineries in the Treviso Area

Laura Onofri, Luigino Barisan and Vasco Boatto

The study performs an economic analysis of the rules that govern the organization of production within Prosecco cooperative wineries in the Treviso area, in order to assess the economic impact on the wineries performance and the ability of the institution to minimize transaction costs. We first present an economic discussion of qualitative and quantitative information gathered for the 16 cooperative wineries in the Treviso area. Then we present a theoretical framework for the economics of transaction costs of the cooperative wineries. Despite the “fame” of the cooperative winery of an inefficient, assistance-based institution, it emerges the profile of a complex structure, which seeks to incorporate the values of social and cultural cohesion and competitiveness in the markets, within the mission of a company. There is a strong link between regulation of quality standards and impacts on the winery economic performance. In the case of the winery, achieving mutualism is paradoxically favoured by the maximization of profits and the ability to do business.

The role of network creation and actor engagement in the adoption and diffusion of sustainable innovations in food value chains

Barbara Pancino, Stefano Pascucci, Emanuele Blasi, Luca Ruini and Cesare Ronchi

The paper aims at understanding how innovations, that are promoted and facilitated by private actors, can be fostered by network creation and actor engagement in the agri-food value chains. More specifically, we investigated innovative governance mechanisms related to the introduction of new sustainable practices in food value chains and tried to evaluate the environmental, economic and social effects of these new practices. We use information derived from a case study based on an ongoing project in the North of Italy, where in 2013 a multinational corporation operating in the pasta and bakery sector has initiated an agreement with other three agri-food companies in order to facilitate sustainable sourcing from a group of farmers.

Can personal values contribute to explain wine choices?

Eugenio Pomarici, Mario Amato and Riccardo Vecchio

Personal values play an important role in explaining and justifying consumer behaviours through their mediated relationship with attitudes. Nevertheless, to our knowledge, personal values have not been deeply investigated for wine buying behaviour. Current paper, through non-hypothetical experimental auctions, analyses the effect on willingness to pay (WTP) for three different wines of the ten value constructs as measured in the Portrait Value Questionnaire by Schwartz (1994). Outcomes reveal that seven (to eight) values exert a statistically significant effect on consumers' (N= 210) final WTPs for the three considered wines.

Price Transmission in Vertical Dairy Chains: the Italian Case

Franco Rosa, Robert Weaver and Michela Vasciaveo

At a theoretic level, price transmission does not provide a clear signal of competitiveness as many conditions may induce stickiness and even asymmetry in the speed of adjustment to positive and negative changes. While evidences from past EU studies for the dairy sector are mixed, several studies have found evidence of asymmetry in some countries. However, none to our knowledge have considered evidence for Italy. We examine price dynamics within the chain and test for presence of asymmetry in the transmission of price changes along the chain. Using a parametric test of asymmetry in a multivariate VECM, we have found strong evidence of symmetry in co-movement. To explore whether these results are robust with respect to nonlinearity we estimate threshold VECM models and it was found strong evidence to reject asymmetry except for the raw milk, wholesale butter chain prices. While inference with respect to competitiveness markets cannot be inferred from evidence of asymmetry, the findings of symmetry confirm that the market organization and performance is not controlling price change to be asymmetric.

Stakeholders' incentives and the design of GI institutions.

Carlo Russo and Antonella Di Fonzo

Geographical Indications are complex and multipurpose institutions. Their objectives include encouraging the diversification of agricultural production, improving farmers' income, countering the depopulation of rural areas, satisfying consumer demand to high quality good, and protecting consumers from food fraud. We argue that such objectives are not necessarily aligned and divergence may arise among stakeholders (such as farmers, consumers or rural communities) about the optimal design of the GI. To this purpose we developed a simple, static game-theory model describing the basic choices that a planner faces in designing a GI. We conclude that the optimal organization requires finding trade-offs among conflicting but equally desirable objectives. We found that perfect monitoring is not a sufficient condition to resolve such conflicts. We also conclude that sub-consortia and flexible production agreements may increase the efficiency of a GI.

