Dipartimento di Metodi e modelli
per l'economia, il territorio e la finanza
(Memotef)

Settima Giornata della ricerca (25-26 febbraio 2015)
Abstracts

Strumenti di politiche fiscali e valutazione finanziaria
Tools for fiscal policy and financial asset assessment
discussant: Rosella Castellano, Unitelma Sapienza, Dipartimento di Economia e
diritto – Università di Macerata

Francisco Facchinei[1], Lorenzo Lampariello, Gesualdo Scutari[2], Peiran Song[3]
Distributed Methods for Constrained Nonconvex Optimization

In this work we propose a general algorithmic framework for the minimization of a nonconvex smooth function subject to nonconvex smooth constraints. The algorithm solves a sequence of (separable) strongly convex problems and mantains feasibility at each iteration. Convergence to a stationary solution of the original nonconvex optimization is established. Our framework is very general and flexible; it unifies several existing Successive Convex Approximation (SCA)-based algorithms such as (proximal) gradient or Newton type methods, block coordinate (parallel) descent schemes, difference of convex functions methods, and improves on their convergence properties. More importantly, and differently from current SCA approaches, it naturally leads to distributed and parallelizable implementations for a large class of nonconvex problems.

Mauro Bernardi, Arsen Palestini
Allocation of Risk Capital in a Cost Cooperative Game Induced by a Modified Expected Shortfall

A new risk measure is proposed to assess the marginal contributions of financial institutions to overall risk. Building on coherent risk measure theory, we define a modified version of the Expected Shortfall (SCoES) taking into accountboth expected shortfalls of a single institution in the market and a group of other institutions in distress.

Coherent risk measures have been widely studied in the latest years (Acerbi 2002, Csoka 2007)

---

[1] Dipartimento di Ingegneria informatica automatica e gestionale Antonio Ruberti – Sapienza Università di Roma.
[2] Department of Electrical engineering, State University of New York at Buffalo.
[3] State University of New York at Buffalo.

as a crucial instrument to assess individual institutions' risk. Those measures fail to consider individual institutions as part of a system which might itself experience instability and spreads new sources of risk to the market participants. We take into account a multiple institutions framework where some of them jointly experience distress events in order to evaluate their individual and collective impact on the remaining institutions in the market. To carry out this analysis, we define a new risk measure (SCoES), generalising the Expected Shortfall (Acerbi 2002) and we characterise the riskiness profile as the outcome of a cost cooperative game played by institutions in distress (a similar approach was adopted by Denault in 2001). Each institution's marginal contribution to the spread of riskiness towards the safe institutions in then evaluated by calculating suitable solution concepts of the game such as the Banzhaf--Coleman and the Shapley--Shubik values. In the empirical part of the work, we apply the proposed risk measure to a large panel of US companies belonging to different sectors of the Standard and Poor's Composite Index and compare our results with other systemic risk measures (CoVaR, SRISK, MES).

Luca Correani[4], Fabio Di Dio[5], Stefano Patrì
Optimal Choice of Fiscal policy Instruments in a Stochastic IS-LM Model
   This article derives optimal fiscal rules within a stochastic model of Keynesian type in the context of Poole (1970). By using optimal control theory and applying the Hamilton-Jacobi-Bellman equation, we extend the original Poole results concerning the output stabilisation properties of monetary policy to the case of fiscal policy. In particular, we look for the optimal setting of government expenditure and lump-sum taxation in the case that the fiscal authority wishes to keep the product close to a reference value and that the economy is assumed to be affected by stochastic disturbances of real and/or monetary type. Moreover, our discussion of fiscal policy effectiveness is based on the original IS-LM model where intertemporal optimization and expectations do not play any role in accounting for aggregate economic activity.
   In particular, we deal with this issue in the original Poole stochastic model as we extend the original results concerning the output stabilisation properties of monetary policy to the case of fiscal policy. Also, we find that the introduction of a fiscal budget rule can make taxation preferable under a certain model parametrization. In particular, we assess how the introduction of a budget rule may affect the relative instrument power in stabilising output.
   A possible implication of these results is that the fiscal authority should stabilise output by using public expenditure in all those cases in which there are no tight fiscal constraints and/or debt limit. On the contrary, in the presence of strict budget constraints taxation can be used both for stabilising output and for fiscal adjustments. This last case is likely to be associated to high debt countries which in recent years experienced strong fiscal consolidation required to put public debt back on a sustainable path. For those countries the present model seems to suggest the use of taxation.

