The Puzzle of Pricing the Future

R. DAVID SIMPSON

Liliana Doganova describes her book, *Discounting the Future: The Ascendency of a Political Technology,* as a study in the "historical sociology" of discounting. Discounting—determining what value to place on income in the future relative to how we value it today—has its roots in finance and economics and is much discussed in today's climate change policymaking.

However, discounting also raises social, political, ethical, and other issues. An evaluation and critique of discounting from these various perspectives could be valuable. Doganova's book attempts such a critique of the theory and application of discounting. Although the book reveals some interesting episodes in the history of discounting and raises some provocative questions concerning its application, I found the book disappointing overall.

Virtually all economists share an interest in the mechanics and philosophy of discounting. As someone who has worked on the economics of the environment and natural resources for three decades, however, I am particularly interested in questions concerning the value applied to looming risks of climate change and biodiversity loss that are difficult to quantify. I date my own appreciation for how critical discounting is for these issues to the late 1990s, when Resources for the Future (RFF), a Washington think tank where I was a senior fellow, sponsored a conference of leading economists speaking on "Discounting and Intergenerational Equity." A great deal of subsequent research has emerged since that event, but most of the contributions I followed were written by, and largely for, economists.

I was eager, then, to discover a different perspective in *Discounting the Future*. Doganova is an associate professor at the Centre de Sociologie de l'Innovation, a Paris-based research institution focused on sociology, economics, and political science. Her bio says she works at "the intersection of economic sociology and science and technology studies."

While I felt that reading an outsider's perspective on the economics of discounting might be revealing, even criticism or rejection of economic models needs to be grounded in an understanding of economics. Regrettably, I found this book's discussion of the economics of discounting incomplete, limited, and sometimes superficial. Consequently, the book's critiques often don't land squarely, and it does not articulate alternatives to the practices it faults.

In the introduction, Doganova notes the importance of discounting in *The Economics of Climate Change: The Stern Review*, Nicholas Stern's 2007 assessment of the economic costs of climate change, and economist William Nordhaus' rejoinder to it from the same year. Unfortunately, climate policy is not mentioned again until the book's conclusion. Instead, most of the book is spent exploring historical case studies of the use of discounting, including in corporate investment planning, drug development, and the valuation of Chilean copper.

For example, chapter two discusses nineteenth-century German forester Martin Faustmann's simple model describing how often forests should be cut and replanted in order to maximize long-term profits. Over the last several decades, hundreds of what are now known generically as "Faustmann models" have appeared. They incorporate storm, fire, and pest infestation risks; reflect the value of forest ecosystem services and carbon sequestration; and allow for differences in harvest conditions. However, Doganova seems to dismiss the relevance and usefulness of such Faustmann models based on an anecdote in which an unnamed economist describes a conversation with a Scottish forester who mentioned that because tall trees snap off more easily in the region's winds, some forests must be harvested sooner than the financial model prescribes. From my point of view, this is not a contradiction but a confirmation that the basic model can be augmented to incorporate the probability of loss to pests or fire or, indeed, high winds.

I regret that the author did not focus more on the application of discounting in climate policy. The book's central critique would have benefitted by examining the burst of interest and creativity in the analysis of discounting that has occurred since the Stern Review and the RFF conference that first piqued my curiosity. For example, the late economist Martin Weitzman's views on discounting were evolving at the time of the RFF conference. In several papers in the late 2000s and early 2010s, Weitzman suggested that the profound uncertainties that may arise under climate change cast serious doubt on the application of received methods of discounting. Doganova's arguments would have been bolstered by engaging with Weitzman's work.

