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CALL FOR PAPERS

- deadline extended to 31 May, 2017 -

Call for papers for the Special Issue in honour of Bruno de Finetti

Context and motivations

The international journal Global & Local Economic Review announces the Special Issue to commemorate one of the most reputed Italian scientist of the Twentieth century, Bruno de Finetti (Innsbruck 1906, Rome 1985). Global & Local Economic Review joins with the University of Chieti-Pescara (Italy) even this year in order to pay tribute to a distinguished scholar who was a key figure in the development of the conceptual foundations of probability and mathematical statistics.

Several public and private institutions have been dedicated to him, including departments, lectures halls, schools and streets. Since a few decades, furthermore, Bruno de Finetti is one of the prime sources of the most popular textbooks of management and applied statistics at the Harvard School of Administration. The European Association for Decision Making based in Amsterdam awards an international prize in honour of Bruno de Finetti every two years from 1995 to present, involving scientists and psychologists around the world. Another notable prize in his honour was established by the prestigious National Academy of Lincei in Rome.

There is no doubt that de Finetti was that rare person, a genius. He viewed the world in a novel way which, when one took the trouble to understand it, one noticed that it was so clearly correct. The figure of Bruno de Finetti emerges in the context of Italian mathematics of the Twentieth century for the originality of his contributions and the special attention paid to the new disciplines, such as the probability calculus and the financial and actuarial mathematics, which have expanded the boundaries of mathematics of the Nineteenth century.

Bruno de Finetti, indeed, was certainly considered and is primarily known worldwide as a leading mathematician, in particular for his futuristic views and mainly for his fundamental contributions to the re-foundation of the theory of probability based on subjectivist epistemology and methodology (since de Finetti 1931, reaffirmed in de Finetti 1937). Much less known, even within the international scientific community, are his works in the fields of economics, finance and decision-making. Among these lesser-known de Finetti's works, some extremely important results have been achieved by him long before than those known academics to whom these results have been traditionally associated. For instance, de Finetti has formulated the notion of *absolute risk aversion* in 1952, anticipating Kenneth J. Arrow and John W. Pratt of more than a decade. He used this notion in connection with the risk premium in the case of betting and discussed the particular case of the constant absolute risk aversion (see de Finetti 1952). He also wrote anticipatory works on martingales (1939), the optimal dividend distribution method (1957) and the Samuelson's model on interest rates with the choice between consumption and investment (1956).

Nevertheless, the most surprising "rediscovery" is the work written in 1940 in which de Finetti anticipates a large part of the mean-variance analysis in portfolio choice and capital markets that was developed by Harry M. Markowitz later (1952, 1956 and 1959) and also by Andrew D. Roy (1952). With the benefit of the hindsight, it is easy to see that Markowitz initiated the development of modern finance both in theoretical and applied terms. However, de Finetti had quietly laid the foundation of that development twelve years earlier. Definitely, de Finetti described the variance of a portfolio as the sum of covariances, he developed the concept of efficiency in the mean-variance perspective and justified the use of this perspective invoking the normal rates of return. He considered the implications of *fat tails* in the distribution of rates of return, he discussed the bounds on negative correlation coefficients and also invented a first version of the *critical line algorithm*, the numerical method used to solve the problem of *portfolio selection*.

Therefore, these invaluable lesser known contributions as well as his research in the field of finance theory were ground-breaking and revealed the effective modernity of certain modern scientific disciplines. The first significant expression of Bruno de Finetti's contributions to modern portfolio theory was the *problem of full-risk insurances* (1938). This *problem*, the importance of which is now authoritatively recognized throughout the world, it can be considered as the foundation of modern finance theory. Even within the narrow boundaries of mathematical economics writings, de Finetti confirmed his talents as an original and creative thinker. From these other writings, in fact, important insights emerge. The analytical rigor did not prevent him a strong ethical and political connotation of his reflection on the economic issues, since he considered economics crucial for the future of the humanity. Actually, with a completely personal style, he intertwined mathematical and ethical arguments that mutually reinforcing.