Gaetano Spartà, Gabriele Stabile
Tax Evasion and Confidence in Institutions: a Theoretical Model
   In this paper we present a theoretical model of tax evasion, which takes into account the

---

[4] Dipartimento di Economia e impresa – Università della Tuscia
[5] Consip S.p.A., Modelli Macroeconomici.

confidence of the taxpayer in respect of institutions and his sense of social responsibility. At this aim, in addition to the utility of income, is attributed to the agent a utility (`confidence') of contributing to the collective welfare. Confidence is a function of declared income, tax rate and effectiveness of public expenditure.

In the classical model of Allingham-Sandmo-Yitzhaki ([1] and [4]) the choice of evading is treated simply as a gamble, because if the evader is discovered he has to pay a fine proportional to the evaded tax. The classical model can not explain the cases in which tax compliance is chosen despite an apparently convenient gamble. Furthermore, in the classical model tax compliance increases as tax rate increases. On these issues, the classical model is contradicted by empirical studies (see [2] and [3]).

In our model, instead, because we take into account utility (confidence) of contributing to the collective welfare, there are citizens who choose tax compliance even in case of convenient gamble. Furthermore, we find that an increase in tax rate may lead to an increase in tax evasion. In regard to these issues, this model proposes a solution to the conflicts between the results of the classical model and the empirical findings.

References
[1] Allingham, M.G. and Sandmo, A. (1972), Income tax evasion: A theoretical analysis, *Journal of Public Economics* 1, 323-338.
[2] Freire- Seren, M.J. and Panades, J. (2013), Do higher tax rates encourage/discourage tax compliance?, *Modern Economy* 4, 809-817.
[3] Myles, G.D. and Naylor, R.A. (1996), A model of tax evasion with group conformity and social customs, *European Journal of Political Economy* 12, 49-66.
[4] Yitzhaki, S. (1974), A note on Income tax evasion: A theoretical analysis, *Journal of Public Economics* 3, 201-202.

The dissemination of contemporary knowledge in English: genres, discourse strategies and professional practices
La diffusione delle conoscenze contemporanee in inglese: generi, strategie e pratiche professionali
discussant: Laura Ferrarotti, Dipartimento di Comunicazione e ricerca sociale – Sapienza Università di Roma

---

Janet Bowker
Directive acts and narration in corporate training events: framing structures and processes through language

This work looks at the evolving nature of contemporary organizational priorities as reflected in strategic internal communications between employees. The data is a series of audio-recorded "webinars" of employee training and development sessions within a large multinational consulting company based in North America. A linguistic analysis of the multi-layered discourse reveals

company purposes insofar as they relate to the interpersonal roles, relationships and organizational climate being formed. The use of conversational analysis and framing theory allows us to see both the macro-interpretative and the micro-interactional processes at work. The directive acts and narrative episodes on which the training events hinge not only reflect organizational realities, but as importantly, actively constitute them, producing and sustaining accounts of corporate practices.

Ersilia Incelli
Unbottling the truth about water: the discursive construction of water as a 'strategic' resource

This study takes a genre-based approach to global water debates involving public and private ownership, water needs and rights. The corpus consists of a collection of documents produced by different discourse communities: corporate websites, The World Bank, online UN Declarations and NGO organizations. Drawing on a critical discourse analytical framework, key lexical and grammatical choices used in strategic text construction are identified, demonstrating how opposing players in the global water debate position themselves both linguistically and rhetorically in order to justify and legitimize their activities. Rhetorical strategies such as self-authorization through knowledge claims and consensus-building are elaborated. Overall, the research hopes to facilitate a better understanding of the linguistic construal of this kind of strategic discourse.

Renzo Mocini
Evidential devices in English medical journals

R. Mocini investigates the evidential markers used in English medical research papers published in scientific journals, a genre where reference to evidence is of fundamental importance. Evidentiality is considered not simply as a matter of sources of information, but it refers also to the types of knowledge these sources provide, the status of the evidence and how it is assessed. Using Systemic Functional Linguistic models, quantitative data, and qualitative analysis, the distribution and pragmatic functions of a series of evidential markers are analyzed. In the course of this process, the evaluative properties of evidential forms come to light, demonstrating how any scientific claim may be constructed in a more or less subjectified manner.

