Università degli Studi di Catania
*Dipartimento di Economia e Impresa*

*"RESEARCH DEI"*
**Giornata della Ricerca del Dipartimento di Economia e Impresa**
**Palazzo delle Scienze - Aula Magna**
**Corso Italia, 55 – Catania**
**17 Gennaio 2017 ore 8.45-16.30**

# BOOK OF ABSTRACTS

**Organizzazione dell'evento a cura di**

**Il gruppo di assicurazione della qualità della ricerca del Dipartimento**:
Giovanni Battista Dagnino
Salvatore Greco
Salvatore Ingrassia
Isidoro Mazza
Davide Rizzotti


**Il Delegato ai rapporti con il Presidio di qualità di Ateneo**:
Antonio Punzo


**I referenti d'area designati dal Consiglio del Dipartimento**:
Maurizio Caserta
Maria Teresa Clasadonte
Tiziana Cuccia
Placido Rapisarda
Claudio Turco
Domenico Ventura

**Ore 8.45-9.00**
**Apertura Lavori "RESEARCH DEI"**
**Michela Cavallaro,** Direttore Dipartimento di Economia e Impresa
**Giovanni Battista Dagnino,** Delegato alla Ricerca Dipartimento di Economia e Impresa

**Ore 9.00-11.00**
**Prima Sessione – Methodological and Measurement Issues**

**Session Chair**
**Tiziana Cuccia**
**Davide Rizzotti**

1. Inducing probability distributions on the set of value functions by Subjective Stochastic Ordinal Regression
*Salvatore Corrente, Salvatore Greco, Milosz Kadzinski, Roman Slowinski*

2. Private debt and GDP: A short-run perspective
*Gianluca Cafiso*

3. The impact of temporary employment on productivity: The importance of sectors' skill intensity
*Domenico Lisi, Miguel A. Malo*

4. Robustness concerns for PROMETHEE methods dealing with a hierarchy of interacting criteria
*Sally Giuseppe Arcidiacono, Salvatore Corrente, Salvatore Greco*

5. A new approach to present value definition
*Salvatore Greco, Silvestro Lo Cascio, Benedetto Matarazzo*

6. Semi-parametric estimation of the rate of return to education
*Michele Battisti, Salvatore Ingrassia, Angelo Mazza, Antonio Punzo*

7. Rational preference and rationalizable choice
*Simone Cerreia-Vioglio, Alfio Giarlotta, Salvatore Greco, Fabio Maccheroni, Massimo Marinacci*

8. Necessary and Possible Preference Structures
*Alfio Giarlotta*

9. Path dependent performance measurement: acceptability revised
*Christos E. Kountzakis, Damiano Rossello*

10. Air micro-pollutants analyzed through rough set approach
*Agata Matarazzo*

11. Unveiling the role of multiple blockholders in unlisted firms: evidence from Italy
*Annalisa Russino, Pasquale Massimo Picone, Giovanni Battista Dagnino*

12. Interest payment on government debt and public spending in Italy: An empirical analysis
*Roberto Cellini*

13. Is competition able to mitigate the waste effects of corruption on public work contracts?
*Massimo Finocchiaro Castro, Calogero Guccio, Giacomo Pignataro, Ilde Rizzo*

14. Art galleries as informed experts: an experimental study
*Paolo Di Caro, Isidoro Mazza, Arthur Schram*

*15.* Order Book Modeling and financial stability: a simulative approach for policy assessment
*Alessio Emanuele Biondo*


**Ore 11.30-13.30**

**Seconda Sessione – Ecosystems, Credit and the Management and Accounting of Hospitals, Hubris and Family Firms**

**Chair**
**Salvatore Greco**
**Placido Rapisarda**

1. Ranking entrepreneurial ecosystems in Europe with Stochastic Multiattribute Acceptability Analysis
*Salvatore Corrente, Salvatore Greco, Melita Nicotra, Marco Romano, Elita Schillaci*

2. Relationship lending, distanza gerarchica e razionamento del credito: evidenze dalla crisi finanziaria.
*Matteo Cotugno, Gabriele Sampagnaro, Stefano Monferrà*

3. Performing a sensitivity analysis on Italian innovative SMEs' creditworthiness
*Silvia Angilella, Sebastiano Mazzù*

4. An analysis of financial and economic indicators as a support to investment in no fossil fuels energy plants
*Agata Matarazzo*

5. Il sistema assicurativo: claims made tra ragioni d'impresa e disciplina del tipo negoziale.
*Salvatore Bosa*

6. Hubris-driven international growth: a proposed analytical framework
*Pasquale Massimo Picone, Vincenzo Pisano, Giovanni Battista Dagnino*

7. Hubris manageriale, earnings management e previsioni degli analisti
*Davide Rizzotti*

8. Management accounting and leadership construction in family firms
*Antonio Leotta, Carmela Rizza, Daniela Ruggeri*

9. Bringing emotions into family firms: the novelty of the business theatre as a vehicle for groups coaching
*Giorgia M. D'Allura*

10. The validity in hospitals' performance planning
*Antonio Leotta, Daniela Ruggeri, Monica Castro*

11. Outcome-based indicators in healthcare policy: Insights from a hospital competition with heterogeneous agents
*Calogero Guccio, Domenico Lisi, Marco Martorana*

12. Do health outcomes across the Italian regions converge? The role of decentralization and neighbours' effects
*Marina Cavalieri, Livio Ferrante*

13. *Thus do all*. Social interactions in inappropriate behavior for childbirth services in a highly decentralized healthcare system
*Calogero Guccio, Domenico Lisi*

14. AIS innovation as engine of new practical and strategic directions
*Carmela Rizza, Daniela Ruggeri*


**Ore 14.30-16.30**

**Terza Sessione – Territorial Development, Migration, Universities, Tourism, Sustainability and the Economic Impact of Legislation**

**Chairs**
**Isidoro Mazza**
**Antonio Punzo**

1. Performance measurement innovations in the organisational routines: theoretical insights and empirical evidences from an Italian local government
*Eleonora Cardillo, Daniela Ruggeri*

2. Looking for the Mediterranean way of territorial development. Creating a new intangible asset based framework.
*Pierluigi Catalfo*

3. The economics of migration: the total costs and benefits of moving countries
*Maurizio Caserta*

4. Stochastic Multiattribute Acceptability Analysis: an application to the ranking of Italian regions
*Salvatore Greco, Alessio Ishizak, Benedetto Matarazzo, Gianpiero Torrisi*

5. Smart tourism for a Unesco World Heritage Site: the Mount Etna case
*Caterina Cirelli, Tiziana Cuccia, Teresa Graziano*

6. How free admittance affects charged visits to museums: an analysis of the Italian case
*Roberto Cellini, Tiziana Cuccia*

7. Competere attraverso il turismo creativo: un'analisi delle preferenze verso la Sicilia
*Sonia C. Giaccone e Marco Galvagno*

8. Geografie del commercio e del consumo
*Caterina Cirelli*

9. Evaluating environmental sustainability using stochastic Multiattribute Acceptability Analysis with interacting criteria and dominance-based rough set approach
*Silvia Angilella, Pierluigi Catalfo, Salvatore Corrente, Alfio Giarlotta, Salvatore Greco, Marcella Rizzo*

10. The economic impact of legislation. A historical analysis of Italy from the creation of the Kingdom of Italy to the end of World War II
*Fabio Di Vita, Giuseppe Di Vita*

11. Il *trust* between traditional reconstructions and regulatory news
*Giuliana Amore*

12. Military careers and economic power. Sicilian aristocracy in the modern age
*Fabio Paolo Di Vita*

13. Principal Investigators in entrepreneurial universities: A research framework
*Elita Schillaci, Melita Nicotra, Marco Romano*

14. Un approccio territorial-based per la valutazione delle politiche di coesione in Sicilia
*Luigi Scrofani*

15. Socio-economic Impact Assessment: KM3NET-ITALIA
*Marco Romano, Melita Nicotra, Elita Schillaci*

## Inducing probability distributions on the set of value functions by Subjective Stochastic Ordinal Regression

*Salvatore Corrente, Salvatore Greco, Milosz Kadzinski, Roman Slowinski*

Ordinal regression methods of Multiple Criteria Decision Aiding (MCDA) take into account one, several, or all value functions compatible with the indirect preference information provided by the Decision Maker (DM). When dealing with multiple criteria ranking problems, typically, this information is a series of holistic and certain judgments having the form of pairwise comparisons of some reference alternatives, indicating that alternative *a* is certainly either preferred to or indifferent with alternative *b*. In some decision situations, it might be useful, however, to additionally account for uncertain pairwise comparisons interpreted in the following way: although the preference of *a* over *b* is not certain, it is more credible than preference of *b* over *a*. To handle certain and uncertain preference information, we propose a new approach that builds a probability distribution over the space of all value functions compatible with the DM's certain holistic judgments. This distribution is parametrized to reflect different credibility levels of the supplied preferences. A didactic example shows the applicability of the proposed approach.


