THE SOCIAL DISCOUNT RATE
A Baseline Approach

Important policy debates such as how to mitigate global climate change and what to do about the growing national debt have long-term, intergenerational consequences. But how much cost should today's society be willing to bear for the welfare of future generations? Government analysts attempt to answer this question using benefit-cost analysis, a critical input of which is the social discount rate (SDR). The SDR is the interest rate used to calculate today's value of the benefits and costs of proposed policies. It allows analysts to compare policy outcomes that span across time in an "apples to apples" manner.

In "The Social Discount Rate: A Baseline Approach," Mercatus Research Fellow James Broughel recommends that policymakers abandon several common approaches to obtaining the SDR. Instead, policymakers should use a modified version of what is known as the weighted average approach to discounting. This method of discounting allows analysts to compare alternative social projects to a baseline scenario, one in which resources are left in private hands instead of being commandeered for public purposes.

PROBLEMS WITH RAMSEY APPROACHES TO DISCOUNTING

Some economists have advocated using the Ramsey equation from economic growth theory to determine the appropriate SDR. The Ramsey approach to discounting holds that optimizing individual agents will discount future consumption flows because the agents are impatient and face diminishing marginal utility as their consumption rises. Although some economists argue that the Ramsey equation is a useful guide for determining the SDR, its use in benefit-cost analysis is problematic.

There are three rationales that make up the Ramsey approach to discounting:

- *Positive time preference*. Individuals would rather consume today than in the future because they are impatient.

- *Diminishing marginal utility of consumption*. Marginal utility declines for individuals as consumption increases. For example, the benefits from eating a second apple are less than the benefits from eating the first apple.

- *Opportunity cost of capital*. Capital can be employed in alternative uses; the next-best alternative use of capital should be considered in social project analysis.

There are problems with using Ramsey approaches to select the appropriate SDR for government benefit-cost analysis:

- Discounting on the basis of time preference violates the benefit-cost presumption that benefits and costs are valued according to how the individuals *receiving* those benefits and costs value them. It forces analysts to value benefits and costs in terms of how present members of society value them rather than how individuals in the future (who will receive much of the benefits and bear much of the costs) will value them.

- Although economists agree that there is generally diminishing marginal utility for each individual, analysts cannot compare utility rankings across multiple individuals. One person's benefits from eating a second apple may be greater than another person's from eating the first apple.

- Problems arise when aggregating individual Ramsey discount rate functions into a social discount rate function that would serve as a basis for an SDR.

- Using the opportunity cost of capital would be better described as a *method of obtaining* an SDR than as a *rationale* for discounting. The SDR is not necessarily comparing projects to their *next-best* alternative use—i.e., their opportunity cost—but rather to an implicit alternative investment that is displaced when social projects are embarked upon.

AN ALTERNATIVE SDR APPROACH BASED ON THE TIME VALUE OF MONEY

In financial investment analysis, a core reason for discounting future cash flows is the time value of money (TVM), which says that money earned sooner is preferable to money earned later. A promise of $1 in 10 years is not as valuable as receiving $1 today because a person can invest $1 in a risk-free asset and end up with more than $1 in 10 years. Similar logic can be used as a basis for discounting in benefit-cost analysis, except that the relevant "investment" is not a risk-free asset, but instead is leaving resources under private control. A discounting rule that applies this logic is known as the weighted average rule because it accounts for the sources of funding of social projects.

There are several benefits to a weighted average rule that make it superior to Ramsey approaches to discounting:

- The weighted average approach eliminates the need to make utility comparisons across individuals. Such comparisons are inherent in Ramsey approaches to discounting.

- The weighted average approach avoids the aggregation issues that arise in Ramsey approaches to discounting.

- The time-preference component of the weighted average rule can be calibrated to zero, thereby putting present consumption and future consumption on more equal footing than Ramsey approaches allow.

- The weighted average approach emphasizes the importance of economic growth because producer profits are preferred sooner rather than later, thereby emphasizing the ability of lost profits to compound over time.

CONCLUSION

Following a weighted average rule implies that an SDR of about 7 percent is appropriate for use in government benefit-cost analysis. This is consistent with current Office of Management and Budget (OMB) guidelines, which recommend a 7 percent "base case" SDR. However, the OMB should better enforce this rate since regulatory agencies are beginning to use alternative rates, in particular for projects with long-term, intergenerational consequences.

The OMB should also update discounting guidelines to steer agencies away from discounting approaches grounded in the Ramsey equation, and agencies should forgo using techniques that follow from Ramsey equation conclusions, such as the use of discount rates that decline as benefits and costs extend into the future. Instead, the OMB should recommend a weighted average approach to discounting that is grounded in the logic of the time value of money.