

MIT Economics

KARL M. ASPELUND

OFFICE CONTACT INFORMATION

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DOCTORAL STUDIES

Massachusetts Institute of Technology (MIT)
Ph.D. in Economics. Expected completion June 2025

COMMITTEE AND REFERENCES

Professor Benjamin Olken
MIT Economics
77 Mass. Ave, E52-542
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Professor Catherine D. Wolfram
MIT Sloan School of Management
100 Main St., E62-514
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PRIOR EDUCATION

Harvard University
Bachelor of Arts in Environmental Science and Public Policy,
magna cum laude with highest honors

2017

CITIZENSHIP

United States of America, Iceland

LANGUAGES

English (native), Icelandic (native)

CODING

Julia, Python, Stata, R, ArcGIS. Beginner in SQL.

FIELDS

Major fields: Environmental Economics, Industrial Organization
Minor fields: Public Economics

TEACHING EXPERIENCE

Microeconomic Theory and Public Policy (14.03),
Teaching Assistant to Prof. Tobias Salz. Rating 6.8/7.

2023

RELEVANT PRIOR POSITIONS

Research Associate to Profs. Simon Jäger and Benjamin Schoefer,
MIT

2018-2019

Pre-Doctoral Fellow,
Education Innovation Laboratory at Harvard University

2017-2018

Research Intern,
Resources for the Future (for Carolyn Kousky)

2016

Research Intern,
OECD Nuclear Energy Agency

2015

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FELLOWSHIPS, HONORS, AND AWARDS	MIT Graduate Conference Travel Grant	2023
	US NOAA-Sea Grant Fellowship	2022-2025
	George and Obie Shultz Fund (3x)	2020-2023
	Graduate Fellow, Minda de Gunzburg Center for European Studies at Harvard University	2020-2025
	National Science Foundation Graduate Research Fellowship	2019-2024
	Enel Endowment Prize, Best Undergraduate Thesis in Environmental Economics	2017
	Environmental Science & Public Policy Undergraduate Thesis Prize	2017
	Phi Beta Kappa	2016
PROFESSIONAL ACTIVITIES	Refereeing: <i>American Economic Review: Insights</i>	
	Presentations:	
	Occasional Workshop in Environmental and Resource Economics (2024)	
	University of California, Davis (2024)	
	NMFS Social Science Symposium (2024)	
	NMFS-Sea Grant Fellows Research Symposium (2023, 2024)	
	North American Association of Fisheries Economists Forum (2023)	
	Academic Workshop for Icelandic Economists Abroad (2023)	
	Other Activities:	
	Invited participant, NBER Summer Institute, IO and EEE (2024)	
MIT Application Mentorship Program (2020-2023)		
Berkeley-Sloan Summer School in Environmental & Energy Economics (2020)		
	Service:	
	Mentor, MIT application mentorship program (2020-2023)	
	Organizer, IO lunch (2021-2023), MIT structural reading group (2022-2023), MIT environmental tea (2022-2023)	
RESEARCH PAPERS	“Redistribution in Environmental Permit Markets: Transfers and Efficiency Costs with Trade Restrictions” (Job Market Paper)	
	Regulators often impose trade restrictions in environmental permit markets to redistribute value to groups that do not directly benefit from permit trade, such as labor in regulated firms, at the expense of lowering gains from trade. I evaluate the efficiency and distributional impacts of two common trade restrictions in Iceland’s fisheries permit market: segmented trading by firm size and individual production requirements. Using detailed harvest and permit trading data linked to administrative records on worker employment and earnings, I conduct a difference-in-differences analysis showing that permit trade increases the harvest share of productive boats by 15 percentage points, shifts income from lower- to higher-income workers, and reduces aggregate labor intensity by 12%. I further demonstrate that the trade restrictions, designed to counteract these labor impacts, are binding and lower productivity. To quantify the distinct trade-offs from each restriction, I develop a model of fishery production and permit trading to simulate profits, labor demand, and	

worker earnings in equilibria without the restrictions. Per dollar of foregone profit, segmentation increases labor demand 20 times more than the production requirement, while the production requirement redistributes 14% more income to low-income workers than segmentation. Implementing both restrictions outperforms the production requirement alone and is preferable to segmentation alone if regulators aim to balance job creation with a compressed income distribution.

“Additionality and Asymmetric Information in Environmental Markets: Evidence from Conservation Auctions”

(with Anna Russo)

Market mechanisms aim to deliver environmental services at low cost. However, this objective is undermined by participants whose conservation actions are not marginal to the incentive — or “additional” — as the lowest cost providers of environmental services may not be the highest social value. We investigate this potential market failure in the world’s largest auction mechanism for ecosystem services, the Conservation Reserve Program, with a dataset linking bids in the program’s scoring auction to satellite-derived land use. We use a regression discontinuity design to show that three of four marginal winners of the auction are not additional. Moreover, we find that the heterogeneity in counterfactual land use introduces adverse selection in the market. We then develop and estimate a joint model of multi-dimensional bidding and land use to quantify the implications of this market failure for the performance of environmental procurement mechanisms and competitive offset markets. We design alternative auctions with scoring rules that incorporate the expected impact of the auction on bidders’ land use. These auctions increase efficiency by using bids and observed characteristics to select participants based on both costs and expected additionality.

RESEARCH IN PROGRESS

“Spatially Managing the Commons”

(with Aaron Berman)

The closure of specific areas to economic activity is a common approach to preventing excessive depletion of renewable natural resources. However, displacement—or “leakage”—of extractive activity to unregulated areas can undermine the effectiveness of such policies by increasing depletion elsewhere. We outline a framework that decomposes the net value of spatial closures into the static costs of congestion and foregone harvests today, the dynamic benefits of resource regrowth in the closed area, and the dynamic costs of increased depletion in unregulated areas. We apply this framework to the spatial regulation of the US Northeast scallop fishery, one of the most valuable fisheries in the country, where regulators have implemented area closures over the last two decades. Using geospatial data on vessel-level harvesting decisions and scallop population estimates, we first document the displacement of activity across space and congestion effects from vessels concentrating in open areas. Next, we estimate profits under observed and counterfactual policies to quantify how closures improve aggregate value and how displacement undermines that improvement. Finally, we test whether “access areas” that allow limited harvesting in closed regions mitigate the negative impacts of displacement and explore how the displacement effects differ under landing fees rather than effort restrictions.

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OTHER

With Michael C. Droste, James H. Stock, and Christopher D. Walker. 2020.

RESEARCH

“Identification and Estimation of Undetected COVID-19 Cases Using Testing Data from Iceland.” NBER Working Paper No. 2752.

With Jan-Horst Keppler. 2018. Chapters 5 and 8. In *Full Costs of Electricity Provision*. OECD: Paris, France.