## Private debt and GDP: A short-run perspective

*Gianluca Cafiso*

Mainstream economic research regards private debt as a determinant of GDP growth in the long-run. Levine (2005) surveys in details this branch of literature and explains the channels by which debt fuels growth. In this paper we switch the focus from the long to the short-run and study whether private debt has a significant impact on GDP growth in the short-run too. Our aim is to understand whether policy measures aimed to reduce the cost of private debt may favor a quick increase of the economic activity.


## The impact of temporary employment on productivity: The importance of sectors' skill intensity

*Domenico Lisi, Miguel A. Malo*

Recent papers in the economic literature emphasise that the use of temporary contracts (TE) could have a detrimental effect on productivity. However, there are different reasons to believe that the impact of TE might not be homogeneous across sectors. In this paper, we study the impact of TE on productivity growth and, in particular, we wonder if it differs according to sectors' skill intensity. Our data set is an ad-hoc industry-level panel of European countries that allows to divide sectors according to the skill intensity. Our main result is that TE has a negative impact on productivity growth, but it is more damaging in skilled sectors. In particular, while an increase of 10 percentage points of the share of TE in skilled sectors would decrease labour productivity growth of about 1-1.5%, in unskilled sectors the decrease would be of 0.5-0.8%. This result is robust to different skill

intensity indexes and productivity measures, as well as to the sample composition. We also discuss policy implications of this result for labour market regulation.

## Robustness concerns for PROMETHEE methods dealing with a hierarchy of interacting criteria

*Sally Giuseppe Arcidiacono, Salvatore Corrente, Salvatore Greco*

PROMETHEE are among the most applied methods in Multiple Criteria Decision Aiding (MCDA). However, despite their widespread adoption, the basic version of these methods does not take into consideration some characteristics of multicriteria decision problems that are very relevant in real world applications, such as:
- robustness concerns regarding imprecise evaluations of alternatives and plurality of compatible preference parameters (weights of criteria, and indifference and preference thresholds);
- interaction between criteria;
- consideration of a hierarchy of criteria that will permit to handle efficiently the greater and greater quantity of available data.
Even if different extensions of the PROMETHEE methods have been proposed to take into account all these aspects singularly, we propose to deal with all of them simultaneously presenting a new version of PROMETHEE methods which incorporates:
- Robust Ordinal Regression (ROR) and Stochastic Multicriteria Acceptability Analysis (SMAA), permitting to deal with robustness concerns,
- use of proper coefficients permitting to represent interaction between criteria,
- Multiple Criteria Hierarchy Process (MCHP), permitting to deal with an hierarchy of criteria.
A didactic example will illustrate the proposed methodology.

## A new approach to present value definition

*Salvatore Greco, Silvestro Lo Cascio, Benedetto Matarazzo*

Present value is a basic concepts in economics and management science. A necessary element to compute present value is a well defined interest rate. Due to turbulences of financial markets, more and more often there is a consistent uncertainty on interest rates. Taking into consideration this phenomenon, we present new definitions of present value. The formal properties and the managerial implications of the new definition of present value are also analyzed.

## Semi-parametric estimation of the rate of return to education

*Michele Battisti, Salvatore Ingrassia, Angelo Mazza, Antonio Punzo*

The Mincer earnings function is a regression model that explains earnings as a convenient function of schooling and experience. The model has been examined on many datasets and it is one of the most widely used models in empirical economics. In many circumstances, however, due to

unobserved heterogeneity, a single Mincer's regression is inadequate. Moreover, whatever (concomitant) information is available about the nature of such a heterogeneity should be incorporated in an appropriate manner. Motivated by these considerations, we propose a mixture of Mincer's models with concomitant variables: it simultaneously provides a flexible generalization of the Mincer model, a breakdown of the population into several homogeneous subpopulations, and an explanation of the unobserved heterogeneity. The proposal is motivated and illustrated via an application to data provided by the Bank of Italy's Survey of Household Income and Wealth in 2012.

## Rational preference and rationalizable choice

*Simone Cerreia-Vioglio, Alfio Giarlotta, Salvatore Greco, Fabio Maccheroni, Massimo Marinacci*

We study a decision maker characterized by two binary relations. The first reflects his judgments about well-being, his mental preferences. The second describes the decision maker's choice behavior, his behavioral preferences, the ones that govern choice (see Rubin-stein and Salant, 2008a,b). Specifically, in the context of decision making under uncertainty, we propose axioms that may describe the rationality of these two relations. These axioms allow a joint representation by a single set of probabilities and a single utility function. It is mentally rational to prefer $f$ over $g$ if and only if the expected utility of $f$ is at least as high as that of $g$ for all probabilities in the set. It is behaviorally rationalizable to choose $f$ over $g$ if and only if the expected utility of $f$ is at least as high as that of $g$ for some probability in the set. In other words, mental and behavioral preferences admit, respectively, a representation à la Bewley (2002) and à la Lehrer and Teper (2011). Our results also provide a foundation for a decision analysis procedure called robust ordinal regression and proposed by Greco, Mousseau, and Slowinski (2008).

## Necessary and Possible Preference Structures

*Alfio Giarlotta*

The classical way to represent the preference structure of an economic agent on a set of alternatives is by means of a binary relation satisfying suitable order properties, which are usually forms of transitivity and/or completeness. Preorders, semiorders, and interval orders are the binary relations that are often used for the modelization of preference structures, due to their intrinsic properties.
A very recent approach to preference modeling employs instead a pair of interconnected binary relations on the same set of alternatives. This bi-preference approach has the advantage of allowing a more flexible modelization of an economic agent's (or a set of economic agents') preference structure in several scenarios. The two preference relations are nested into each other, and are connected by properties that are economically and psychologically significant. The main feature of a bi-preference structure is that the two "core properties" of transitivity and completeness are not required to fully hold for both relations, instead they are suitably spread over their combination.
Necessary and possible preferences (for short, NaP-preferences) belong to the family of bi-preferences.
NaP-preferences were originally introduced within the field of Multiple Criteria Decision Aid, in the process of constructing a new methodology called Robust Ordinal Regression. However, the axiomatization of NaP-preference structures only came a few years later. Even more recently, NaP-preferences have been studied from several perspectives:

- (preference theory) a taxonomy of transitive coherence properties, emphasizing the natural relationship of NaP-preferences with the genesis of interval orders and semiorders;
- (order theory) asymmetric and normalized forms of NaP-preferences, which are generated by suitable families of order relations;
- (individual choice theory) within Samuelson's revealed preference theory, axiomatization of the transitive structure of the preference revealed by a choice, and extension to the notion of rationalizability by a bi-preference structure;
- (theory of similarity) introduction of the symmetric counterpart of NaP-preference, called NaP-indifference, and its applications in modeling a similarity of behavior within individual choice theory;
- (combinatorics) the relationships of NaP-preferences with the so-called weak and strict (m,n)-Ferrers properties, which describe the level of transitivity satisfied by a preference relation;
- (learning spaces) well-graded (in the sense of Doignon and Falmagne) families of NaP-preferences, which paves the way toward a stochastic theory describing the evolutions of bi-preference structures;
- (decision theory) introduction of bi-preference structures – in fact, NaP-preferences – in the field of decision theory under uncertainty, within an Anscombe-Aumann setting.

Formally, a NaP-preference is a pair $(\geq^N, \geq^P)$ of nested binary relations on the same set of alternatives such that the smaller is transitive, the larger is complete, and the two components jointly satisfy properties of transitive coherence and mixed completeness. The smaller component is the necessary preference $\geq^N$, and codifies the part of a preference structure that is deemed to be at the very core of the "mental attitude" of the economic agent(s): in fact, it collects all relationships among alternatives that must happen. The larger component is the possible preference $\geq^P$, and codifies the "environment" of a preference structure: in fact, it collects all relationships among alternatives that may happen. The properties of transitive coherence and mixed completeness are required to hold in order to make the transition between the two components smooth. The naturalness of this bi-preference structure is witnessed by its characterization: a pair of binary relation is a NaP-preference if and only if there exists a family of total preorders, whose intersection and union give the two components.