Bringing urban food provision closer to food consumption: potentialities of five European metropolitan regions

Guido Sali, Federica Monaco, Stefano Corsi and Chiara Mazzocchi

The agro-food systems of urban contexts are affected by different and interconnected factors that modify their productive performances and potentialities of food provision. However, the resulting dependence on global markets doesn't adequately meet food security and sustainability issues; the strength of the local component is then needed, through enhancing proximity agriculture and the potentialities of the system. In reconnecting and readjusting food production and consumption, preliminary analyses of the context are essential to obtain such information. In this sense, the paper introduces a system performance assessment tool, based on the quantification of food self-reliance in five European metropolitan regions. The method reveals the peculiarities of each area in terms of compliance with food demand and market orientation of the main agricultural products; finally, it provides useful information to be taken into account by policy makers of the planning and food sectors.

Explorative study of multifunctional agriculture in a Sicilian inland area

Emanuele Schimmenti, Giuseppe Daddi, Antonio Ascuto, Valeria Borsellino, Mariarosa Di Gesaro and Marcello D'Acquisto

The study investigates the agricultural multifunctional activities carried out in a Sicilian typical rural area, the motivations for entrepreneurial choices and the overall level of satisfaction. An exploratory survey was therefore carried out on a sample of 13 farms localized in 3 Sicilian provinces, with the goal to identify strengths and weaknesses of their multifunctional activities.

From the farm survey, several positive results came to light, among which a wide variety of services and activities, an increase in farm workforce and a high level in communication and Internet services. On the other hand, some criticalities emerged in the transition process, such as heavy delays in the administrative authorizations or in plant construction, as well as long Pay-Back periods, due to both an increased local competition in the supply of multifunctional activities and a generalized financial crisis.

The effect of agricultural policies and farm characteristics on income variability

Simone Severini, Antonella Tantari and Giuliano Di Tommaso

This paper estimates how direct payments provided by the Common Agricultural Policy (CAP) affect variability of farm income over time. The analysis is based on robust regression estimations developed on a cross section database of a constant sample of 2402 Italian farms during the decade 2003-2012.

Results show that CAP direct payments allow for a reduction of the variability of farm income being less variable than other income sources. This suggests policy makers should support the continuation of such policy if income stabilisation is perceived as a relevant goal. However, regression results also provide evidences that structural immobility increases the variability of farm income while labour intensity does the opposite. This suggests that such goal could also be pursued by policies fostering farm structural change.

The sustainability discourse in scientific literature: a semi-automatic analysis using Nvivo software

Francesco Solfanelli, Simona Naspetti and Raffaele Zanolli

Over the past 25 years, the sustainability concept and its application constantly evolved in different directions within the scientific community, organizations and relevant stakeholders. Sustainability as a concept has been articulated in many variants used in different contexts. Meanwhile, as the use of the sustainability-related expressions became increasingly popular, their meanings were increasingly vague. Some authors have already attempted to provide a review of the term sustainability and its definitions in the academic literature. Nevertheless, there is still a research gap regarding the use of sustainability related terms in scientific literature. In this paper, we attempt a first analysis of the the evolution of discourses on sustainability in the scientific literature on agricultural and food systems. The discourse theory of Laclau and Mouffe was used as a theoretical basis to tackle the analysis of the text. A semi-automatic analysis of the text was performed using Nvivo software. The analysis of the literatures confirms different understandings of the term sustainability among the several scientific area, but also reveals a lack of clear and consistent explanation of the term in general. According to previous findings the sustainability concepts, definitions and interconnections evolved from the original situation. Initially the environmental issues prevailed, but later, the social and economic issues - especially in the last five years – are much more present in the literature. This is mainly due to the introduction of new concepts, which renewed the attention of the scientific academia around the concept of sustainability.

