# Special issue on Econophysics

What is "Econophysics"? Who is an "econophysicist"? The coining of a new scientific term, composed of the names of two fields, traditionally considered to be far from each other, brings new dreams to investigators, by mere virtue of a new ensemble of viewpoints. The term "econophysics" has revealed a kinship between the fields of physics and economics, which was not obvious before.

The first officially recognized conference by a professional society on "econophysics", Applications of Physics to Financial Analysis (APFA, soon to become APFA1) was held in Dublin in 1999. Since then APFA and its companion meetings have begun to reveal new branches of research from the established pathways explored in applied statistical physics and thus economics (in particular finance). The analysis of fluctuations in financial data by new or modified techniques has led to new insights. Such analysis involves physicists looking for correlation between entities in financial matter in much the same way as they have done for physical systems in their laboratories. This approach leads to useful new methods and results in different outputs. The studies of phase transitions and non-equilibrium effects, including self-organisation have progressed the understanding of many physical phenomena. So why not use the same methodology in a field which is thought to be governed by sociology, psychology, politics and other so called softer science?

The observations of deterministic chaos, scaling, in financial time series (tools such as recurrence, plots exploiting symmetries in pricing theory or the use of the wavelet or path integral or renormalisation group method) will still give some work ahead even though all these tools have a basic origin or are rather standard tools nowadays. Characterization of data and theory talks broke new ground in pursuit of *e.g.* useful strategies or political consequences. One continues to ask, how is it that fluctuations or other agents in a system conspire to give surprising anomalous properties? By broadening discussion to the category of econophysics topics, as covered in APFA2 (held in Liège, Belgium on July 13–15, 2000), we have gained new paradigms to study this question.

Several reports to APFA2 are not included in the following to avoid duplicating reports in this proceedings.

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