Chiara Prosperi Porta
On the state of public health: discourse and sharing practices in annual medical reports

This work explores the discursive strategies used to disseminate knowledge in a corpus composed of the Annual Epidemiological Reports issued by the European Centre for Disease, Prevention and Control (ECDC), an EU agency responsible for coordinating the European networking of bodies operating in this sector. The focus is on the role of discourse in this genre, together with the pragmatic objectives fulfilled in communication within the intercultural European health context. The approach is both qualitative and quantitative in order to highlight the relevant discursive strategies involved in conveying knowledge, exchanging and constructing expertise and best practices, as well as to win public acknowledgment for developing better policies and to promote the value of institutional actions that may reduce the incidence of diseases in Europe.

Judith Turnbull
Online knowledge dissemination – how to make the dismal science less dismal

The Internet offers numerous opportunities to enhance the understanding of information and consequently the learning process in Knowledge Dissemination. This study analyses the educational resources provided on the websites of two central banks, the Bank of England and the European Central Bank in order to identify the similarities and differences in their approaches for the re-contextualisation of economic knowledge in view of different target audiences and the context of online communication. Previous studies on knowledge dissemination have identified a number of verbal strategies used to transfer expert knowledge, generally grouped as Illustration strategies and Reformulation strategies. The work will consider how these strategies are adopted and also how visuals are used to anchor, bridge and facilitate the transfer of information.

Squilibri e dinamiche di sviluppo economico e sociale in Italia
Imbalances and dynamics of economic and social development in Italy
discussant: Oliviero Casacchia, Dipartimento di Scienze statistiche – Sapienza Università di Roma

---

Cristina Giudici
Exploring health inequalities among the elderly in Italy during the economic crisis – evidence from SILC Survey

The increasing of retirement age in order to maintain an active population able to compensate for the growth in the number of pensioners is a central issue in the European debate. Central to the discussion surrounding the extension of the active lifespan is the state of health of the elderly : on one hand the health condition of the population is clearly crucial to all hypotheses linked to the extension of active life, on the other hand, European governments are specifically interested in forecasting the health care needs and services which will be required by the elderly.

Since 2008 a growing number of researches have presented evidence on the negative effect of the economic crisis on the average population health, and some studies show an increase of health inequalities during crises, in different countries. The aim of this study is to estimate the health transition probabilities for Italian elderly and to calculate differences in health expectancy linked to socio-relational factors during the economic crisis.

The analysis is carried out using the Italian longitudinal modules of the European survey on income and living condition: it silc 2004-2007 and 2008-2011; the study is limited to the population aged 55 and over at the baseline, living in private households. Transition probabilities between chronic illness, disability and death are estimated basing on incidences, using a Markov model. Health is measured through the Minimum European Health Module, consisting of 3 global questions concerning 3 health domains: self-perceived health, chronic conditions and long-term activity limitation.

Mauro Rota (con Maria Caterina Bramati e Arsen Palestini)
Inherited institutions, justice and income disparities across Italian provinces

Institutions have been proved to explain differences in p.c. income and development level across countries (North 1990). In particular, protection of property rights is a crucial parameter which the economic agents consider in the investment decisions. We focus on a key institution, the civil justice, to explain the difference in p.c. income of the Italian provinces in a long run perspective. Albeit the measurement of civil justice efficiency is a difficult task, the length of civil litigations is a proxy of the effectiveness of property rights protection to the extent that a shorter duration of litigations reduces the transaction costs, thus creating a favorable environment for investment and growth.

We compiled a series of the length of judicial trials at provincial level finding that in Italy the length of trials in the first degree increased since the early sixties and that the differences among court suits enlarged. Not surprisingly the majority of the courts below the national average are located in the Centre-North, the richer area of Italy. Trials in the Southern courts are longer than the Italian average. We take this fact as an symptom of a lower efficiency of institutions in the South that contributes to the territorial disparities given that we find a systematic negative association between the length of justice and p.c. income at provincial level in the last four decades.

Yet, because civil justice is a formal institution common to the areas under the same rule of Law county differences in the length of process could be related to the different endowment of resources available for the courts which could be in turn related to p.c. income. Actually institutions could be endogenous to p.c. income. It is well known that differences in the current institutional endowment of different areas of Italy are rooted in their different economic and social histories (Putnam and Banfield). We relate the differences in the length of judicial trials to the predetermined infighting of people determined in turn by the social capital and trust network historically inherited by each Italian province. Hence, we propose a causal identification of the effects of current institutions (the efficiency of courts) on current p.c. income using measures of "cultural" heritage from the past (see also Tabellini 2010). In particular, we collected data on the trusts formation (such as the constitution of Banche popolari) and on the altruistic networks (the voluntary associations or Mutuo Soccorso) which came to the fore in the years following the Unification in several provinces. Both concepts, adequately measured, are negatively related to the length of judicial trials.