### Path dependent performance measurement: acceptability revised

*Christos E. Kountzakis, Damiano Rossello*

The indices of acceptability introduced by Cherny & Madan (2009) were developed to characterize a collection of one-period performance measures satisfying a set of axioms. Some well known performance measures such as the gain-loss ratio or the RAROC are then put into this framework. The ultimate goal of an acceptability index is to measure to what extent moving away from marginal trades (supporting a terminal random pay off) will result in a new investment direction based on alternative pricing kernels. In fact, the underlying theoretical foundation is derived from the analysis of coherent risk measures and their corresponding acceptability sets. Parallelling the extension analysis by Cheridito et al. (2004) introducing the hybrid risk measures between the classical one-period and the dynamic ones, and that fit the need of some practitioners who use the so called path-dependent risk measures, we propose to extend the notion of acceptability index to the case of random cash flows evolving within a fixed investment horizon, trying to capture the whole potential return and the corresponding intra-horizon risk, thus improving the performance evaluation beyond the terminal scenarios. We work with bounded càdlàg processes modeling the entire dynamics of cash flows resulting from trading. A representation result together with some

derived properties of the extended acceptability indices lead to interesting examples of path-dependent performance measures such as the Calmar ratio and similar.

## Air micro-pollutants analyzed through rough set approach

*Agata Matarazzo*

This study presents a Rough Set application, using together the classical Rough Set Approach, based on the indiscernibility relation, and the Dominance-based Rough Set Approach (DRSA), to air micro-pollution management in an industrial site with a high environmental risk rate, such as the industrial area of Siracusa, located in the South of Italy (Sicily). This new data analysis tool has been applied to different decision problems in various fields with considerable success, since it is able to deal both with quantitative and qualitative data and the results are expressed in decision rules understandable by decision maker. Therefore, it is believed that it could be also used for supporting the environmental management and particularly pollution risk, with the aim to understand and explain the main reasons of particular air pollution situations. In this paper, we present some issue related to multi-attribute sorting (i.e. preference ordered classification) of air pollution risk, considering some meteorological variables, both qualitative and quantitative (air temperature, relative humidity index, direction and wind speed) as attributes and criteria describing the different objects (pollution occurrences) to be classified, i.e. different levels of sulphur oxides ($SO_x$), nitrogen oxides ($NO_x$), methane ($CH_4$), non methane hydrocarbons (NMCH), as pollution indicators. After outlining some basic concepts of the Rough Set Theory, the most significant results obtained from this particular application are presented and discussed: examples of "if, … then" decision rules, attribute relevance as output of the data analysis also in terms of exchangeable or indispensable attributes/criteria, of qualitative substitution effect and interaction between them. Some other methodological features are shown to better understand the advantages of the proposed approach. In particular, we underline that the decision rules obtained can also be usefully implemented in order to better recognize and efficiently manage the risk of air pollution.

## Unveiling the role of multiple blockholders in unlisted firms: evidence from Italy

*Annalisa Russino, Pasquale Massimo Picone, Giovanni Battista Dagnino*

Using a panel data of 56,430 observations of Italian unlisted firms with complex ownership structures over 2009-2014, we test a set of hypotheses differentiating whether one of the blockholders is also the controlling shareholder and the case where firm control is obtained by forming a coalition or by winning a voting contest. When a single blockholder controls the firm, we find a U-shaped relationship between blockholders' ownership concentration and firm performance. In the absence of a controlling shareholder, the empirical evidence shows that blockholders' ownership concentration negatively affects firm performance. We contribute to the literature on principal/principal agency theory by untangling the conflicts among blockholders and their effects on corporate performance.

**Interest payment on government debt and public spending in Italy: An empirical analysis**

*Roberto Cellini*

In this research project I investigate how the public expenditure structure, and the expenditures in specific fields of the public sector, are affected by the dynamics of interest payment on public debt, in the case of Italy. Italy has the third largest public debt in the world, and interest payments are of considerable size; though not steadily, their dynamics has been decreasing over the last two decades. This drop could have represented an opportunity for restructuring public expenditure. However, preliminary results show that there is no clear effect of the drop of interest payments upon the dynamics and structure of primary public expenditure. These results are based on the analysis of both Granger-causality links and simultaneous relations between interest payments and public expenditure on a number of specific items.

**Is competition able to mitigate the waste effects of corruption on public work contracts?**

*Massimo Finocchiaro Castro, Calogero Guccio, Giacomo Pignataro, Ilde Rizzo*

The aim of this paper is to provide an empirical test of the impact of competition in procurement to reduce the effects of 'environmental' corruption. For this purpose, the paper examines whether competition is able to constrain the waste effects of corruption in the area where the public work is localised. We evaluate the effects of corruption on infrastructure provision assessing whether more competition matters in constraining 'environmental' corruption by using different bootstrap robust nonparametric frontier estimators. Our results, in line with previous literature show that greater corruption, in the area where the infrastructure is localised, is associated with lower efficiency in public contracts execution; moreover, we also show that increasing competition does not mitigate the negative effects of 'environmental' corruption on public works executions. Our empirical findings are robust to alternative estimators and for different measure of corruption and competition.

**Art galleries as informed experts: an experimental study**

*Paolo Di Caro, Isidoro Mazza, Arthur Schram*

Art dealing activities have traditionally played a prominent role in the art markets, contributing to the success of previously unknown artists, satisfying the desire of collectors, and promoting trade of cultural and creative goods. Historically, art dealers have often acted as skilled intermediaries in the art markets lato sensu in order to promote the matching between artists and art consumers. In the previous economic analysis of the art market, the study of art galleries and art dealing activities has attracted (some) scholarly interest. What is missing, however, is recognition of the fact that art markets –especially the market for 'new' and relatively unknown artists– are characterized by asymmetric information. Our goal is to fill this gap. The main aim of this paper is to shed light on the role of intermediary that art galleries have in the primary art market, where works of a specific artist are sold for the first time. To do so, we adopt an asymmetric information framework where

consumption goods show qualitative uncertainty. Agency problems derive from differences in private information between the seller-artist and the buyer-art consumer about the quality of an artwork without any relevant history of previous sales. We provide a theoretical framework to analyze this type of market and the strategies of galleries therein and also conduct a laboratory experiment designed to test the model's predictions on the role of art galleries as informed experts. We investigate three –interrelated– research questions. First, do prices in the art market reflect the quality of art? Second, how can art galleries influence the lemons' problem in the primary art market? Third, do elements such as a gallery's reputation and its investments in expertise influence its role as an intermediary and, consequently, market prices?


## Order Book Modeling and financial stability: a simulative approach for policy assessment

*Alessio Emanuele Biondo*

This paper presents a new model of order book dynamics with heterogeneous agents and unconstrained order quantity. Agents are divided in two groups, namely fundamentalists and chartists: both types assume their trading decisions according to their expectations, formed with respect to relevant variables –i.e. fundamental values and past trends, respectively. It is worth to notice that both fundamental values (for fundamentalists) and trends averages (for chartists) are allowed to be different for each agent. Therefore, the proposed form of heterogeneity is not just a matter of distinguishing two *communities of traders*: it is, instead, a personal characterization of *individual behaviors*, also within each community, for decisions about relevant variables.

For the sake of simplicity, just a single asset is traded; the market is designed on a complete network of trading agents where each one may exchange with everyone else. In many existing models of order books, the traded quantity is often kept fixed to one. This reduces, to some extent, the attitude of the model to resemble the market microstructure. A solution is suggested here, by proposing a simple toy model where agents decide how many shares to buy/to sell according to their expectations and to their monetary endowments, distributed at the beginning of the simulation. The main target of this paper is twofold: from a first point of view, the proposed model tries to innovate the existing literature, by increasing the level of realism and reducing the artifacts, while still being able to replicate the most relevant stylized facts of financial data; secondly, the model aims to study the possible efficacy of stabilization policies, which reduce price fluctuations, by means of interventions on the microstructural side of the market. Thus, from the first point of view, the price time series generated by the model exclusively reports true prices used for negotiations: in other existing models, when transactions do not happen, a bid-ask average is added to the price series. Moreover, a number of other features have been designed aiming to reach an acceptable level of realism, such as: behavioral differences in the expectations formation; the possibility to set the orders cancellation and their time validity; a quantity management system for market orders; the differentiation between market and limit orders. The model is shown to reproduce stylized facts of financial markets.

