Introduction

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Real life problems are inside a complex environment. They are typically ill-defined problems; that is, the goals are not definite, we don't know what counts as an alternative and how many alternatives there are, it's unclear what the consequences might be and how to estimate their probabilities and utilities. Jim Savage dubbed this environment characterized by uncertainty as Large World. Small Worlds instead are in principle predictable and without surprises and they are characterized by the knowledge of all relevant variables, their consequences and probabilities. The conditions of Small World are the requirements of Neoclassical Rationality, as Herbert Simon stressed in his Nobel Lecture. In these worlds the problems may be well-defined but they can also be computationally intractable. As is well known, an example of a computational tractable problem is the dice game. Instead the well-defined problem of the chess game is computationally intractable. In any case the real world is most of the time large and these conditions of knowledge are rarely met. Since they are rarely met, the normative rational requirements of neoclassical economics are unjustified and the application of their theories can easily lead to a disaster.

Is Finance an example of Large World? Or are there financial phenomena that may be considered examples of Small Worlds? And in this case may they be dealt with by rational tools such as probabilistic reasoning and utility maximization? And if this is the case, what is the role of financial literacy and education? Is financial literacy sufficient to empower the financial decision making of savers and investors or should it be strengthened by training them also in behavioural finance and “debiasing” techniques? And can financial literacy avoid including risk literacy, which is the technique used to reason easily about probability calculus and statistics?

The book *Financial Education and Risk Literacy* analyses some of the previous questions and much more. For example: the relation of financial education and financial regulation; the social and cultural determinants of financial education; the role of the banking system in promoting financial literacy; how governments and regulatory authorities are dealing with financial education programmes in schools; the role of technology both

in modifying the financial scenario and thus the environment where decisions have to be taken, but also as a tool to deliver the content of financial education.

Approaches and perspectives are very different.

The methodological, cultural and, to some extent, ideological background of the authors is indeed diverse. While most of them come from academia, some are practitioners who offered their perspective on how education can have an impact on business practice. Most contributions reveal the economical education and mentality of the authors; some, however, come from scholars who have developed their research in the fields of pedagogy and teaching. Even within economists there are differences: while the leitmotif of the whole book is, inevitably, the interaction between human essence and economic theory, that is, what we call behavioural economy, the mix of a traditional and unconventional perspective is not always the same. Education is the main topic of most chapters but some of them focus mainly on the preliminary conditions of decision making, that is, risk perception and attitudes and cognitive limits. Also the idea of what should be the final goal of literacy and education is not univocal: some believe it should improve the decision-making skills of individuals within a given economic framework, others consider the possibility of going beyond the current situation using education as the primer of a profound change of economic rules and parameters.

Finally, methodology also differs; most chapters are based on empirical evidence but some describe and analyse programmes that were deployed in the real world, some are based on experiments, some on the analysis of the results of large number testing, and others are mainly theoretical.

A possible, and legitimate, criticism could be that such a variety of contributions does not aim in a specific direction, providing a solid and unambiguous research perspective. This however is what we wanted to achieve; at this stage we feel that the topic we decided to investigate, which was also discussed in the meeting “Financial Education and Risk Literacy” organized in Rome on 11 December 2018 by the Herbert Simon Society and the Bank of Italy in collaboration with the Max Planck Institute for Human Development of Berlin requires not a spyglass but a wide-angle kaleidoscope. Many, though not all, chapters included in this volume stem from the meeting, which was the second of the annual series *Befairly* (Behavioral Financial Regulation and Policy); the chapters which were not presented at that event helped us in further broadening the view on this fascinating though multifaceted topic.

We wish to thank Intesa Sanpaolo, Allianz and Credit Suisse for their precious support and important collaboration in setting up and realizing the meeting and we thank Giovanni De Rosa for his assistance in its

organization. Giovanni's enthusiasm and commitment is vital and it is one of the main ingredients of the success of the Befairly initiatives.

Furthermore, we also want to thank Giovanni De Rosa sincerely for his precious editorial support and contribution to the realization of this volume. As we have said before, while a diversified and multicultural approach certainly enriches the analysis and gives value to the research, it certainly adds a great deal to organizational complexity. So we are deeply grateful to Giovanni for everything he has done in order to help this boat sail safely to its destination.

Finally, our co-editor Shabnam Mousavi gratefully acknowledges the support provided through a long-term grant from the Think Forward Initiative in partnership with ING Bank.