Our preliminary results in both a standard IV regression approach and in a SEM environment show that the concepts of cultural heritage and informal institutions are good predictors of today formal institutions that in turn determine, ceteris paribus, differences in income per capita across Italian provinces.

Sara Pisano, Alessandra De Rose
Le famiglie della bonifica. Una lettura inedita del processo di colonizzazione dell'Agro Pontino

La provincia di Latina è una invenzione geografica, creata ottanta anni fa a seguito della bonifica delle paludi pontine. Importante punto di svolta per lo sviluppo demografico del territorio è stata l'operazione di bonifica integrale che si è svolta dal 1929 al 1939, preceduta da una serie di rilevanti tentativi nel corso della storia, già in epoca romana.

Tra il 1932 ed il 1939, mentre ancora procedevano i lavori di bonifica, giunsero nella Pianura Pontina circa 3.000 famiglie da altre regioni d'Italia, specie dall'Emilia Romagna, dal Veneto e dal

Friuli, che quindi ancora per lungo tempo hanno continuato a vivere su un territorio non completamente sanificato.

In questo lavoro, utilizzando una fonte di dati inesplorata – le schede poderali – analizzeremo tipologia, consistenza e struttura delle famiglie coloniche all'epoca dell'insediamento e la loro evoluzione nei decenni successivi. In particolare ci concentriamo sui territori a Sud di Latina, ovvero le zone appartenenti agli attuali Comuni di Sabaudia, Pontinia, Terracina e San Felice e, più nello specifico, sui tre singoli borghi: Borgo Vodice, Borgo Hermada e Borgo Montenero che costituisco il cosiddetto "Triangolo d'oro" dell'Agro Pontino.

Roberta Gemmiti, Isabella Santini (con Alessandra Faggian[6])
Regional Economic Resilience: lessons learned from the Italian regions and urban areas
Since the recent economic crisis that affected first the USA and then Europe, the concept of economic resilience has gained popularity. Urban and regional scientists follow suit, highlighting the importance of 'urban and regional' resilience. Different regions have shown a different ability to "react" to an economic crisis and understanding why is crucial.

Our paper aims at contributing to the literature on regional economic resilience by looking at Italy as a case study. We believe that resilience could prove,a very useful framework in regional economics because it introduces a new flexibility and openness in the analysis of economic development process, factors and policies.

Our research explores both theoretical and methodological aspects of the framework of regional economic resilience, trying to link it to some traditional concepts in regional economics and economic geography such as specialization, agglomeration and urban scale.

We propose an exploratory preliminary analysis of regional resilience in Italy, in order to understand the determinants of regional performance and discuss the relationship between resilience and the concepts highlighted above.

Marco Teodori
Housing shortage and subleasing in Rome in the interwar years
After it became the Capital of the Kingdom of Italy, Rome had an extraordinary population growth. The residents, slightly more than 200,000 units in 1871, had grown to more than 1.4 million at the beginning of the 1940's, with an increase of almost 6.6 times in seventy years, mainly due to net internal migration. This trend was reflected on the demand for housing that partially remained unfulfilled despite the building development of the city. The housing deficiency was constant throughout Rome's post-unification history. The recovery of the private building sector and the public housing programs after the First World War only partially alleviated this deficiency, which increasingly assumed the character of a real social emergency in the interwar years, affecting especially the lower class.

Among the most evident effects of housing shortage, exacerbated by extensive demolitions due to urban interventions in the city center, there was the expansion of informal urban settlements composed of self-built precarious houses. There was also the further development of another phenomenon which was already endemic in Rome, the subleasing. In order to increase their

---

[6] AED Economics - The Ohio State University, Columbus, USA.

revenues, the tenants of apartments subleased to individuals or to other families rooms in their homes, giving rise to forms of cohabitation. In many cases, even those who were owners of the house in which they lived subleased part of their homes. The size and characteristics of this phenomenon, so far only partially investigated, will be analyzed using archival and statistical sources

---

> ### *Nuove frontiere delle politiche sociali e regionali in Europa*
> ### *Social and regional policies in Europe: new frontiers*
> discussant: R. Cagiano de Azevedo, Dipartimento Memotef – Sapienza Università di Roma

