

Review of Environmental Economics and Policy

Editor: Spencer Banzhaf

Published for the Association of Environmental and Resource Economists and the European Association of Environmental and Resource Economists



Volume 18, Number 2
Summer 2024



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EDITORIAL



Editor's Introduction

H. Spencer Banzhaf

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ARTICLES



Revisiting EPA's Value per Statistical Life

Maureen Cropper, Emily Joiner, and Alan Krupnick

pp. 193–211

Abstract ▼



The US Environmental Protection Agency (EPA) bases its estimate of the value of statistical life (VSL) on 17 hedonic wage studies and five contingent valuation studies conducted between 1974 and 1991. We summarize advances in the mortality risk valuation literature since these papers were published, focusing on studies conducted in the United States that value risks to adults. We review hedonic wage, other revealed preference, and stated preference studies, identifying papers that satisfy appropriate validity criteria. We conclude that the recent literature is sufficiently rich to permit a revision of EPA's baseline estimate. Importantly, VSL estimates from both the averting behavior and stated preference studies we review reflect the preferences of a wider range of demographic groups than the current VSL, and newer studies better target causes of death relevant to EPA regulations.



The Evolving Role of Greenhouse Gas Emission Offsets in Combating Climate Change

Joseph E. Aldy and Zachery M. Halem

pp. 212–233

Abstract ▼



Governments, firms, and universities adopting ambitious greenhouse gas emission goals—including net-zero emission targets—stimulate demand for emission offsets. Suppliers of emission offsets undertake projects that reduce or remove emissions relative to what they would have been otherwise. However, there are concerns about permanence, double-counting, whether an offset will actually reduce emissions relative to the status quo, and whether the emissions will simply shift somewhere else. We review the roles of offsets in regulatory compliance, as incentives for early action, and when implementing voluntary emission goals. The rules and institutions governing offsets result in large variations in the prices of offsets and in the types of projects. Entities in one region may not know about the prices and environmental integrity of offset project activities in other places. An array of financial and technological innovations could enhance offsets' environmental integrity and promote liquidity in offset markets. Unresolved questions about the future of policy will influence the evolution of voluntary markets for emission offsets.



The Roles of Environmental Groups in Economics

Laura Grant and Christian Langpap

pp. 234–256

Abstract ▼



Environmental groups play independent and pivotal functions in economic outcomes. Total revenues of US groups have matched or exceeded the EPA's budget for all but one year since 2007 and outpaced its growth by more than 1 percent per year. We review the relevant literature, classifying it into four key roles: (1) provision of information, (2) public politics, (3) private politics, and (4) provision of environmental public goods. The groups provide information about products and environmental impacts, which influences consumer, government, and industry decisions. Environmental groups' monitoring and enforcement affect regulatory decisions and compliance outcomes, with evidence that they both encourage and displace government actions. Groups directly engage firms through boycotts, protests, and other forms of social pressure. Finally, environmental groups conserve land, improve water quality, and provide environmental public goods. However, the environmental economics literature is lagging on understanding their role. We conclude with several avenues to spur further research.

SYMPOSIUM



We're Not out of the Woods Yet: A Symposium on Lead and Children's Health

Linda TM Bui and Ron Shadbegian

pp. 257–260

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How Effective Are Secondary Interventions at Improving Health Outcomes in Children Exposed to Lead in Early Childhood?

Linda TM Bui, Ron Shadbegian, Heather Klemick, Dennis Guignet, Rebecca Margolit, and Anh Hoang

pp. 261–278

Abstract ▼



Preventing childhood lead exposure has been at the forefront of environmental and public health policy in the United States for decades. When prevention fails and children are exposed to lead, secondary interventions are often used to mitigate the adverse effects. We review the literature on the effectiveness of secondary interventions used to treat children with elevated blood lead levels (BLLs). We find that the literature is dominated by null and inconclusive findings about the effectiveness of secondary interventions on children's BLLs. Furthermore, few studies examine the effects of these interventions on the cognitive, behavioral, and other health outcomes that are the hallmarks of children's lead exposure and result in long-term labor market and economic consequences. This means that surprisingly little is known about whether secondary interventions mitigate or reverse the damage to children exposed to lead.



Using Geospatial Methods in Childhood Lead Poisoning Prevention Programs

Rashida Callender, Joshua Tootoo, and Marie Lynn Miranda

pp. 279–300

Abstract ▼



In this paper, we explore how the construction and analysis of geographically referenced data can improve outcomes for children at risk of lead exposure. We discuss the history of how children were identified for lead testing and lead intervention (both medical and housing) over time, as well as the shortcomings of the United States' current approach. We then suggest ways that geospatial approaches can improve lead testing and intervention programs, especially in settings with limited information or financial resources.



The Impact of Lead Exposure on Fertility, Infant Mortality, and Infant Birth Outcomes

Karen Clay, Alex Hollingsworth, and Edson Severnini

pp. 301–320

Abstract ▼



This article reviews the quasi-experimental literature on lead and fertility, lead and infant mortality, and lead and infant birth outcomes. It then discusses the relevance of these studies for policy. In contrast to the large amount of literature on children's blood lead levels and health and development outcomes, there are fewer studies on lead and fertility, lead and infant mortality, and lead and infant health, despite their social and economic importance. Although removal of lead in gasoline generated enormous public health benefits, lead exposure remains significant in both developed and developing countries. Thus, causal estimates from quasi-experimental studies of the relationships between lead and fertility, lead and infant mortality, and lead and infant health are critical for policy. Specifically, they can be used to generate estimates of benefits used in regulatory benefit-cost analyses.

FEATURE



A New Era of Economic Measurement for the Environment and Natural Capital

Eli P. Fenichel

pp. 321–330

Abstract ▼



In January 2023, the US federal government finalized a national strategy to develop natural capital accounts and associated environmental-economic statistics. Implementing natural capital accounts and environmental-economic statistics is the logical next step in the evolution of national economic statistics and is possible because of new technology, methods, and political will. Natural capital accounts and environmental-economic statistics will require engagement by the research community, because there is still substantial work to do. They will also open new avenues for research. Here, I provide a brief description of the US national strategy to develop natural capital

accounts and associated environmental economic statistics, offer the context for this national strategy, discuss some potential uses, and identify potential areas where new research is likely needed.

METHODS AND DATA



Visualizing Causal Hypotheses in Environmental Econometrics

Pierce Donovan

pp. 331–342

Abstract ▾

Environmental economists have gravitated toward writing empirical papers with an emphasis on causal inference. Despite this development, there has not been much progress in adopting an explicit framework for communicating causal hypotheses based on prior beliefs about the structure of a data-generating process. This shortfall reduces the transparency and accessibility of the assumptions underlying effect identification and limits the feasibility of causal hypotheses testing. This article explains why an explicit framework is worthwhile and demonstrates how directed acyclic graphs can augment and standardize the communication of causal knowledge.



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Antoine Dechezleprêtre and Misato Sato

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Bethanie Carney Almroth and Håkan Eggert

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Richard Schmalensee and Robert N. Stavins

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ISSN: 1750-6816

E-ISSN: 1750-6824

2023 JCR Impact Factor*: 7.8

Ranked #12 out of 597 “Economics”

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2023 CiteScore*: 10.8

Ranked #43 out of 716 “Economics and Econometrics” journals

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