The improvement in the international competitiveness of the Polish food sector and its support with public funds during Poland's membership

Iwona Szczepaniak and Mirosława Tereszczuk

For Poland, the integration with the European Union is both a stage of joining the globalisation processes and a form of strengthening internal forces, so that it could face the global competition and protect itself against its adverse effects. It is obvious that Poland, as the national economy, must be competitive in the international market if it wants to be a full partner, especially for the EU countries, and to be able to develop. If Polish food producers want to be successful, they should also be competitive against companies functioning in the Common European Market and non-EU markets. Such an approach to the issues of competition and competitiveness was a reason for which, in the studies conducted by the IAFE-NRI, the competitiveness of Polish food producers is determined as an ability of national food producers to settle in foreign markets – both in the EU market and in the third-country markets – and an ability to develop effective export.

The main objective of the presented paper is to evaluate the international competitiveness of the Polish food sector and to verify the thesis that the competitiveness of this sector during Poland's membership in the EU has increased.

Presenting in this study an assessment of the international competitiveness of Polish food sector shows several issues. First, based on the results of trade in agri-food products and two selected indicators (trade coverage index - TC, B. Balassa index revealed comparative advantage - RCA) rated the competitive position of Polish food producers in the world market. Then analyzes the competitive strategies used by Polish food producers in world trade, which uses the method of K. Aiginger. Finally, presents the use by Polish food industry public funds that have been placed at his disposal under the Common Agricultural Policy (CAP) and its impact on the international competitiveness of the sector.

The period of Polish membership in the European Union is a time of systematic improvement of foreign trade in agri-food products. In the years 2003-2014 export of agri-food products increased from 4.0 to 21.3 billion EUR, while import from 3.6 to 14.8 billion EUR. As a result, the balance of trade increased from 0.5 to 6.6 billion EUR. Export during the period grew on average by 16.4% per year, and import by 13.8% per year. Higher growth rate of export than import resulted in an improvement in the positive balance of trade, which in this period grew by an average of 27.5% per year. The coverage ratio of imports of agri-food exports of these products (TC) in the period 2003-2013 increased from 112 to 141%. B. Balassa index revealed comparative advantage (RCA) in Polish exports of agri-food products to the world market increased over the same period from 1.08 to 1.52. The improvement in both ratios in the period of Polish membership in the EU is increasing comparative advantages Polish food sector and improve its international competitive position.

The evaluation of the competitiveness of Polish agri-food trade, made on the basis of the method by K. Aiginger, showed that during Poland's membership in the EU there was a clear increase in the importance of the differentiation strategy based on the effective quality competition. It manifested itself, inter alia, in an increase in the share of the agri-food export, resulting from the application of the effective quality competition strategy (to more than 39% in 2013) and in the improved positive trade balance generated in trade in agri-food products, in the export of which that strategy was applied (to USD 5,3 billion). Of lower importance was the cost leadership strategy consisting in the effective lower price competition, but also in this case there was an

increase in the share of the export (to about 44% in 2013) and the trade balance (to USD 5,0 billion) of products to the export of which that strategy was applied.

Acquisition of Polish food industry Common Agricultural Policy meant in particular the use of such instruments to regulate agricultural markets as: market intervention, export refunds, production subsidies and support consumption and promotion of agri-food products. At the same time in Poland it was launched EU aid programs (both in the pre-accession period and after the Polish accession to the EU). Polish food industry in the pre-accession period and the first years of EU membership gained considerable and well-used public funds, which contributed to the upgrading and modernization of this sector and to increase the stability of the conditions of its operation. The development of the food industry and increase the international competitiveness of Polish food producers are the best proof of this.

The present study shows that in the period of Polish membership in the EU competitiveness of Polish food sector on the world market has increased, and in the process, the significant role played by public funds.

