

FROM THE PRESIDENT...

It is my pleasure to share with you all of the great things happening at AERE!

WCERE Istanbul

I hope you all had as great a time at the WCERE and in Istanbul as I did. Attendance exceeded that of even the Montreal WCERE! Thanks again to the local organizing and program committees (particularly our own Mark Cohen) for all their hard work. Particular thanks go to Ozgur Kayalica (Istanbul Technical University), chair of the Local Organizing Committee, who was on the job 24/7 and organized a fabulous night of dinner and dancing.

The Board meeting covered some important topics as well. Probably the most far-reaching is that we agreed, along with EAERE, to bring the East Asian Association of Environmental and Resource Economists (EAAERE)—to share sponsorship of the 6th World Congress scheduled for 2018. The other highlight was the report from the University of Chicago Press and Dan Phaneuf, its Editor, on the current success and future plans for *JAERE*. (See the update under AERE News.)

At the meeting we also decided to distribute a free print copy of *JAERE*'s first issue – we hope you all enjoyed that! – and gave thanks to Charlie Kolstad who stepped is stepping down after years at the helm as *REEP*'s Editor. We also announced that Carlo Carraro (University of Venice) will take over for Charlie – a move to not only keep *REEP* in excellent hands, but one that will further internationalize it. Thanks to Carlo for being willing to step into this important position.

AERE Summer Conferences

We are already looking forward to the upcoming AERE conference on June 3 – 5, 2015 in San Diego at the U.S. Grant Hotel in the exciting Gas Lamp district. I'm very grateful to the organizing committee, co-chaired by Andrew Plantinga (University of California, Santa Barbara) and Mary Evans (Claremont McKenna College), with support from Susan Capalbo (Oregon State University) and Junjie Zhang (UC, San Diego) along with the ex-officio members: Marilyn Voigt (AERE Executive Director), Norman Meade (National Oceanic and Atmospheric Administration) and Marca.

TABLE OF CONTENTS

From the President	1
AERE News	
Board of Directors Meeting	3
Business Meeting and Luncheon	3
Election	3
<i>JAERE</i> Update	3
Membership Options	4
Nominations for AERE Fellows 2014	5
Nominations for PEQ 2014	6
<i>REEP</i> Update.....	6
2014 Institutional/University Members	7
Calls for Papers	
AERE 4 th Annual Summer Conference	8
<i>AERE Newsletter</i>	8
AAEA AERE Sessions 2015.....	8
ASSA AERE Sessions 2016	10
EAAERE 2015	11
EAERE 2017	11
Environmental Protection and Sustainability Forum	11
Our Common Future Under Climate Change.....	11
SEA AERE Sessions 2015	11
WEAI 2015.....	12
Conferences, Meetings, and Workshops	
ASSA AERE Sessions 2015	13
Economics of Low Carbon Markets	16
EAERE 2015 and 2016.....	16
Green Growth Knowledge Platform	16
MEA AERE Sessions 2015	17
Society for Cost-Benefit Analysis	19
SEA AERE Sessions 2014.....	19
Essays	
<i>A Tale of Apples and Oranges (and Footnotes):Comments on Grosse's Review of the IQ-Earnings Literature</i> David S. Salkever	23
<i>Response to Salkever: More Information Needed to Estimate the Effect of Childhood IQ on Adult Earnings</i> Scott D. Grosse..	29
Bulletin Board	35
Pace Survey	
Master's Program at U Wisconsin-Madison	
RFF Invitation to Reception at ASSA	
Job Postings	37

Weinberg (USDA Economic Research Service) and the generous support of these two agencies