Secondly, after a comparison with real data, some specific tests are presented to discuss the effectiveness of some elementary policies for market stabilization, by investigating what would happen after interventions regulating the maximum number of allowed counterparts for market orders, the time validity of limit orders, the heterogeneity of opinions and the quantity of information. Finally, the paper describes the surprising consequence caused by the presence of a particular kind of traders, namely a group of random traders.

## Ranking entrepreneurial ecosystems in Europe with Stochastic Multiattribute Acceptability Analysis

*Salvatore Corrente, Salvatore Greco, Melita Nicotra, Marco Romano, Elita Schillaci*

We consider the capacity of a territory to create a system of actors and infrastructures supporting the creation and development of innovative business projects. Specifically the analysis is referred to the "Entrepreneurial Ecosystem" as a broad system of heterogeneous elements in a territory that embraces culture, regulatory and tax measures, government, venture capital, businesses, universities and research centers. To study the elements of an ecosystem able to support innovative start-ups in European Regions we take into consideration the eight "pillars" examined by the World Economic Forum (2013): Accessible markets, Human capital, Funding and finance, Support systems, Government and regulatory framework, Education and training, Major universities as catalysts, Cultural support. Differently from the current practice of ranking countries with a composite index defined as an arithmetic mean assigning a single predefined vector of weights (very often assigning equal weights for all the considered indicators), we instead use Stochastic Multiattribute Acceptability Analysis (SMAA) that permits to take into consideration the "whole space" of vector of weights. Thus, rather than obtaining a single ranking, well defined but not enough robust and quite arbitrary with respect to the adopted weighting system, we get probabilistic results such as the probability that a country attains a given ranking position (ranking acceptability index) or the probability that a country is preferred to another (pairwise acceptability index). With the analysis of the weights giving each country its best and its worst position, SMAA gives also interesting indications in terms of strong and weak points of each country.

## Relationship lending, distanza gerarchica e razionamento del credito: evidenze dalla crisi finanziaria

*Matteo Cotugno, Gabriele Sampagnaro, Stefano Monferrà*

Il lavoro esamina la disponibilità di credito per le aziende durante il periodo di crisi finanziaria (2007-2009) usando un dataset esclusivo di 5.331 relazioni creditizie provenienti da tre banche nazionali italiane. La finalità del lavoro consiste nel verificare se una relazione banca-impresa forte sia in grado di ridurre il razionamento del credito anche durante i periodi di credit cruch. I risultati mostrano che una relazione esclusiva con una banca mitiga il razionamento del credito. Inoltre, nel lavoro viene verificata l'influenza della struttura organizzativa della banca sulla disponibilità di credito, durante i periodi di crisi. Viene creata una misura di "distanza gerarchica", calcolata come distanza esistente tra la filiale che ha originato il prestito e il livello gerarchico responsabile della delega di affidamento. Nel lavoro si dimostra l'esistenza di una relazione inversa tra distanza e disponibilità di credito, evidenziando come la trasmissione di "soft information" nell'organizzazione creditizia sia facilitata dalla prossimità con il cliente.

**Performing a sensitivity analysis on Italian innovative SMEs' creditworthiness**

*Silvia Angilella, Sebastiano Mazzù*

This study presents an optimization procedure to evaluate firms' creditwor-thiness, using a sample of Italian innovative SMEs based on AIDA data set. The construction of the model is based on a Multiple Criteria Decision Aid (MCDA) approach, ELECTRE-TRI. The analysis stands on the simulation of different set of parameters characterizing the linear configuration of ELECTRE-TRI. First, on the basis of each decision scenario each firm is assigned to a risk class. Then we perform an optimization procedure to test if the risk class of each firm could be worsened by slightly changing the simulated set of parameters. The obtained results are analyzed to assess SMEs' credit risk and to give insights in the stability of the assignment of each firm to its initial risk class.

**An analysis of financial and economic indicators as a support to investment in no fossil fuels energy plants**

*Agata Matarazzo*

The availability of fossil resources is predicted to decrease in the near future, because they are a non-renewable source and cause environmental concerns; moreover, from the economic point of view, they are subject to high price instability. In particular, the use of biomass and other no fossil fuels as a raw material in bio-refineries is a promising alternative to fossil resources for production of energy, as well as for mitigating climate change. Recently, there has been an increasing interest in renewable source energy production because it is a carbon-free, that is also an abundant energy source in the world. Furthermore, no carbon energy plants provide an attractive solution for residential heating systems based on renewable fuels, even though biomass-based domestic heating systems are recognized as significant particulate matter emitters. In particular, for the Region of Sicily the use of biomass, solar and wind power as a raw material for producing energy could be interesting for its specific nature and for the soil and climatic features of the land present there, with significant, highly positive socio-economic consequences.

The objective of this study is to evaluate the potential of a cogeneration system (i.e. electrical, thermal and cooling) and to perform a reliable environmental, as well as financial and economic analysis of a production process, in line with a recent study concerning the biomass sector in the territory of Eastern Sicily. As far as the analysis of company risk linked to the uncertainty of the plant is concerned, the appropriate sensitivity analyses, calculations of elasticity and of threshold values of critical variables will be carried out, considering the different scenarios which correspond to different production capacities and kind of energy supply. This method of analysis has been chosen, rather than using a fuzzy approach – able to model the linguistic imprecision - because the data available are always expressed as crisp numbers, but they are subject to the uncertainty of temporal dynamics. The results obtained outline only a marginal economic benefit, and often negative for a number of the scenarios considered, from the point of view of a private entrepreneur. The crucial importance of state incentives to enhance the aspect of reduction of environmental impact along the production line of these kinds of plants is therefore underlined. In particular, we analyze: each Environmental Impacts in different air, water and waste sectors; a complete Financial- Economic Analysis through a technical and economic indicators (NPV, PI, IRR, Payback period, corresponding to different discount rate, and their elasticities) related to different scenarios.

**Il sistema assicurativo: claims made tra ragioni d'impresa e disciplina del tipo negoziale**

*Salvatore Bosa*

La recente introduzione e attuazione dell'obbligo assicurativo per i professionisti iscritti ad un albo ha costituito l'occasione per mettere in luce istanze e interessi, ora facenti capo all'assicuratore, ora rinvenibili nella sfera giuridica dell'assicurato che di per sé possono ritenersi meritevoli di considerazione giuridica.

Da una parte vi è l'esigenza di natura economica addotta dalle Compagnie assicurative di limitare la durata dell'esposizione al rischio professionale assunto tramite l'offerta di un prodotto assicurativo (c.d. claims made) la cui architettura risulta estranea alla disciplina del sottotipo contrattuale di riferimento.

Dall'altra parte vi è la necessità di soddisfare l'esigenza dell'assicurato (professionista) ad adempiere all'obbligo di legge per mezzo dell'adesione ad una copertura assicurativa che sia strutturalmente e funzionalmente "adeguata" all'attività professionale svolta e non sia piuttosto imposta da un'offerta standardizzata o da un mercato di tipo non concorrenziale (tale sembrerebbe il giudizio espresso in materia sia dalle Sezioni Unite della Cassazione, sia dall'A.G.C.M.). Ne consegue come l'obiettivo dell'attività di ricerca sia quello di trovare un possibile punto di equilibrio tra ragioni di mercato, esigente di tutela del professionista e finalità di carattere pubblicistico sottese all'introduzione dell'obbligo in questione.

**Hubris-driven international growth: a proposed analytical framework**

*Pasquale Massimo Picone, Vincenzo Pisano, Giovanni Battista Dagnino*

Hubris is frequently seen as one of the most destructive error of judgment that executive can make and do make. We show how CEO hubris bias exhibits in internationalization growth choices (such as entry timing and mode). On one hand, we indicate that hubris may induce the choice of extremely international ambitious strategies, hyperbolic impulsivity, and risk taking choices. On the other hand, we show that hubris bias may be advantageous in international growth strategies because the performance benefits of hubristic behavior may be greater than the costs of shallow decision making processes.