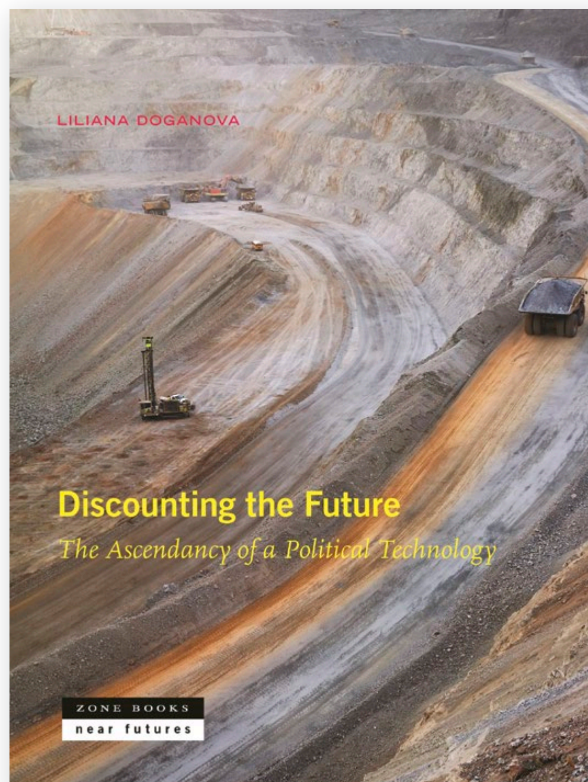
What Dogonova appears most interested in is what she characterizes as a central and irresolvable contradiction inherent to discounting: "a theory of value that simultaneously and paradoxically both values and devalues the future. It both claims that the future is the source of value … and that the future is less valuable." How, the author wonders, can the economic value of capital assets be based on projections of the income they will generate in the future, yet discounting

means that income at any point in the future is worth less than income today?

I think these questions might have been resolved by probing deeper into the history of how the ideas were developed, particularly by Frank Ramsey, an extraordinary early twentieth-century British polymath who made seminal contributions to mathematics and philosophy. He also wrote two of the most important papers in the history of economics—all prior to dying three weeks before what would have been his twenty-seventh birthday. His 1928 paper, "A Mathematical Theory of Saving," introduced what has been known since as "Ramsey discounting," the canonical model and starting point for virtually all work since on the economics of discounting. Aside from a single mention in *Discounting the Future*, Ramsey's work is not explored and his name does not appear in the index.

To a degree, Ramsey might have agreed with Doganova. He famously asserted that treating the welfare of future generations any differently than that of those living now is "ethically indefensible and arises merely from the weakness of the imagination." The key, though, is that Ramsey focused on the *welfare* of future generations, not their income. A dollar to be received by people in the future would be worth less than would a dollar today if people in the future are expected to be wealthier than people today. By the same token, a dollar to be received in the future might be worth relatively more if our descendants were impoverished due to, for example, climate change. Doganova hints at this explanation in the last four pages of *Discounting the Future,* but doesn't recognize it as the resolution to her paradox.

An additional aspect of Ramsey's work might have informed Doganova's book. When I teach discounting to my economics students, I tell them—as my instructors told me when I was a student—to remember that the discount rate is a *price*. As such, it is determined not just by supply or demand considerations, but by both: by consumers' willingness to forgo present consumption in hopes of higher future consumption, as well as producers' expectations of return on their capital investments. Moreover, the price that emerges from Ramsey's original model describes an optimal outcome. Ramsey set up his analysis to determine the optimal rate of saving—that is, the sacrifice of current consumption at each point in time that will generate the greatest overall well-being for present and future generations.



Discounting the Future: The Ascendency of a Political Technology
by Liliana Doganova. Brooklyn, NY: Zone Books, 2024, 336 pp.

Now, of course, phrases such as "generate the greatest overall well-being for present and future generations" reveal a number of debatable assumptions lurking below the surface. For one, Ramsey assumed a utilitarian objective that not everyone may agree with. Much of the work over the near century since Ramsey's writings has been devoted to considering how robust his results are to alternative assumptions. I am not suggesting that Doganova or anyone else should simply adopt Ramsey discounting on faith. There are stylized models in which the combined welfare of all generations is maximized and in which the discount rate shows the ideal ratio at which to trade present for future income. This most certainly does *not* mean that we should conclude that we live in the best of all possible worlds and discount rates observed in the real world are necessarily "right" in any ethical sense.

It is worth underscoring that I am not claiming that any of this literature contains solutions to all the very real, and still unresolved, dilemmas that discounting raises. Ramsey and more recent writers have adopted the philosophical approach of utilitarianism, and it is fair to ask if people really make the rational decisions that the utilitarian model presupposes. We might also ask whether the present generation should be empowered to act as stewards of the interests of posterity as well as its own, as Ramsey's model assumes. Doganova is also right to note the important, if unsurprising, point that special interests will attempt to twist any method of analysis that comes to be adopted as a "technology of government" to their own purposes. But discounting remains a useful "political technology" for helping decisionmakers think about current actions in relation to an unknowable future.

R. David Simpson *teaches economic development and environmental economics at American University's School of International Service.*