Consumers' willingness to pay for safer fish: preliminary results from a survey about mercury contaminated fish in Friuli Venezia Giulia Region

Tiziano Tempesta, Daniel Vecchiato, Francesco Marangon and Stefania Troiano

This study investigates the impact on consumers' fish choice of a labelling system providing information about mercury-free fish. Taking a sample of costumers from Friuli Venezia Giulia Region (Italy), we applied a choice experiment to estimate consumers' willingness to pay (WTP) for mercury-free labelling and to test whether this WTP differs from WTP for local origin fish. The chosen fish was Seabass given that it is well known and frequently consumed in Italy as it is a local product of the Northern Adriatic from both fishing and farming. Our results highlight how respondents are more likely to consume and willing to pay for local (farmed or fished) fish than to pay a premium price for fish with a "mercury-free" label.

From farm cooperation to territory building: a French case study

Daniela Toccaceli

As a part of a broader ongoing research, the paper propose a reflection on a systemic approach to the multiple organizational pattern proposed by the new European policies for 2014-2020 programming period. Most of them partially converge on a bunch of articulated aims and may be used in a flexible way. It is argued that new orientation towards organizational innovation calls for a most systemic approach thinking the patterns complementary and functionally linked rather than alternative. We seek to investigate how to reach a most systemic approach on whose basis one may choose the one or the other solution, or to integrate them taking together market and territorial purposes. With the purpose to look at a concrete example, this paper examines the agricultural cooperation in French because it is somewhat different from the Italian one. On this base we focus a case study history for understanding how an innovative tool of rural governance may result integrated with systemic organizational pattern as cooperation in the territory of Figeac, in France.

Social capital and rural innovation process: the evaluation of the measure 124 “Cooperation for development of new products, processes and technologies in the agriculture, food and forestry sector” in the Umbria Region (Italy)

Biancamaria Torquati, Roberta Illuminati, Lucio Cecchini, Elena Pisani and Riccardo Da Re

Innovation in the agricultural sector is now acknowledged as an agricultural innovation system (AIS) defined as a network of organizations, enterprises, and individuals focused on bringing new products, new processes, and new forms of organization into social and economic use, together with the institutions and policies that affect their behavior and performance (WB, 2007). Consequently the dynamics and effects of the innovation processes are strictly linked to the endowment of social capital of the AIS network. Based on these premises, this study attempts to assess the role of social capital in agricultural innovation projects co-financed by the Measure 124 of the Rural Development Program (2007-2013) of the Umbria Region (Italy), based on the analysis of 5 evaluation criteria (relevance, innovation, effectiveness, sustainability, and social capital) in relation to 8 selected projects.

Value chain analysis of Climate-smart Shan tea production in the Northern Mountainous Region of Vietnam

Tuong Tran The, Giacomo Branca, Aslihan Arslan and Trinh Van Mai

Agricultural production is in the face of changing rainfall, temperature patterns and increasing intensity and frequency of extreme events, requiring transformation and reorientation in the systems to supply adequate food for increasing world population (FAO, 2013; Lipper et al, 2014; Campbell et al, 2014). Adversely, agriculture is also a key contributor to planetary warming through emitting anthropogenic greenhouse gas. Climate-smart agriculture (CSA) is an approach to process this transition from 'business-as-usual' by building capacity to carry out site-specific and evident-based solutions, especially from developing countries where people are more vulnerable due to their dependence on agriculture. CSA is defined to have three objectives: firstly, sustainably increasing agricultural productivity to support farm incomes, food security and development; secondly, adapting and building resilience of agricultural and food security systems to climate change at multiple levels; and thirdly, decreasing greenhouse gas emissions and increasing carbon sinks (FAO, 2013; FAO and CCAFS, 2014). This paper will provide a site-specific example of how tea value chain in Vietnam, as a part of global tea value chain, could capture these CSA objectives.

