BOOK REVIEW:

“RISK, CHOICE, AND UNCERTAINTY: THREE CENTURIES OF ECONOMIC DECISION-
MAKING” BY GEORGE G. SZPIRO

REVIEWED BY

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Robert (Bob) Solow did not enjoy the *Grand Pursuit: The Story of Economic Genius*, the bestseller on the history of economic thought by journalist Sylvia Nasar (2011). His laconic verdict was that “the book skimps on intellectual content” (Solow 2011), which means he did not think it contained enough economic theory. However, not all journalists writing potential bestsellers on the history of economic thought would disappoint Solow’s taste for economic content. *Risk, Choice, and Uncertainty*, the new history of choice theory written by journalist George G. Szpiro would survive the economist’s thorough inspection. And, importantly, that economist would be amused in the meanwhile.

In this book, Szpiro combines his competence as a mathematical economist with his gifted hand as a journalist to entertain and befriend the reader over a fascinating intellectual journey. The well-tested strategy of presenting momentous conceptual leaps in choice theory along with juicy biographical details of the main characters, from the Bernoullis – Nikolaus and Daniel – to Richard Thaler, works amazingly well. It works so well that the five-page story of Ernst Heinrich Weber (pp. 51-55), one of the discoverers of the Weber-Fechner law in psychophysics, or the four-page tragic story of Prince Rudolf (pp. 89-92), pupil of Carl Menger in Vienna, entertain even if they somewhat stray from the main narrative. Beyond entertaining, Szpiro has also a pronounced educational talent. He presents well-known but difficult examples in choice theory in a way that much of their conceptual importance becomes even more patent. For instance, the intuitive way in which he shows how Ellsberg’s paradox violates von Neumann and Morgenstern’s axiom of independence of irrelevant alternatives (pp. 176-178) is very useful, as it is not something easy to grasp. Even readers already versed in choice theory will likely learn something, such as the fact that the St. Petersburg paradox, which was named after Daniel Bernoulli’s workplace, should have better been called the *Swiss paradox*. This is because Daniel’s cousin Nikolaus first raised it from Basel and mathematician Gabriel Cramer first proposed a solution similar to the one later advanced by Daniel from Geneva. (Not to mention that Daniel was Swiss too).

This entertaining, educational, and light context leads one not to be shocked even after reading Szpiro’s blunt introduction: “People prefer more of a good, but the more they already have, the less they value each additional unit. That’s the whole of economics; all the rest is commentary” (p. ix). If such a provocation had not just served as a grain of sand around which Szpiro weaves his elegant narrative, it would have been simply unacceptable. But, eventually, the pearl comes out.

While the self-stated goals to “inform and entertain” (p. xii) seem successfully reached by the book, there is something else that is, however, worthy of critical remark. It concerns the chance, which this book does not seize, to free the history of choice theory from an encrusted historiographical cliché related to its mathematization. As a passionate and enthusiast mathematician, Szpiro instead keeps the cliché that mathematics has turned economics in general, and choice theory in particular, from a *non-serious* to a *serious* subject, alive:

compared to, say, physics, medicine, or chemistry, economics was not considered a *serious* science—not until mathematics entered the scene, anyway. The discipline turned into a *serious* science only after mathematical models were developed that suggested how to optimize something, be it wealth, profits, or the utility for money. (p. x, emphasis added)

As another instance of mathematical enthusiasm, after mentioning the plethora of violations of the axioms of rational choice theory – diligently sifted through in the book – Szpiro maintains, without providing reasons, that “mathematics is, and must remain, the basis for normative economics—that is, how decisions *should* be made” (p. xi, emphasis in the original). At this point, one may wonder, why would anyone blame an introductory book for laypeople for not challenging a narrative that even some academic books written for specialists neglect to challenge? The first reason is that Szpiro seems to harbor some historiographical ambition when he says that his “book presents a novel approach to the history of economic thought” (p. xi). Unfortunately, he does not provide any indication of what he means by “novel approach”. Nor he discusses other works in the recent historiography of economic thought – such as, for instance, Moscati (2018) that deals with the same topic – which would have helped the reader to figure out where to place this book in the landscape of histories of choice theory. I guess the intended novelty lies in the (excellent) semi-scholarly approach, but this is nowhere explicitly stated. Whatever the novelty of this book, it certainly does not concern its attitude towards the mathematization of choice theory. Second, and far more importantly, Szpiro’s penchant for the mathematical approach leads the book to neglect some important non-mathematical topics and to incur into some issues concerning the interpretation of non-mathematical theories. In what follows, I will discuss two examples.

When I first read the title of this book, Frank Knight’s (1921) famous *Risk, Uncertainty and Profit* instantly came to mind. Risk and uncertainty feature in both of these three-word titles. It was a bit of a surprise then to discover that Knight is nowhere mentioned in Szpiro’s book. The point is not the exclusion of Knight’s book per se, but the distinction it draws between risk and uncertainty. Such an exclusion signals that Szpiro’s book does not address *fundamental uncertainty*, that is,

cases in which it is not possible to figure out probabilities nor even events. In fact, in his praise of the book, Harry Markowitz tellingly states that Szpiro's is an "account of the theory of choice between *risky* alternatives" (emphasis added). Of course, Szpiro discusses uncertainty in the subjectivist framework in depth, surveying Frank Ramsey's and Leonard (Jimmie) Savage's seminal works (but not Bruno De Finetti's). Still, one is left wondering why fundamental uncertainty is not even mentioned. Maybe this is because, as not susceptible to mathematical approach, fundamental uncertainty may threaten the subject again with a descent into *unseriousness*.

The penchant for mathematics strikes again when the book deals with Herbert Simon's bounded rationality (Chapter 11). On the one hand, Szpiro provides an amazingly appropriate account of bounded rationality, in particular when he says that "bounded rationality is not at all the same as irrationality" (p. 186), which is something that many economists still fail to acknowledge (due to Daniel Kahneman's recklessness in using Simon's wording for a completely different concept). On the other hand, Szpiro's acknowledgment seems to contradict his own statement from a few pages earlier where he declares that between normative and descriptive choice theory, Simon "took the latter avenue" (p. 184). So, how is it possible that bounded rationality is a normative notion (as it is not irrationality) and, at the same time, that Simon chose *only* the descriptive avenue? It is, in fact, not possible. What Simon did was to substitute normativity understood in terms of mathematical optimization with a different, non-mathematical notion, which is today called *ecological* normativity. Szpiro's idea, mentioned above, that mathematics provides and should provide the normative benchmark in choice theory may have prevented him from fully appreciating Simon's normative side. The book also omits, arguably for the same reason, *ecological rationality* (Gigerenzer et al. 1999), the name given to a Simon-inspired descriptive and normative approach (Hands 2014), which has established itself as true alternative to the framework of Kahneman and Tversky. Behavioral economics is presented in Szpiro's book as the undisputed latest advancement in choice theory, which it is not. At the end of the day, tying choice theory to a certain mathematical framework (and to empirical violations of that framework) may end up preventing laypeople from encountering alternatives they would arguably like as well to be informed about while being entertained.

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