International business research has traditionally identified the rational antecedents of the timing and modes (ownership and establishment choices) through which a firm spreads its activities across country borders. Conversely, managerial cognitive biases have received limited attention as concerns international growth strategies. For this reason, insights from studies on how CEO hubris affects their strategic choices may shed new light on the logic and outcomes of firms' international growth strategies. In such perspective, this paper develops an analytical framework dealing with international growth strategies of firms managed by CEOs that are affected by hubris. We analyze how CEO hubris impinges on the strategic choice of entry timing and modes. We also discuss the performance impact hubristic CEOs exert on each strategic entry choice.

**Hubris manageriale, earnings management e previsioni degli analisti**

*Davide Rizzotti*

Diversi studi di Finanza evidenziano la rilevanza dell'accuratezza e della qualità informativa contabile e come quest'ultima possa influire sulle decisioni di investimento degli attori di mercato.

I bilanci e le previsioni degli utili emessi dalle grandi imprese costituiscono le principali risorse informative, sulla base delle quali, gli analisti conducono le loro valutazioni di mercato per predire gli andamenti futuri dei rendimenti aziendali.

Ciò che si intende indagare in questo studio, pertanto, è l'impatto della qualità dei dati contabili sull'accuratezza delle previsioni degli analisti, che possono a loro volta avere un effetto determinante sulle decisioni di investimento, e sul ruolo svolto dalle caratteristiche del management.

Un'ampia letteratura sottolinea la risaputa tendenza del management di manovrare le informazioni contabili mediante apposite politiche aziendali, dette pratiche di "earnings management", solitamente per perseguire fini opportunistici o per rispecchiare le aspettative suscitate negli analisti, facendo apparire una situazione economico – finanziaria diversa da quella effettiva (Dechow and Dichev 2002; Roychowdhury 2006; Cohen er al 2008; Gunny 2010).

In particolare, diversi studi (Francis et al 2004; Graham et al 2006; Richardson et al 2004; Salerno 2014), hanno già evidenziato come la manipolazione degli utili, o "l'earnings quality", possa influire sulle abilità degli analisti di quantificare il valore delle azioni e di prevederne i loro rendimenti ("Earnings Per Share").

Assunto sottostante tali lavori è che gli analisti siano in grado di rilevare l'esistenza della manipolazione. Noi riteniamo invece che in realtà gli analisti, nello sviluppare le loro analisi si facciano influenzare piuttosto dai fattori che incidono sulle manipolazioni contabili. Tra questi è di particolare interesse la hubris manageriale, intesa come l'atteggiamento tipico di una persona arrogante, overconfident ed eccessivamente orgogliosa, che tende a sovrastimare contemporaneamente le proprie abilità e le possibilità aziendali (Roll 1986; Hayward and Hambrick 1997; Hiller and Hambrick 2005; Picone et al 2014).

Tale carattere, che conduce i manager a sovrastimare gli utili e ad effettuare previsioni troppo ottimistiche, in questo studio, viene osservato sia come determinante dell'earnings management, in quanto i manager orgogliosi si impegneranno a rispettare le previsioni che hanno promesso, a prescindere dai risultati conseguiti, per non perdere la credibilità e la fiducia instaurate nel mercato, sia come fattore che influenza la previsione degli analisti, riducendone l'accuratezza.

**Management accounting and leadership construction in family firms**

*Antonio Leotta, Carmela Rizza, Daniela Ruggeri*

Succession in family firms may determine the survival or the failure of the business itself. Management accounting literature has added little to this issue, mainly focusing on the process of succession and change (Songini et. al, 2013; Giovannoni and Maraghini, 2013; Giovannoni et al., 2011). The present study deals with new management accounting (MA) practices that the junior generation may introduce during the process of succession. The aim of the study is to show that the introduction of new MA practices can contribute to construct the leadership profile of the junior generation. Drawing on the perspective of Actor-Reality Construction, we conducted a case study at a small-sized, family firm producing solar shading systems. We examined how the process of

succession derives from the integration of four dimensions of reality: facts, possibilities, values and communication. Such an integration is facilitated by the introduction of a new accounting information system and cost reporting. The case evidence highlights that the construction of the new generation leadership may emerge as a consequence of the introduction of new MA practices. Moreover, the field evidence highlights that the construction of the new generation leadership is a process that integrates the four dimensions of reality. From the emergent perspective of Actor-Reality Construction, the paper highlights the active role of new MA practices in the actor-world relation constructing the new generation leadership.


## Bringing emotions into family firms: the novelty of the business theatre as a vehicle for groups coaching

*Giorgia M. D'Allura*

Why do we need to care about emotions in management research and teaching? Because firms are containers of emotions since individuals and groups are containers of emotions and they represent the fundamental component of a firm. The idea of this paper is that, along with resources and capabilities, the emotional traits of a person who is responsible for making decisions is also important, because an individual's ability to achieve results can be limited or enhanced by the ability to relate to the others. In this sense, we call for an emotional view of the firm. According to these premises, in this paper we emphasize the importance of a new method for both teaching and coaching: the Family Business Theatre (FBT). Surpassing traditional methods, FBT helps people to learn different skills to better manage their emotions when facing critical situations, and to transform those problems into opportunities to grow.


## The validity in hospitals' performance planning

*Antonio Leotta, Daniela Ruggeri, Monica Castro*

The present research is aimed to discuss the theoretical conditions for validity in performance planning in hospitals. In doing so, the research draws on a new emerging research paradigm, called Pragmatic Constructivism (Nørreklitet al., 2010). It conceives accounting as a social reality constructed through the integration of four ontological dimensions: facts, possibilities, values and communication. The conditions for validity in performance planning in hospitals are examined drawing on Nørreklit et al. (2007), specifically we investigate theoretical conditions for validity in accounting performance measurement, analysing the ontological and epistemological nature of accounting data. The theoretical framework is applied to interpret the empirical evidence coming from a case of an Italian hospital located in the south of Italy. The empirical results showed how the theoretical framework helps to better understand the validity in performance planning in hospitals: the validity of knowledge of past results is examined by verifying the correspondence of performance measures with the past activity of the hospital; while the validity of the estimations of future results is analysed by verifying their coherence and consistency.

**Outcome-based indicators in healthcare policy: Insights from a hospital competition with heterogeneous agents**

*Calogero Guccio, Domenico Lisi, Marco Martorana*

Outcome-based measures, such as mortality and readmission rates, are frequently interpreted as good indicators of the unobservable hospital quality and they are also increasingly used as a basis to design payment schemes. However, for the latter purpose, it is crucial to ensure that such outcome indicators would lead to an accurate inference on the performance, as an incorrect ranking would lead to a flawed and perverse design of incentives. In this paper, we propose a model of hospitals' behaviour where patients differ in their idiosyncratic risk considering explicitly the generating process of standard outcome-based indicators. We find that, when adjustment for the idiosyncratic risk is not fully appropriately made, readmission rates are worse indicators of hospital quality than mortality rates. Thus, their use in performance payment schemes might penalize the best hospitals and potentially open the room for misbehaviours. Therefore, our results highlight that the use of readmission rates as a basis for performance programmes should be set carefully and appropriately.

**Do health outcomes across the Italian regions converge? The role of decentralization and neighbours' effects**

*Marina Cavalieri, Livio Ferrante*

This paper examines convergence hypothesis for regional health outcomes (in terms of infant mortality rate and life expectancy at birth) in Italy over the period 1996-2012, with the aim to disentangle the role played by decentralization and neighbours' effects. In terms of sigma convergence, no evidence is found of reduction in disparities for the two health outcomes. On the opposite, beta-convergence affects the time dynamics of health outcomes across regions. Independently from the indicator actually used to measure decentralization (either a continuous or a dichotomous variable), shifting responsibilities at regional level is proved to fasten the rate of convergence in Italy. However, beyond certain levels of performance a trade-off between higher levels of decentralization and further improvements arises. Along with decentralization, neighbours' effects are also found to be relevant in explaining the regional convergence process. Different cutting-edge spatial convergence metrics confirm the pushing up effect of decentralization on the speed of convergence, especially for infant mortality.