Vietnam is the fifth biggest tea exporter in the world. Shan tea production, accounting for 30% of the country tea area, is a key perennial cropping system in the Northern Mountainous Region (NMR) of the country, as it significantly contributes to the incomes and food security of the predominantly ethnic minority population of the region, while improving landscape management. In Shan tea systems of NMR, perennial trees have been incorporated and integrated into forestlands (natural organic) and cropland (intensive system). Such agro forestry systems are potentially climate-smart as they simultaneously contribute to all CSA pillars, i.e. food security, climate change mitigation and adaptation. Also, Shan tea production is at the basis of two different value chains (VCs): natural organic Shan tea VC, involving smaller scale actors but targeting higher quality and niche markets as compared to intensive VC, both for domestic and international markets.

We therefore analyze economic and environmental aspects of Shan Tea VCs in NMR using primary and secondary household data collected from upland provinces of Ha Giang, Yen Bai and Dien Bien. A set of three methodologies is employed in our research as a combination of qualitative and quantitative approach, comprising of value chain analysis (VCA), focus group discussion (FGD) and product carbon footprint life cycle assessment (LCA). In VCA, our logical steps are: i) Reviewing existing secondary sources related to Shan Tea and value chain methodology; ii) Defining boundary and scope of value chain (natural organic Vs intensive Shan tea systems in two provinces of Ha Giang and Yen Bai for domestic and international markets, limited at Hai Phong port); iii) Mapping out the generic value chains with considerations to ecological distribution of the tea production; iv) Selecting four value chains for case studying, two in each province (one for organic VC and one for intensive VC); v) Analyzing selected cases (core and extended value chain actors; flows of finance, information, input/output; production and intermediate costs, value created and distributed; agribusiness linkages and options for upgrading); and vi) consolidations and comparisons.

In assessing the dynamics of Shan tea in household income and Shan tea adaptability to climate change, we run four FGDs, each with 8-10 farmers, representing villages involved in the four selected VCs and in most challenged areas of MNR in terms of climatic changes. A combination of tools have been applied: i) Problem tree; ii) Village history and hazard timeline; iii) Crop calendar, iv) List of exposures to extreme weather events,

v) Ranking suitable trees and crops to extreme weather events, vi) Ranking livelihood income sources, and vii) List of agricultural inputs and estimated quantity. Result of discussions have been represented on A4 papers and then transferred in excel sheets for analysis; Analytical Hierarchy Process – AHP, one of multiple criteria decision making methods originally developed by Saaty, T. in 1977 (Saaty, 2008), will be employed under an excel spreadsheet to assess the pair wise comparisons of household multiple sources of income.

For the environmental aspects of the VCs in terms of global warming potential, we conduct a partial LCA tea product carbon footprint (from cradle to gate) following ISO 14067:2013 and using 'Ecoinvent LCA' database version 3 and IPCC Tier 1 default factors. Major steps include: i) Identifying and collecting data on sources of GHG emissions (LCA Inventory) along Shan tea value chains; ii) Quantifying GHG emissions (CO₂ and others) by multiplying inventory data with emission factors; iii) Converting into CO₂ equivalent (using Global Warming Potential - GWP 100 years) accumulating for a whole value chain per one functional unit (one kilogram of processed tea); and iv) Applying this approach to both VCs: organic and intensive Shan tea to compare those issues and to identify potentials for climate change mitigation.

Preliminary results from VCA show that fresh organic Shan tea leaves are perceived to have premium quality and therefore have attracted an increasing number of buyers as local mini-to-medium processors. However, as they are relatively small holders, their cash returns depend very much on processors who play a role of a lead actor in the VCs. Similarly, processors are also lead actors in intensive Shan tea production which involve larger and more tea-dependent producers. Interestingly, it is found that in the case studies: roughly 90% of organic tea is exported to EU and Taiwan (of which 80% is constituted by black tea and 20% by green tea); 100% of intensive tea is exported to lower quality markets such as Pakistan, Bangladesh and the Middle East; and all tea is exported in bulk except product of Van Chan Organic Tea Club which is certified under Fairtrade.