For these reasons, the eccentricity of de Finetti represents a breath of fresh air compared to a mathematical environment that increasingly circumscribed its tasks to the pure deductive approach. Notwithstanding the aforementioned, in an effort to help analyse critically the neoclassical framework of economics, de Finetti chose to contribute right through the formal reasoning. The particular point of view chosen by him to bring this effort, namely his criticism of the legitimacy of the mechanistic analogy, leads him to identify several important lines of analysis. As regards the methodological issues, he was a forerunner (following Vilfredo Pareto's ideas and close to the cultural awareness of Federico Caffè) of the *new welfare economics*, while as regards the

analytical formulations, his anticipatory contributions both in terms of vector optimization and generalized convexity deserve a place in the history of mathematics.

Aims and scope

For over two hundred years men had asked the question: what is probability? Bruno de Finetti, in one of the sayings of which he was so fond, replied: *"probability does not exist"* (for example, see de Finetti 1980), probability is an expression of own personal view of the world. It is not a property of that world, nor of people, but describes a relationship between people and that world (see Lindley 1986). He further argued that *"objective probability never exists"* (de Finetti 1931; de Finetti and Savage 1962). In this respect, Bruno de Finetti, and Frank Ramsey (1926) just before him, used one kind of principles of logic, constrained by a rigorous notion of coherence (see de Finetti 1974), to derive rules for rational choice (defined in one particular way, gleaned from the experience in everyday life), in the face of risky (but not uncertain) future. In doing so, de Finetti has used the age-old established way of reconciling diverse expectations, by means of formalizing the notion of calculating odds, and devising the notion of coherence (see also Velupillai 2015). One of the possible positive task ahead now, from the point of view of developing de Finetti's rich and rigorous constructions is to emphasise their combinatorial, computable and constructive possibilities. This can foster a stimulating discussion on rethinking, for example, the foundations of economics since the actuality of his thought has been gaining a new momentum. In fact, de Finetti was a major opponent of both the objective conception of probability and the measure-theoretical framework. In opposition to the *"superstitious belief in the objective probability"*, he insisted that the mathematical understanding of probability should start with the idea of subjective price rather than with the idea of measure. If one wanted axioms, these should be axioms for price, not axioms for measure (see Shaffer 1976, 1985, 1996, 2001; Shaffer *et al.* 2000). Considering the importance of the anticipatory works developed by de Finetti, how is it that his contributions have remained hitherto unknown to many scholars, especially the English-speaking economists, and, more specifically, how is it that Markowitz himself was not unaware of them before 2005?

After all, it is fair to say that the subjective expected utility model proposed by Leonard J. Savage (1954), which was deeply influenced by de Finetti's foundational work on subjective probability theory, has dominated the research interests on decision theory over the last sixty years. Hence, how is it that both Ward Edwards (1962) and later Daniel Kahneman and Amos N. Tversky (1979) do not refer to Bruno de Finetti to build their descriptive theory of decision making under risk? To tell the truth, the idea of subjective expected utility appeared in modern behavioural economics through Kahneman's and Tversky's contributions, but their *prospect theory* in turn borrowed from Edwards (1962), who in turn built on Savage (1954) (see Kao and Velupillai 2015). Why de Finetti's foundational work is not mentioned in the contributions of Edwards (1962) and Kahneman and Tversky (1979) ?

The special issue to honour the figure of Bruno de Finetti encourages inquiries and discussions covering a range of subjects, including heterodox and interdisciplinary new contributions. It welcomes manuscripts that are methodological and philosophical as well as empirical and theoretical. Papers are invited for several topics of special interest directly related to de Finetti's thought, but are not limited to mathematics, probability calculus, statistics, decision theory, economics, finance, and philosophy. In a nutshell, the ultimate goal of the special issue is to foster critical tools and perspectives in terms of the great merits of de Finetti's seminal works.

Franco Modigliani, not surprisingly, when he was interviewed on the occasion of his award of the Nobel prize for Economics in 1985, publicly declared that Bruno de Finetti would have deserved that prize.

Submission of manuscripts

Submission of manuscripts

The deadline for the submission of papers is **extended to 31 May, 2017**. Submissions should be made writing to both prof. Donatella Furia (dfuria@unich.it) and prof. Edgardo Bucciarelli (e.bucciarelli@unich.it). All papers submitted will be considered using the international peer review process. Please, also see policies for the submission of manuscripts and instructions for authors at http://www.gler.it. The manuscripts submitted without complying with the instructions for authors given will not be taken into account neither for publication nor for the related peer review process. For any further information, please contact: dfuria@unich.it and e.bucciarelli@unich.it

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