The Discount Rate for Benefit-Cost Analysis in the United States

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Conference on the Discount Rate in the Selection of Public Investment Projects

Paris, France

Society for Benefit-Cost Analysis (SBCA)

- **Founded**: 2007

- **Mission**: Improve the theory and practice of benefit-cost analysis and support evidence-based policy decisions

- **Members:** Scholars and practitioners from around the world, from government, academia, nonprofits, and private industry

- **Annual conference** with over 300 attendees

- Publish *Journal of Benefit-Cost Analysis (JBCA)* since 2010

Annual SBCA conference includes presentations on discount rate

- *Looking Back at Social Discount Rates: The Influence of Papers, Presentations, Political Preconditions and Personalities on Policy*; Ben Groom, London School of Economics (2017)

- *Hurdle Rates, Declining Discount Rates, and Uncertain Opportunity Cost*; Daniel Wilmoth, U.S. Small Business Administration (2017)

- *Hyperbolic Discounting in Benefit-Cost Analysis*, Charles Moss, University of Florida; Troy Schmitz, Arizona State University; Dwayne Haynes & Andrew Schmitz, University of Florida (2016)

- *Mazur Discounting and the Private Benefits Paradox,* Brian Mannix, GW Regulatory Studies Center (2016)

- *The Social Discount Rate in Developing Countries*, Missaka Warusawitharana, Federal Reserve Board (2015)

SBCA conference provides a forum for debate and discussion on varied topics

- Discount rates for BCA in various sectors

- Value of a statistical life for use in BCA

- Addressing uncertainty in BCA

- Shadow prices for application to BCA

- International comparisons of BCA

- Application of BCA in:

    o Civil and criminal justice

    o Education and training

    o Energy

    o Environment

    o Finance and financial markets

    o Food and agriculture

    o Health and health care

    o International trade and development

    o Safety and security

    o Social welfare programs

    o Transportation and infrastructure

    o Workforce and workplace

Influential articles in the *JBCA* on the discount rate and related issues

- *Musings on the social discount rate* | Harberger & Zerbe | Vol. 6 | No. 1 | 2015

- *More appropriate discounting: The rate of social time preference and the value of the social discount rate* | Moore, Boardman & Vining | Vol. 4 | No. 1 | 2013

- *Characterizing the amount and speed of discounting procedures* | Jamison & Jamison | Vol. 2 | No. 2 | 2011

- *Appropriate discounting for BCA* | Burgess & Zerbe | Vol. 2 | No. 2 | 2011

- *Behavioral economics and the conduct of benefit-cost analysis: Towards principles and standards* | Robinson and Hammitt | Vol. 2 | No. 2 | 2011

U.S. context for BCA (or CBA)

- Broad application of BCA across policy areas in public sector
  - Long-standing federal government use for regulatory policy, infrastructure decisions, and social program investments
  - State and local governments adding capacity for similar applications

- Growing use in private sector
  - Program providers seeking impact and economic evaluation
  - Private funders want ROI estimates
  - Basis for pay-for-performance contracts (e.g., social impact bonds)

Illustrative range of guidance documents

- Circular A-4 of the Office of Management and Budget (1992, 2003)

- National Academies of Sciences, Engineering, and Medicine Committee on the Use of Economic Evidence to Inform Investments in Children, Youth, and Families (2016)

- Second Panel on Cost-Effectiveness in Health and Medicine (2016)
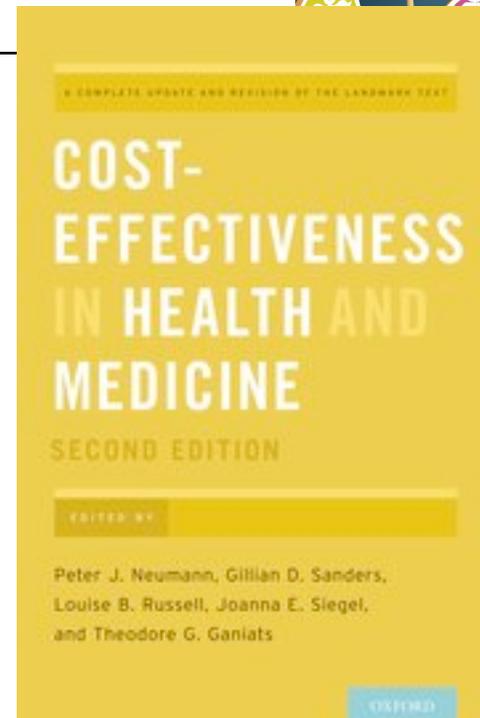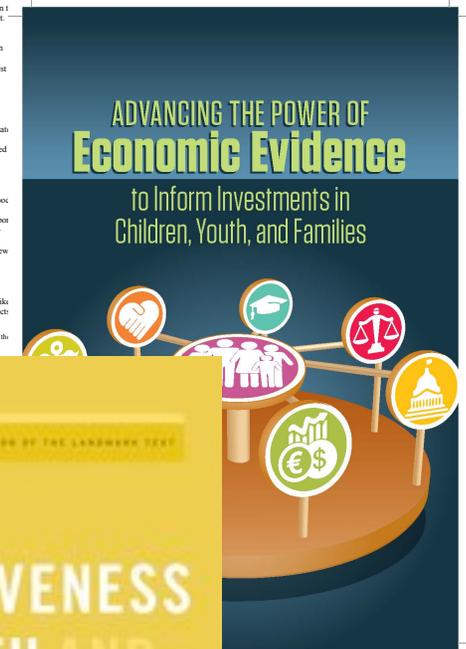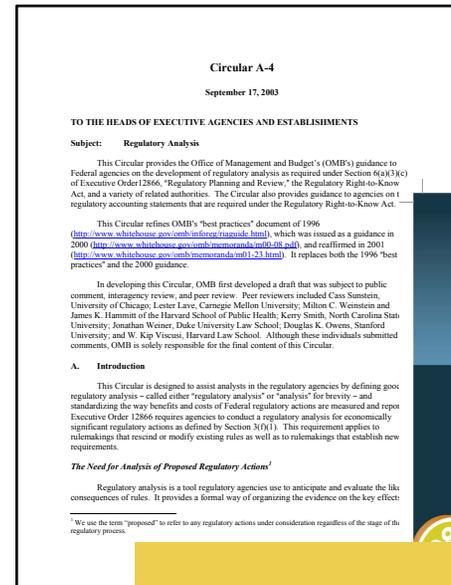
Guidance documents recommend varied range of discount rates

Source	Recommended Real Rate	Sensitivity Analyses	Rationale
OMB (2003)	3%	Yes	Real rate of return on long-term government debt
	7%		Average before-tax rate of return to private capital in the U.S. economy
National Academies (2016)	3%	Yes	Consensus value for reference case social discount rate
Second CEA Panel (2016)	3%	Yes	Real consumption rate of interest

Other illustrations of discount rates used in practice

Source	Recommended Real Rate	Sensitivity Analyses	Rationale
Congressional Budget Office (1990)	2%	± 2%	Real yield of treasury debt (equated to social rate of time preference)
General Accountability Office (1991)	Real yield on treasury debt of same maturity as project	Yes	Real yield of treasury debt (equated to social rate of time preference)
Washington State Institute of Public Policy (2016)	3.5%	Monte Carlo simulation [2% to 5%]	Real social discount rate estimated by Moore et al., *Journal of Policy Analysis and Management,* 2004

Evolving consensus

- Use a reference case discount rate (e.g., 2% to 7%)

- Examine sensitivity to alternative discount rates
  - Discrete changes
  - Monte Carlo simulation

- When policy involves multiple generations, allow for lower discount rate

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