Understanding the probability of farm income reduction. Contribution to the discussion about the implementation of the Income Stabilisation Tool under the new CAP

Samuele Trestini and Vasco Boatto

Stabilizing farm incomes has been a founding concern for the European agricultural policy. The income stabilization, within Common Agricultural Policy (CAP), has been achieved through various mechanisms of price support, which has been gradually abandoned starting from years 2000. Furthermore, in the last years, we observed an increase in the variability of crop yields, correlated with climate change, that affects the frequency of price shocks.

In the European Union, at present, there are limited tools to cope with the risks of price and production in agriculture. Therefore, European farms have a partial capacity to resist to income volatility suffering a lack of competitiveness compare to other countries, especially Unites States and Canada.

In this scenario, the new CAP post-2013 attaches to the risk management a growing importance. Regulation for Rural Development 2014-2020 (Reg. 1305/2013) offers the possibility, among others, to co-finance the financial compensation paid by mutual funds to farmers who suffered a reduction of their whole-farm income (IST – Income Stabilisation Tool).

The IST offers to most agricultural sectors a new tool to face the market challenges. 2015 is the first year in which the instrument could be applied, but there are many open questions concerning how to manage this instrument and how to quantify its financial requirements. By the estimation of the role of farms attribute on the probability of income loss, the research aims at contributing to the debate about the risk assessment in the agricultural production. The results will contribute to estimate an individual farm risk profile, helping to reduce information asymmetry towards mutual fund members.

The model applied to farms of Veneto Region highlights a higher income risks in the case of specialist livestock production and horticulture. On the other hand, direct payment, especially the decoupled ones, help to reduce income risk, even if the general scenario suggest an increase of a probability of income reduction over time. Concerning farm strategy, the overall economic dimension and higher value added per labour unit seems to be some of the strategies able to reduce income loss.

The new setting of policy measures to balance bargaining power along the food chain. A review to help assessing the way ahead

Beatriz Velazquez and Bruno Buffaria

Based upon a review of the literature which looks at the imperfect price transmission along the food chain, with special attention on the economic impact of market power disparities on the various actors along the food chain, we examine how CAP of instruments aiming at counterbalancing market inequalities along the chain have been functioning over time. Notably we make a review of the implementation of producer organisations, cooperatives and inter-branch producer organisations, both at national and European level. Two key questions guide our review: have these organisations contributed to improving farmers income? Have they been efficient? What has been the effect of such institutions on consumers' welfare? We assess the current setting of the CMO Regulation, in particular the way derogations to the competition policy are defined, exclusions (e.g. cooperatives). We also refer to the way the Commission intends to Guide their implementation. The main research question here is if current setting allows, or not, to reaching both the objective to strengthen the bargaining power of producers, while at the same time avoiding the creation of monopoly power.

Supplements consumption, health oriented behaviour and beyond

Rosaria Viscecchia, Biagia De Devitiis, Antonio Baselice, Antonio Stasi and Gianluca Nardone

People consumption products with health properties such as functional food and food supplements has increased worldwide over the past decades. The health effects of functional food or supplement intake became of public interest: policy makers aim to improve citizens' health and to reduce costs in the healthcare system, it is therefore important to identify functional food and supplement users.

In light of these preliminary remarks, the aim of this study is to characterize users by demographic, lifestyle, health-related characteristics and behaviour.

A face-to-face survey was conducted into drug-stores, in southern Italy on a sample of 400 supplements consumers. A Cluster analysis and a set of Logit regressions was conducted in order to provide consumers' profile and to estimate the cause-effect relationship among the profiles identified and the probability of individuals consuming different categories of supplements. Four segments of supplements users was identified and for each consumers profile the probability of consuming specific supplements was estimated.