Strategic Latitude

Why does the discount rate choice change everything in climate policy?

Critical insights at the crossroads of economic theory, corporate strategy, and environmental challenges

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Climate change mitigation is fundamentally marked by a profound time imbalance: costs are immediate, borne by present generations, while the benefits unfold decades or even centuries later. Economists rely on a tool referred to as “discounting” in order to compare these present and future values.

The rate chosen for discounting might seem like a technical detail, yet it has the power to transform an ambitious policy into one deemed “too costly”. This article explores how this single parameter dramatically influences environmental decisions — while acknowledging why it is as much an ethical and political question as it is a technical one.

I. Understanding discounting: a parameter with exponential effects

A. Definition and role

Discounting allows policymakers to convert future costs and benefits into present-day values, enabling meaningful comparisons. Its impact is dramatic over long time horizons. For instance, a 3% discount rate makes $1000 in 200 years worth $2.71 today. However, at a 4% discount rate, it plummets to just $0.39. A mere one-point change makes a significant impact, which highlights its exponential effect on the long-term horizon and why it plays a pivotal role in climate policy.

B. Why we discount

There are three main economic reasons explaining why we do not estimate a present value the same way as in the future. The first explanation is that people tend to have a preference for immediate benefits more than delayed ones, as a result of the natural impatience of individuals.

Secondly, income grows over time: future generations will be richer, meaning each dollar brings them less marginal utility. Lastly, value is decreasing because of the investment opportunity: one dollar today can be invested and generate returns over time.

Even though these justifications are central to economics, they become deeply debated when applied to decisions with intergenerational stakes, such as climate change.

C. Implications for the climate

The discount rate has direct implications for climate policy-design. While costs are immediate and borne by present generations (facilities investments, carbon taxes), the future

benefits — avoiding disasters, preserving ecosystems, protecting health — are to occur in the far-future (in 50, 100, 200 years). In this logic, when applied to climate policy, the huge impact seen above of small changes in the discount rate can dramatically change what is conceived as a possible policy and consequently what is supported by future generations. For example, a $20 per ton policy is "profitable" if the Social Cost of Carbon (SCC) is worth $44; however, the very same policy appears inefficient if the SCC drops to $5.

However, the discount rate goes far beyond being a mere technical metric, determining whether action happens at all.

II. Choosing the rate: an economic, ethical and political question

A. Two main approaches

There are two dominant approaches to set the discount rate. The first, known as the descriptive approach uses market data, such as bond yields, to reflect observed behavior. It typically produces higher rates, which therefore leads to slower-paced and gradual policies (or "policy ramps"). This is the approach defended by William Nordhaus, who advocates for incremental emissions abatement with a presumed 4.3% discount rate.

Another approach is the prescriptive one. Ethical principles — especially intergenerational equity — are its underpinnings. It favors low rates (close to zero), which implies ambitious and immediate policies. That is the approach promoted by Nicholas Stern, who suggests a rate near 1.4%.

This debate encapsulates the tension between economic realism and moral responsibility.

B. The ethical stakes

The critical discrepancy between future values inferred from different discount rates — even with a low difference — raises high ethical stakes because it ultimately corresponds to the conceived value of future generations. Thus, undervaluing their benefits equals considering that their well-being is worth less. For Ramsey (1928), this devaluation is ethically indefensible. Beyond intergenerational inequalities, intragenerational ones are also at stake. Indeed, the climatic impacts strike mostly the most vulnerable populations: a lower discount rate reflects greater attention to these inequities and to support policies that protect the most at-risk communities.

C. Dealing with uncertainty

The uncertainty caused by long-term horizons plays an important role in defining a stabilized rate. Over horizons of 100 to 300 years, economic growth and interest rates are deeply uncertain. As a consequence, many economists propose gradually decreasing discount rates over time to address this (Weitzman, Newell & Pizer). For example, if the rate can either be 1% or 7%, the weighted average tends towards the lower rate on the long run, which advocates for more ambitious policies.

III. Practical and political consequences

A. Impact on climate policy

The U.S. example highlights how a difference in advocated discount rates leads to completely different climate policy guidelines. In the United States, the Obama and Biden Administrations used low discount rates, leading to a high SCC that justified strong regulations. Conversely, the Trump Administrations use high discount rates, leading to a very low (or nonexistent) SCC that justifies deregulations. Therefore, the discount rate choice determines how profitable a policy seems.

B. International risk

The international risk when we consider discount rates is that every country chooses a different one, which could result in climate efforts fragmentation and inconsistency. That is why harmonizing methodologies at the international level would help avoid distortions and foster cohesive global climate governance.

Conclusion

The discount rate goes far beyond mere technical parameters: it reflects a critical society choice. Behind it lie key decisions related to our relationship to the future, our perceived responsibility toward future generations and the value we place on the natural world. Advocating for a lower discount rate amounts to advocating for more ambition regarding climate and stronger intergenerational justice.

In the fight against climate change, this seemingly abstract number might be one of the most consequential decisions we make.

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ABOUT

My name is Jean-Francis Mendy. I am a third-year student at Sciences Po Strasbourg, currently on exchange at Georgetown University in Washington, D.C., where I focus primarily on environmental economics. I'm interested in the intersections between economics, the environment, and corporate strategy — particularly through the lens of ecological transition. This blog is a space for personal reflection, where I share analyses, case studies, and critical articles on these key issues.

In a world where companies are increasingly called upon to rethink their models in the face of climate challenges, I felt it was essential to better understand the dynamics at play. This blog allows me to deepen my knowledge, structure my readings, and explore topics I intend to pursue further in both my academic and professional journey.