***Thus do all.* Social interactions in inappropriate behavior for childbirth services in a highly decentralized healthcare system**

*Calogero Guccio, Domenico Lisi*

Empirical evidence supports the conjecture that social interactions among agents can produce both positive and negative effects. We build on this literature by exploring the role of social interactions in the hospital sector using the large incidence of cesarean sections, usually considered an inappropriate outcome in the childbirth service. In doing so, we lay out a simple model of hospitals' behavior where the effect of peers' behavior emerges simply by sharing the same regional health

authority responsible for auditing inappropriate behavior. In this setting, enforcement congestion induces a peer effect among hospitals that could make inappropriate behaviors more likely and, as a result, could increase the excess variance among regions. Then, using a unique dataset of Italian hospitals and 2007–2012 cesarean data, we empirically investigate whether the behavior of each hospital is affected by the behavior of hospitals within the same region. Our empirical findings show a significant and strong presence of peer effects among hospitals.

## AIS innovation as engine of new practical and strategic directions

*Carmela Rizza, Daniela Ruggeri*

In order to further advance research in Accounting Information Systems (AIS), this paper aims to understand the multidirectional, accumulative and regenerative relationships between calculative practices and AIS innovation. In doing so, drawing on performativity theory, we interpret the AIS innovation as an engine which produces knowledge through its calculative practices, catalyzing not only the development of innovation, but also it facilitates further innovations, activating new practical and strategic directions.
Specifically, calculative practices make the AIS innovation visible, producing knowledge about their effects. AIS innovation leads the decision makers to directions which are not intended as an end, but that turn into a promise to handle and manage new challenges arising from the decision accumulative innovations. The theoretical argumentations are applied to a case study at a global logistics provider in the South of Italy which manages the supply chain from origin to destination by offering a multitude of services in the transport and distribution sector. Case evidences show how the introduction of calculative practices in the AIS has sequentially and unintentionally activated a chain of further innovations, tracing new practical and strategical directions.

## Performance measurement innovations in the organisational routines: theoretical insights and empirical evidences from an Italian local government

*Eleonora Cardillo, Daniela Ruggeri*

The aim of the study is to understand the dynamics of performance measurement (PM) routine when a PM innovation is introduced in the context of local governments. In doing so, we observe the ostensive and the perfomative aspects of the routine in order to comprehend if the convergence/divergence between these two aspects can explain the accomplished/unaccomplished PM innovation process. To investigate this phenomenon, we need proper theoretical lenses which shed light on routine dynamics. So, we drawn on two main theories: the Actor Network Theory (ANT) and the New Institutional Sociology (NIS). The theoretical combination of NIS and ANT helps to understand how the multitude of actors' behavioural responses to the institutional pressures affect both the convergence/divergence between the ostensive and performative aspects of the PM routine and the unaccomplished translation process.

# Looking for the Mediterranean way of territorial development. Creating a new intangible asset based framework.

*Pierluigi Catalfo*

The construction of the concept of territorial relational capital is not an end in itself, and from the perspective of public managerial control, it opens up the possibility that this can be measured and accounted for. The territorial relational capital considered as a set of relations and active exchanges, as a system of relations among parties in a territory, requires specific metrics to determine its value. The characteristic features of these specific and necessary measurements can be based on the efforts of data collection capable of building a reference system for a more comprehensive measurement model. At a public level and from a territorial slant, commitments of this kind are certainly expensive especially in the initial phase of the measurement process. It is natural that the repetition of the measurement processes besides ensuring an ongoing relationship with the actual parties themselves and with the territory, facilitates the processes supporting the information system, improves the value of the data and measurements, and determines benefits in the management mechanisms of public governance. Once the system is started, the aims of the measurement process are those of monitoring and appreciating the changes in the system of relations in an analytical way, both in absolute values and in terms of quality.

In the management of development process dimension the measurement process, is not only internal but, being dependent on the significant involvement of external parties, it is also a "function" of the system of relationships that have been generated. In this sense, the process of measuring the territorial relational capital needs specifically dedicated resources and activities as well as an adequate extension of the information system. The management value of Territorial Relational Capital measurement in public sector, especially at the local level, is that of providing support for local authorities strategic planning and control.

At a scientific level, in the Public sector and in particular in the development process area the system of intangible resources is considered, in most cases, according to its macro size and, thus, according to a mainly aggregate approach. In current literature, in this sense, there has been a significant interest in issues related to the estimation of the value and to the volume of investments in macro-level intangible resources with reference to the different policies adopted. The main line in studies, in the macro perspective, originated with Corrado, Hulten and Sichel 's work (2009) on investment in intangible assets in the U.S.. Following this stream, some studies were carried out in Japan (Fukao, Miyagawa, Mukai, Shinoda and Tonogi, 2009), in the United Kingdom (Marrano, Haskel and Wallis, 2009), in France and Germany, (Delbecque - Boufour, 2011) in Korea, (Pyo Chun, and Rhee 2011) and in the EU (Corrado, Hulten, Jona-Lasinio and Iommi 2012). Edvinsson, and Bounfour (2004) and Rodriguez Pose (2014) the great heterogeneity of the assets should be addressed or based on specific and different criteria. The financial and quantitative based approach and the non-financial metrics one have derived, mainly, from the Narrative approach whose pragmatic nature has long been established.

In any case the relevance of representing intangible asset in order to address development process is something influenced by a specific approach to the idea of development of measurement and of course a particular shape of the value mix for a community.

That means that we measure, we structure a policy and we represent the impact and the results according to some fix and homogeneous concepts of development taking into account a precise and stable idea of relational capital.

Considering the UE development policy, it is clear that the value mix and the social relational capital, in Mediterranean area are structured differently from the continental part of Europe. To define development policy or to measure and represent results and impacts without considering this

relevant specificity could dramatically affect the efficacy of investments for development process itself.

This work, following a cognitive approach on specific policy cases and policy regulations, tries to consider that:
– Managerial tools and reform processes do not always work the same in different institutional contexts;
– Political system and administrative cultures have to be accounted for;
– Culture/cultures of a country and its institutional features are the scenario where changes take place;
– Intangible asset for a country is a variable concept.

As a result, this work aims at defining a frame in which the intangible asset connected with relational capital can be shaped according to a specific value mix that can generate a new trend consisting in social innovation and social enterprises, co-design of public policies co-delivering, coproduction, co-financing.


# The economics of migration: the total costs and benefits of moving countries

## *Maurizio Caserta*

Economic theory treats the decision of moving countries as a human capital problem: migration is an investment in one's well-being. Therefore, the decision of moving countries depends crucially on the international differentials in the rewards to labour and skills, controlling for migration costs, other inequalities and national migration policies. The framework is powerful enough to include the cases when staying in the source country is almost impossible because of war and persecution. Modelling such a choice problem helps fix an 'integration equilibrium' with demand of integration equalling supply.

Traditionally, the decision of moving countries is associated fundamentally with wage differentials across countries (see, for example, Borjas, G.J. 'The economics of immigration', JEL, 1994). However, wage differentials no longer tell a convincing story. As is well known Europe is the second most attractive area for migrants, despite it is not the second fastest growing area; as a matter of fact it is among the slowest moving areas. Established economic theory would predict that areas with very fast GDP per capita growth should be the most attractive ones. However, empirical evidence demonstrate that typically neoclassical factors (unemployment rate; average wage) do not predict accurately locational choices (Warin – Blakely, 'Choice or Mimetism in the Decision to Migrate: A European Illustration', 2012, Global Economy Journal)

It follows from such evidence that other factors, as well as economic factors, may account for locational choices. Factors like migrant networks and herd behaviour may help explain some of the unexplained flows; in particular, imperfect information about the receiving country could distort individual choice. Just like Tiebout in 1956 considered the possibility for tax payers of 'voting with one's feet' and selecting the most preferred combination of public goods round the world, so migrants can be depicted as looking for the most preferred combination of private and public goods, a combination which, for want of a better word, we may call integration.