Adriana Conti Puorger
I possibili parallelismi della geometria variabile

Il tema della regionalizzazione, e della regione, è sempre attuale e ha radici che si ancorano a solide tradizioni con riguardo al problema dell'organizzazione/pianificazione del territorio (Scarpelli e Spinelli 1994, Vallega 1984). La ricerca dell'identificazione della regione e della sua classificazione con il conseguente risultato della ripartizione territoriale si è innestata sull'azione dell'organizzazione degli Stati nazione arricchendo le ricadute applicative volte alla ricerca di delimitazioni congrue agli obiettivi amministrativi. Questi due aspetti si vogliono indagare partendo dalla considerazione del rinnovato impulso che la politica regionale ha avuto nell'Unione Europea, cercando le somiglianze tra lo sviluppo della cooperazione territoriale propria della politica di coesione a livello europeo e i passi sul riordino territoriale che si stanno approntando in Italia. L'elaborazione di un modello di politica economica sotto il dirimente dictat equità ed efficienza è condizionato, infatti, dalle questioni finanziarie sia alla scala europea sia a quella Statale. Il problema della ripartizione delle competenze, inoltre, risente del peso di sposare il suddetto modello nel rispetto dell'uniformità amministrativa che, tuttavia, non coincide con l'uniformità regionale in senso geografico compromettendo, conseguentemente il criterio della giustizia distributiva.

Una soluzione a tale impasse è ravvisabile nelle opzioni rese disponibili da soluzioni ad hoc che scaturiscono dall'applicazione del principio della coesione, principio che permette in una realtà caratterizzata da un policentrismo regionale l'applicazione del "local government": a prescindere dalle dimensioni del territorio e dalle risorse gestite si sostanzia nel riconoscimento della "necessità di confronto fra le persone e gli enti , nel libero gioco delle più diverse aggregazioni di interessi" (Lo Monaco, 1982). E' noto, infatti, come alla scala Europea per realizzare gli obiettivi di equità e di sviluppo equilibrato delle regioni ma mancando di competenze in ambito di pianificazione, si sia maturato il principio della coesione territoriale inserito nel Trattato di Lisbona 2007. Questo principio permette di superare le divisioni amministrative rispetto ai "problemi che possono essere gestiti meglio insieme che separatamente" (COM (2014) 284 final). E' lecito concludere, quindi, che il riassetto amministrativo territoriale viene realizzato nella pianificazione di cui un interessante esempio applicativo, in Europa, è costituito dalle Macro-Regioni. Alla scala italiana, parimenti, tale principio sembra essere la guida nell'approccio al riordino territoriale sia attraverso l'associazionismo

intercomunale sia con la semplificazione dei livelli di governo presenti sul territorio. Il termine "geometria variabile", dunque, si adatta ad entrambe le scale e identifica quel processo di riconoscimenti di compiti istituzionali a soggetti altri senza aggravi fiscali. L'analisi di quanto sta accadendo alla dimensione macro-regionale in Europa e al riordino territoriale in Italia è usata come chiave di lettura per una valutazione dell'applicazione del principio di coesione alla dimensione territoriale nel ridisegnare lo spazio in un'ottica di ottimizzazione delle risorse pubbliche.

Elena Ambrosetti, Donatella Strangio
Public policies and family in Italy

Our research aim to analyze the evolution over time, gender and generations of family policies in Italy. The changes in the structure by age and sex of the population imply important social and economic consequences. The Welfare state organization is facing new challenges: population ageing, lowest low fertility, high youth unemployment. In addition, family structures have undergone major changes in the last forty years. How public policies have been modified following this changes? And how private solidarity between generations has evolved? Did Italian social policies take into account those major changes? How they have adapted to the new family forms? What was the role of economic and institutional factors in the development of policies? These are among the questions that we will try to answer in this paper. The second objective of this paper is to understand how family policies in Italy in the last forty years have considered the evolution of men and women's role in society, both in the private and in the public sphere: the increase in the level of education and the growing participation of women on the labor market has led to more egalitarian policies to help women and couple conciliate professional and private life? Data stems from the OECD Family and Social Expenditures database, from ISTAT and from legal texts on public policies. Demographic, economic and social macro data will be compared to policies changes over time in order to assess if the policies have been changed according to the new economic, demographic and social situation of Italy over the years.

Simone Bonamici
Nuove prospettive per la diversificazione dell'offerta turistica: il caso dell'Islamic tourism

Il problema della diversificazione dell'offerta risulta oggi il principale fattore di sviluppo del settore turistico (ISNART, 2013; WTO, 2014). In questa prospettiva molteplici possono essere i sentieri esplorabili, che vanno dalla mera innovazione tecnologica, alle forme di innovazione più complesse, che tendono ad integrare e a riqualificare il prodotto turistico.

In questo contesto, si è scelto di studiare il cosiddetto Islamic tourism. Questi flussi, per le loro peculiarità culturali e religiose, tendono a selezionare le mete ad essi più prossime, in termini culturali e religiosi. Ciò impone una sostanziale innovazione del prodotto ricettivo, che tende a ridurre il livello di standardizzazione dell'offerta ricettiva, per aprirsi ad una domanda assai particolare, che richiede servizi ricettivi ben diversificati da quelli comuni. Tale analisi verrà condotta sul panorama internazionale, dove già grandi operatori turistici stanno ristrutturando il loro prodotto ricettivo.

Filippo Celata, Raffaella Coletti[7]
Topologies of Europeanization and Bordering in the Mediterranean Neighbourhood

Europeanization is a fashionable term, contested and with different meanings. The concept has been used in different disciplines, each adopting a different connotation. Although it was not debated as much as the internal EU dynamics, the external dimension of Europeanization has acquired growing relevance in the last decade, in particular as a spatial metaphor to interpret the aims, contents and outcomes of the European Union's external policies. Starting from the state of the art of existing research on the topic, we argue that the literature has so far privileged a 'macro' perspective, adopting moreover a specific territorial interpretation of Europeanization's socio-spatial dynamics. Based on a case study about the European Neighbourhood Policy, conducted at the border between Sicily and Tunisia, we propose an analysis focused on the agents and the micro-mechanisms of transmission of Europeanization, adopting a relational and topological perspective. This approach, in our opinion, permits to take a further step in the comprehension of the selective functioning of external Europeanization, increasing the visibility of agents, voices and imaginaries which are generally marginalized.

Metodi e modelli per la statistica ufficiale
Methods and models for official statistics
discussant: Giuseppina Guagnano, Dipartimento Memotef – Sapienza Università di Roma

---

Francesca Petrarca, Maria Felice Arezzo
An enhanced Non-Metric PLS to investigate corporate tax non-compliance

Tax evasion is a matter of huge concern for all European Member States as it affects all of them. It undermines the public finance of a State and it can lead to a very severe inefficient resource allocation. It is therefore very important to understand which are the mechanisms underlying the decision to not comply. The international literature identifies some drivers for evasion, namely tax and social security burdens, tax morale, the quality of state institutions and labour market regulation. It is clear that all of them are at a macroeconomic level. Our main contribution lies in providing insights on the mechanisms which can induce a firm to hire off the book workers and therefore shed light on the drivers at a micro-economic level. We focus on a particular facet of tax evasion: undeclared work. We use micro-data on audits and link them to a vast set of firms characteristics, mainly related to the economic, financial and structural dimensions. The relations between non compliant behaviors and firm characteristics have been modeled using the Partial Least Squares approach. An enhanced Non-Metric extension of this methodology was used for modeling variables observed on different measurement scales where

---

was integrated the logistic regression within the PLS Path model for predicting binary outcomes.

Andrea Tancredi, Brunero Liseo
Regression analysis with linked data: problems and possible solutions

In this paper we will describe and extend some recent advances on a general Bayesian methodology for performing record linkage and making inference using the resulting matched units. In particular, we frame the record linkage process into a formal statistical model which comprises both the matching variables and the other variables included at the inferential stage. This way, the researcher is able to account for the matching process uncertainty in inferential procedures based on probabilistically linked data, and at the same time, he/she is also able to generate a feed-back propagation of the information between the working statistical model and the record linkage stage.

We argue that this feed-back effect is both essential to eliminate potential biases that otherwise would characterize the resulting linked data inference and able to improve record linkage performances. The practical implementation of the procedure is based on the use of standard Bayesian computational techniques, such as Markov Chain Monte\,Carlo algorithms. Although the methodology is quite general, we will focus on the popular and important case of linear multiple regression set-up for expository convenience.

Serena Arima, Silvia Polettini
Small area estimation with covariates perturbed for disclosure limitation

We exploit the connections between measurement error and data perturbation for disclosure limitation in the context of small area estimation. Our starting point is the model in Ybarra and Lohr (2008), where some of the covariates (all continuous) are measured with error. Using a fully Bayesian approach, we extend the aforementioned model including continuous and categorical auxiliary variables, both possibly perturbed by disclosure limitation methods, with masking distributions fixed according to the assumed protection mechanism. In order to investigate the feasibility of the proposed method, we conduct a simulation study exploring the effect of different post-randomization scenarios on the small area model.