# Stochastic Multiattribute Acceptability Analysis: an application to the ranking of Italian regions

*Salvatore Greco, Alessio Ishizak, Benedetto Matarazzo, Gianpiero Torrisi*

We consider the issue of ranking regions with respect to a range of economic and social variables. Departing from the current practice of aggregating different dimensions via a composite index, usually based on an arithmetic mean, we instead use Stochastic Multiattribute Acceptability Analysis (SMAA). SMAA considers the "whole space" of weights for the considered dimensions. Thus, rather than considering an average person giving equal or fixed weights to all dimensions, SMAA explores how potential differences in individual preferences regarding the weighting system affect the outcome. In this sense, in contrast to the purported objectivity of the many rankings supplied by economic institutions and mass media, this proposal enhances, simplifies and renders transparent the ranking exercise. The methodology is applied to the ranking of Italian regions, showing that the disadvantage of the South regions with respect to the North regions (so called "Mezzogiorno problem") is maintained for the entire spectrum of possible preferences with respect to considered dimensions as represented by vectors of weights. Thus, our research shows that the well-known North-South divide is maintained for classes of individuals with different preferences and it is not related only to the representative individual represented by a single vector of weights - very often assigning the same importance to all the dimensions. Moreover, to consider possible measurement errors, we also tested the stability of the results in front of perturbations of the values attained by the regions on the considered dimensions. The analysis we conducted unveils patterns of similarity and dissimilarity even within regional economy. Many of these findings are neglected within the extant literature addressing the "Mezzogiorno" problem. Finally, we propose a class of original multidimensional Gini indices and a class of multidimensional polarization indices that measure the concentration and polarization of the probability to achieve a given ranking position or better, or a given ranking position or worse. These indices confirm the gap between the North and South of Italy with more nuance than Gini and polarization indices related to single indicators.

# Smart tourism for a Unesco World Heritage Site: the Mount Etna case

*Caterina Cirelli, Tiziana Cuccia, Teresa Graziano*

In recent years, tourism destinations have been increasingly facing new challenges owing to the unprecedented patterns and practices of travel shaped by the Information and Communications technologies, particularly after the advent of the Web 2.0 and 3.0 and the related possibilities of mobile inter(net)connections.

The smartness of destinations can act as an efficient tool to offer highly personalized and multifunctional tourist products that foresee visitors' needs through feedback loop, real-time information, geo-localization and advanced customer services. Furthermore, smart devices can give tourists/prosumers the possibility to co-create and share their travel experience at the point to influence the destination online image and reputation.

Thus, this project aims at evaluating current opportunities and challenges provided by smart tourism for the iconic Italian landmark Mount Etna, recently listed as a Unesco World Heritage Site.

Inserted within the Smart Tourism Destinations conceptual framework, on the one hand the study explores to what extent institutional actors promote a smart tourism based strategy for the enhancement of the UNESCO site. On the other hand, it analyses online opinions and users

generated contents in order to evaluate the site web reputation. As a part of the 2014 FIR project "The smart city paradigm for the promotion of a creative and experiential tourism in UNESCO World Heritage Sites. The case of Etna Volcano", the analysis aims at giving local institutional actors and tourist industry useful suggestions for building a multifunctional, crossmedial and emotional smart travel experience.

## How free admittance affects charged visits to museums: an analysis of the Italian case

*Roberto Cellini, Tiziana Cuccia*

This paper aims to evaluate whether and how the free admittance to museums and monuments affects the charged visits. We take the Italian state museums and monuments as the case study, and we consider monthly data, aggregate at the national level, from January 1996 to December 2015. Within a multivariate analysis approach, which takes into account the seasonal structure of time series, we document a positive influence of the number of free visitors upon the subsequent number of paying visitors.

Our present results can be relevant in the current political debate in Italy, in front of new rules concerning free admission to museums. More in general, we provide pieces of evidence that can be informative in the ever-green debate about free attendance to museum and its relations with individual choices and public policies concerning cultural consumption.

## Competere attraverso il turismo creativo: un'analisi delle preferenze verso la Sicilia

*Sonia C. Giaccone, Marco Galvagno*

Il lavoro affronta il tema del turismo creativo, fondato sulla capacità di una destinazione di offrire un insieme di attività emozionanti e coinvolgenti, che consentano al turista di esprimere la propria creatività, rendendolo co-creatore della sua vacanza (Richards e Raymond, 2000; Richards, 2011, 2014; Richards e Wilson, 2006). Sebbene ancora poco indagato a causa della sua recente diffusione, il fenomeno del turismo creativo sta suscitando un crescente interesse da parte degli studiosi, anche perché il suo sviluppo apre interessanti opportunità di mercato per le imprese e per le destinazioni turistiche.

Il paper intende evidenziare da una parte i fattori di competitività per le imprese operanti nel business del turismo esperienziale, dall'altra le preferenze dei potenziali turisti rispetto ad alcune proposte di pacchetti creativi in Sicilia.

Partendo dalla rassegna dei principali contributi della letteratura sul valore dell'esperienza e sul turismo creativo, è stata condotta un'indagine esplorativa attraverso la somministrazione di un questionario compilabile on line ad un campione di 228 turisti italiani e stranieri. L'elaborazione statistica dei dati raccolti è stata effettuata applicando la conjoint analysis e la segmentazione flessibile.

I risultati mostrano la preferenza dei turisti per pacchetti che comprendono la più ampia varietà di esperienze (enogastronomiche, ludiche, sportive, culturali), ed in particolare per quelli con almeno un'esperienza di tipo creativo. Inoltre, l'analisi ha permesso di individuare le caratteristiche di un pacchetto ideale. Il principale limite è rappresentato dalle dimensioni del campione, non particolarmente numeroso, sebbene statisticamente significativo.

Attraverso la segmentazione della domanda, lo studio offre stimoli utili non solo ad imprese turistiche e tour operator per definire le loro strategie competitive, ma anche ad i policy maker interessati a formulare politiche di marketing territoriale per la valorizzazione dell'offerta turistica.

La ricerca contribuisce ad arricchire la letteratura di marketing sulle preferenze ed il comportamento d'acquisto di turisti alla ricerca di esperienze coinvolgenti.

## Geografie del commercio e del consumo

### Caterina Cirelli

Le trasformazioni che hanno ridisegnato gli scenari geo-economici e urbani negli ultimi decenni, innescate dai processi di globalizzazione e dalla transizione al post-fordismo, hanno confermato la centralità delle "culture commerciali" e dell'esperienza del consumo di beni e di luoghi sia nei sistemi economici sia nelle dinamiche di riconfigurazione degli spazi urbani e suburbani.

L'intervento, dunque, si focalizzerà sulle premesse teorico-metodologiche di un progetto PRIN appena avviato, dal titolo "Commercio, consumo e città: pratiche, pianificazione e governance per l'inclusione, la resilienza e la sostenibilità urbane". Il tema è finalizzato da un lato a esplorare il ruolo strategico del commercio-consumo-città per la società contemporanea e, dall'altro, a elaborare alcune linee-guida per l'implementazione di processi più efficaci di sostenibilità, coesione e governance territoriale. In particolare, tra i risultati attesi si annovera la realizzazione di un "Atlante dei luoghi del commercio e del consumo in Italia".

Il progetto si inserisce nell'alveo delle attività, ormai più che decennali, del Gruppo di lavoro "Il Commercio, fra tradizione e innovazione" dell'Associazione dei Geografi Italiani, il cui ultimo lavoro di ricerca collettivo è il numero monografico della rivista Geotema "Le nuove geografie del consumo, tra crisi e resilienza" (fascia A per il ssc B11). Gli studi si sono posti l'obiettivo di valutare se la promozione della vocazione commerciale e d'intrattenimento della città può tradursi in una strategia di resilienza e di superamento della crisi e, quindi, in strumento di rigenerazione urbana e socio-economica.

## Evaluating environmental sustainability using stochastic Multiattribute Acceptability Analysis with interacting criteria and dominance-based rough set approach

### Silvia Angilella, Pierluigi Catalfo, Salvatore Corrente, Alfio Giarlotta, Salvatore Greco, Marcella Rizzo

Environmental sustainability is a fundamental issue in the process of defining reliable programs and policies of the European Union. Since its measurement poses various technical problems, there is a specific necessity to develop well sound methodologies, which ought to properly take into account all complex aspects involved in the evaluation process. In this perspective, we approach the problem of evaluating environmental sustainability by means of a recently proposed multiple criteria methodology, which simultaneously takes into consideration the different importance of criteria, their interaction, the underlying hierarchical structure, and a possible imprecision of stakeholders' preferences. This methodology applies robust ordinal regression and stochastic multiattribute acceptability analysis to a preference model expressed in terms of a Choquet integral that aggregates criteria having a hierarchical structure. One of the advantages of the methodology is that the results can be explained in an easy and understandable way by means of simple "if …, then

…" decision rules. These rules are obtained by using a Dominance-based Rough Set Approach, being a a specific machine learning methodology applied to multiple criteria decision analysis. We use the described approach to the evaluation of the environmental sustainability of the municipalities of the Catania province.