Brunero Liseo
Problemi di benchmarking

In statistica ufficiale è sempre più pressante l'esigenza di produrre stime di indicatori socio-economici o demografici a livello disaggregato. Per problemi di dimensione campionaria, tali stime sono spesso "model-based", ovvero basate su assunzioni distribuzionali difficilmente verificabili. Questo fa sì che le stime a livello disaggregato - una volta riaggregate - non sempre riproducano il valore dell'indicatore a livello regionale o nazionale, basato spesso su una stima diretta.

Un modo di ovviare a questo problema è quello del "benchmarking", ovvero alla modifica delle stime disaggregate, in modo da mantenersi coerenti con le stime aggregate. Esistono diverse tecniche di benchmarking, dalle più banali (raking) ad alcune molto sofisticate, basate sul concetto di entropia. L'intervento sarà una breve carrellata su queste metodologie. Verranno anche esposti alcuni legami con problemi di statistica finanziaria.

Prospettive socioeconomiche sulla sostenibilità ambientale
Socioeconomic perspectives on environmental sustainability
discussant: Claudio Cecchi, Dipartimento di Economia e diritto – Sapienza Università di Roma

---

Venere Stefania Sanna, Filippo Celata[8]
Community activism and sustainability: a multi-dimensional assessment

A growing body of research is exploring the role of community-based initiatives (CBIs) in the promotion of sustainable regional transitions. While existing research and policies acknowledge the relevant contribution of community activism in providing a soft, self-governed and bottom-up path towards sustainability, much of this work has a clear normative intent, it is based on individual case studies and rarely provides a systematic assessment of their actual effects.

This paper is an attempt to fill this gap by providing an extensive review of the literature about the social, economic, political and technological impacts of CBIs, in order to define a set of indicators for the monitoring and evaluation of these initiatives. For each of the above mentioned four dimensions, a set of key variables will be proposed for assessing CBIs in a variety of domains: from food production (e.g. community gardens), to food distribution (e.g. solidarity purchasing groups), from recycling, to cohousing, bike/car-sharing, community energy, etc.

Maria Caterina Bramati
Sviluppo economico e sostenibilità nelle aree costiere: un approccio econometrico

Interessi concorrenti nell'utilizzo delle risorse marine per lo sviluppo economico determinano delle pressioni sull'ambiente costiero, dove i principali attori sono le Amministrazioni Locali, i residenti e l'industria. A tali pressioni di natura antropica si aggiunge l'azione climatica che nelle aree fragili come le zone costiere, accelera il degrado ambientale ed il conseguente deterioramento delle risorse marine. Inoltre, l'intensità dell'attività umana aumenta con il verificarsi dell'espansione urbana verso la linea di costa, che spesso trascura le aree ecologicamente sensibili e a cui non sempre si contrappone la risposta istituzionale e normativa. Ciò si traduce in un ambiente costiero in conflitto caratterizzato da pianificazione urbana minima, dall'inquinamento industriale, dai cambiamenti climatici e dall'uso delle risorse marine in competizione tra sviluppo economico, uso ricreativo e culturale, di tutela e conservazione della biodiversità. In questo lavoro viene proposto un approccio quantitativo alla valutazione dell'impatto delle politiche regionali relative all'Uso del Mare sullo sviluppo economico regionale e sui danni ambientali da esso derivanti. L'analisi viene effettuata mediante la stima di un modello econometrico che considera gli aspetti demografici, economici e climatici che esercitano pressioni sull'ambiente e valuta l'effetto degli investimenti regionali nei capitoli rilevanti per la strategia marina. Questo documento contribuisce alla letteratura esistente proponendo un modello econometrico che rappresenta le principali relazioni tra spesa regionale, Usi Economici del Mare (UEM) e pressione sull'ambiente marino. L'approccio econometrico qui adottato consente di

---

simulare l'effetto dell'intervento delle regioni secondo vari scenari di politiche regionali mediante un sistema di equazioni simultanee.

Cary Yungmee Hendrickson[9]
Transition talk: exploring the imaginations of community based initiatives in transitions toward low-carbon society

Policies and programs targeting transitions to a low-carbon economy have been growing in recent years. Community-based initiatives (CBIs) are increasingly recognized for their potential role in helping to induce societal transformations towards more sustainable lifestyles and for having a role in addressing climate change. Research into CBI has also increased in the past years, focusing on case studies and success factors, often using theory such as multi-level perspective or transition theory to understand how CBIs operate and succeed (or not). Little focus however has been placed on societal discourse, and how the objectives and activities of CBIs are presented, and how this compares to the individuals within the CBIs' commitment towards these desired outcomes. While CBIs have a publicly stated goal, this may be contested by those individual within the CBI. How individuals conceptualize their activities and success and how the CBI present their goals may not align.

This paper seeks to fill this gap by identifying how dominant discourses are contested and articulated within CBIs. To do this we explore the stated goals, missions and areas of impact of a set of CBIs in seven different countries operating in the sectors of food, transport, waste and energy, and compare them with the factors that are show by literature as important for CBIs to thrive (including policy, networks, group dynamics and community organization).

Federico Martellozzo
Urban agriculture: what is the potential to meet global urban vegetable demand?

This piece of research aims at offering a quantitative investigation of the potential of urban agriculture (UA) in meeting the consumption of vegetables by urban dwellers at the global scale.

The interest about UA increased recently following the rising concern on food security; furthermore, UA has been often suggested as a way to reduce land-use competition between land for development and land for agriculture; therefore, these issues are particularly relevant as the world is facing an unprecedented population growth and a continuous rural-to-urban population shift. This study represents one of the few attempts to estimate how much food could actually be produced in urban areas, and the first one to propose an evaluation of its potential at the global scale.

On the one hand, our results suggest that the potential of UA to make a substantial contribution to cereal production appears very limited; while on the other hand, it is shown that global vegetable consumption of urban dwellers could potentially be achieved with roughly one third of the global urban extent being devoted to UA. However, there are significant variations across countries since the UA potential is mostly influenced by the available urban area per capita. Overall, the UA potential is regrettably lower where it is more needed, i.e. in poorer countries.

Besides, our analyses show that small and medium sized urban conglomerations represent together two thirds of the total built-up extent and can therefore contribute to the majority of the global UA food production. Hence, UA policies should not focus solely on big cities, but also on small/medium sized urban areas. Trying to have a clearer framing of all these issues is a matter extremely important not solely for scientists and professionals working in agricultural science, but also for a broader audience concerned with land use, food security, and environmental issues, because of the potential to influence urban planning and policy making and to suggest public action capable of targeting problems affecting large portions of population.

Poster

Marco Bottone (con Mauro Bernardi, Lea Petrella)
Bayesian Robust Non-Linear CAViaR

Conditional Autoregressive Value-at-Risk (CAViaR) has become a popular approach for direct measurement of market risk. Since its introduction in the econometric literature by the seminal paper of Engle and Manganelli (2004), several improvements have been proposed to the original approach allowing for different degrees of asymmetry and local non-linearity. Furthermore, Bayesian modeling of time-varying quantile regression relies on the Asymmetric Laplace distribution characterized by medium tails and therefore unsuitable for data described by heavy-tailed distributions. We propose an extension of the Bayesian CAViaR models that accounts for both fat-tails and strong nonlinearity using the Skew Exponential Power (SEP) distribution and a flexible functional form specified by sum of B-splines. To estimate all the model parameters we propose a new Adaptive-Independent Metropolis-Hastings (AIMH) algorithm that accounts also for a stochastic determination of the number and the locations of the knots. Applications to simulated data show the ability of our Bayesian Robust Nonlinear CAViaR to catch nonlinearity in the News Impact Curve and threshold in the estimated parameters.
Keywords: Bayesian quantile regression, robustness, Skew Exponential Power distribution, CaViaR.

Angela Paparusso
Civic integration policies: a new model for the integration of migrants in Europe?

Starting from 9/11 attacks, a series of events have highlighted the lack of integration and the social marginalization of some migrants and second-generation migrants in Europe. This has led countries to reassess their integration policies, converging towards the so-called civic integration policies, that is policies that emphasize the newcomers' knowledge of host society's core values and norms. This work aims to provide an overview of civic integration policies adopted by the EU countries, in order to shed light on their main features and in particular on the rationale that is behind the European convergence towards civic integration. My hypothesis is that this convergence is affected by the same policy restrictiveness which seems to dominate the EU migration and asylum policy. In order to pursue my research goal, I analyze the civic integration policies adopted by the main European receiving countries in the last 15 years, using actual legal texts and official documents.