## The economic impact of legislation. A historical analysis of Italy from the creation of the Kingdom of Italy to the end of World War II

*Fabio Di Vita, Giuseppe Di Vita*

This research aims to evaluate the economic impact of legislation from the creation of the Kingdom of Italy in 1861 to the end of World War II. This historical analysis attempts to prove that the process of institutional unification of the states that existed before the creation of the Kingdom of Italy had a positive impact on the growth of the Italian GDP due to the fact that regulatory uniformity helped to simplify economic exchange and development, by establishing certain rules over all the territory of the Kingdom, instead of the piecemeal legislation existent prior to unification. In particular, the research assesses the impact of legislation on the rate of litigation of civil disputes.

## The trust between traditional reconstructions and regulatory news

*Giuliana Amore*

Reading some recent rulings that have revived the unfavorable to minority orientation for c.d. internal trust, on the one hand and the enactment of law n. 122/2016 nicknamed by the media the law of "after us", on the other hand, offer an opportunity to address the *vexata quaestio* about eligibility of internal trust and discipline applicable to it.

Under the first profile, some Courts of merit, moving away from the dominant orientation consolidated and moving from the consideration that the Hague Convention on the law of trusts and their recognition did not have the effect of introducing the trust in Italy or in other countries, but allowed only to foreign trusts to produce effects in c.d. "not trust systems", excluded by virtue of the Convention is possible for citizens Italians living in Italy constitute a trust whose essential elements are all connected to our Country, with the exception of applicable law (the trust).

Under the second profile, law n. 112/2016 was enacted with the declared objective of promoting the stipulation and/or Constitution of instruments - among them precisely the trust - in favor of people with severe disability, through a preferential tax regimes. The figure that leaps to the eye is the recall legislation to institutions (such as trust) not fully consolidated in our legal system and so far stigmatized from a part minority of doctrine and jurisprudence to its foreignness to our sorting and, in particular, to the alleged incompatibility with the fundamental principles of our system, such as the typical forms of separation, of real rights and promises one-sided, given that the trust can be established for both contract, either for unilateral act: from here, the need to verify such incompatibilities and, if that fails this assessment, Locate the discipline applicable to the trust.

**Military careers and economic power. Sicilian aristocracy in the modern age**

*Fabio Paolo Di Vita*

The strength and the stamina revealed by the Sicilian aristocracy in the modern age passed necessarily through the conquest of political, economic and social power. Through prudent matrimonial strategies, suitable dynastic selections and solid links with the central power, the nobility of the island succeeded in holding a strong influence for a long time. In this context, military conflicts undeniably played a further and decisive role in allowing the nobility of the island to increase its power, through the acquisition of positions, privileges and feuds. This research aims to trace the strategies, the military capabilities, the most significant careers of several members of the Sicilian aristocracy in the modern age. This, in order to detect how the participation in conflicts influenced the construction and the consolidation of the rich assets of the baronial class of Sicily.

**Principal Investigators in entrepreneurial universities: A research framework**

*Elita Schillaci, Melita Nicotra, Marco Romano*

The paper presents a framework of Principal Investigators (PI) categorization where "Visioning" (Long term vs. Short term orientation) and "Opportunity recognition" (Science vs. business) are the orthogonal dimensions used to delineate four types of PIs: "Science focused", "Collaborative", "Industry focused", "Explorative entrepreneurs".
In particular, the role of Principal Investigators as "Explorative Entrepreneur" and their ability to combine knowledge theory and business practice, to strengthen the cooperation between two different environments, research and business, and to support research spin-off creation in entrepreneurial universities is analyzed.
To make the PIs' orientation matching Entrepreneurial Universities' goals toward market of innovation and entrepreneurship is not an easy task.
A research-oriented approach is still predominant in Principal Investigators compared to an explorative entrepreneurial mindset oriented to spin-off creation. Finally, for each type of PIs, a proposition to be tested in future researches is presented. It is related to the ability of each category to activate the "Functional variables" of their potential spin-offs' business models.

**Un approccio territorial-based per la valutazione delle politiche di coesione in Sicilia**

*Luigi Scrofani*

La ricerca è svolta nell'ambito del PRIN 2015 coordinato dall'Università Tor Vergata di Roma.
La ricerca si inserisce nel dibattito UE sulla Coesione Territoriale (TC) necessaria a conseguire i risultati Europe2020. Sul tema, legato alla scelta di indicatori e di un modello di Territorial Impact Assessment (TIA) per misurare l'uso appropriato dei fondi 2020 destinati alla crescita e all'occupazione, è stato finora utilizzato in Italia un approccio prevalentemente 'spaziale', che la ricerca intende superare offrendo la dimensione "geografica" richiesta dall'UE nelle scelte e nell'attuazione delle politiche di coesione, individuando e misurando il valore aggiunto offerto dai capitali territoriali (ambiente-economia-società-cultura). La ricerca svilupperà uno specifico metodo

di misura e stima della politica europea di Coesione Territoriale, col supporto di un data base GIS applicato alle regioni e sub-regioni italiane secondo parametri quali-quantitativi comparabili in UE. E' un nuovo metodo che propone di valutare ex ante la TC e la sua capacità di innescare sviluppo (ex post): stabilendo rapporti di interdipendenza tra diverse variabili socio-economiche, supera i soli indicatori di ricchezza regionali (PIL, densità, efficienza, accessibilità, capitale fisso sociale) individuando tipologie geografiche e organizzazioni territoriali funzionali.

La TIA della TC è di fondamentale importanza per stabilire i punti di debolezza su cui agire in termini strategici in un territorio, per ottenere efficienza e riequilibrio attraverso Investimenti Integrati.

La Politica di Coesione su base territoriale diventa il maggior elemento per affrontare le sfide in corso (globalizzazione, clima, demografia, energia) aprendo alla green economy. In Italia, applicando la Legge Delrio 2014, il PON Metro 2015 e il Programma DPS 2015, le aree inner e internal sono i principali destinatari della politica e dei fondi di coesione. La distinzione è stata individuata dalla Carta di Lipsia 2010, dal Council of European Municipalities and Regions 2014 e dalla recente letteratura geografica:

- Inner: area prossima ad un centro, con riferimento alle periferie urbane o alle realtà in cui le attività produttive sono strettamente legate alla città;
- Internal: area o regione geografica soggetta a forze centrifughe resilienti agli impulsi dello sviluppo, a bassa accessibilità, carente di servizi generali (scuole secondarie superiori, presidi sanitari o sedi DEA, stazioni ferroviarie "silver" o superiori, basso grado di accessibilità ai beni/servizi di base) con forti impatti sul benessere e sulla qualità della vita della popolazione locale.

Le aree interne (internal) sono dotate di un capitale potenziale naturale e antropico di grande valore aggiunto, utili a sviluppare, integrare, ospitare diversi tipi di funzioni e mercati legati alla green economy e al green job. Le aree inner al contrario, prevalentemente localizzate nella periferia delle aree metropolitane, sono dotate di accessibilità e forme di sviluppo di lungo periodo in cui si combinano a rete aspetti fisici, sociali, economici, culturali, istituzionali. Manca tuttavia una chiara delimitazione e misura (place based) finalizzata alla loro sviluppo integrato. A questo scopo le regioni sono invitate dall'UE a utilizzare la TIA della TC sviluppando proposte di territorial planning sostenibile e specifiche regole di governance.


## Socio-economic Impact Assessment: KM3NET-ITALIA
*Marco Romano, Melita Nicotra, Elita Schillaci*


Research infrastructures are essential components not only of scientific and technological progress but generally of the socio-economic wealth of the territory where they are located.

The interpretation and representation of value creation and therefore of impact generation of a research infrastructure on a territory are central features.

The study deals with measuring the incremental wealth generated by the research infrastructure KM3NeT-ITALY on the Italian territory.

Economic, social and environmental benefits are expressed through a monetary quantification at book prices. The sum of the single evaluations provides the total estimation of the impact generated by the infrastructure from the year 2005 on 2020.

The infrastructure develops its social and scientific potential over time and the adoption of an extended time horizon is needed for a full assessment of its performance. However, measuring the impact of a longer period of time would reduce the reliability of the estimates.

The analysis comes to calculating the total value generated by the presence of KM3NeT-ITALY till 2020.

Results show that KM3NeT-ITALY investment and management in the period 2005-2020 are transformed into wealth for the territory with an added value of 1.7.