AERE 2013 Awards

Another highlight of the Istanbul meeting was that AERE inducted **Joseph Herriges** and **Jay Shogren** as AERE 2013 Fellows. (Note: the deadline to submit nominations for 2014 AERE Fellows is December 1st.) Also, these 2013 awards were announced: Publication of Enduring Quality award went to **Lans Bovenberg, Ruud de Mooij, and Larry Goulder** for “Environmental Levies and Distortionary Taxation” (Bovenberg and De Mooij) *American Economic Review*, Volume 84, Issue 4, 1994; and “Optimal Environmental Taxation in the Presence of Other Taxes: General Equilibrium Analyses,” (Bovenberg and Goulder) *American Economic Review*, Volume 86, Issue 4, 1996 and The Ralph C. d’Arge and Allen Kneese Award for Outstanding Publication in the *Journal of Environmental Economics and Management* went to **Trudy Ann Cameron** and **J.R. DeShazo** for “Demand for Health Risk Reductions,” Volume 65, Issue 1, 2013.

AERE Election

All 2014 AERE members are eligible to vote in this year’s election for two new members of the Board of Directors. The ballot information will be sent via email from info@aere.org in mid-November. We appreciate the work of AERE Vice President Richard Newell (Duke University), Cathy Kling (Iowa State University), and Catherine Wolfram (University of California, Berkeley) who put together an excellent slate of candidates. Please remember to cast your vote **by December 1st**.

AERE Sessions at National and Regional Meetings

Once again, thanks to the generous volunteer efforts of various AERE members, we have the opportunity to present papers at a number of upcoming meetings. Coming soon: the Program Committee with Chair Josh Graff Zivin (University of California, San Diego), Meredith Fowlie (University of California, Berkeley) and Katrina Jessoe, (University of California, Davis) finalized the AERE sessions at the **Allied Social Science Associations** (ASSA) meeting in Boston, Massachusetts

in January. As usual, there will be an **AERE Business Meeting and Luncheon** on January 4th so I hope that all AERE members in Boston will plan to be there. I’m very pleased to announce that Maureen Cropper (University of Maryland, College Park) will be giving the annual **AERE Fellow’s Talk** at this luncheon. The deadline for reservations is December 19th (5:00 p.m. EST). And, if you are at the ASSA, please see the invitation from Resources for the Future on page 37 for a reception they are holding for friends of RFF on Sunday evening at the Sheraton Boston Hotel.

John Whitehead (Appalachian State University) has once again organized a number of outstanding sessions for the annual meeting of the **Southern Economic Association** in November in Atlanta, Georgia. We really appreciate his long-term service to make this happen. Looking ahead, see the Call for Papers for AERE sessions at SEA in 2015. Lea-Rachel Kosnik (University of Missouri, St. Louis), has again organized AERE sessions at next year’s **Midwest Economic Association (MEA)** annual meeting in Minneapolis, Minnesota in March 2015. The sessions at last year’s MEA meeting in Evanston, Illinois (the first for AERE) were a hit--great papers, great discussants, excellent attendance. We are all so glad to see this new option off to such a terrific start. If anyone is interested in organizing some sessions at the **Eastern Economic Association** conference, please let me know--these regional meetings are certainly valuable.

Finally, I have been privileged to serve as your President through the creation of *JAERE* and a *WCERE*, worked with a great Board of Directors (and, of course, Marilyn!) and got to meet many AERE members. It’s been a great ride. I leave the presidency in Vic Adamowicz’s way more than capable hands and will continue to serve AERE on the Board for another year. Thanks for giving me this opportunity.

Alan

Dr. Alan J. Krupnick
AERE President
Resources for the Future
krupnick@rff.org
Office phone: 202-328-5107

AERE NEWS

AERE BOARD OF DIRECTORS MEETING

The AERE Board Meeting will be held on **Saturday, January 3, 2015, from 5:30 – 8:30 p.m.** at the Sheraton Boston—Jamaica Pond. Anyone with matters to be brought before the Board should contact the president-elect:

Vic Adamowicz
University of Alberta
vic.adamowicz@ualberta.ca
Phone: 780-492-4603

AERE BUSINESS MEETING AND LUNCHEON

The AERE Luncheon and Business Meeting with AERE Fellow Talk by **Dr. Maureen L. Cropper**, University of Maryland, College Park, will be held on **Sunday, January 4, 2015, from 12:15 – 2:15 p.m.**, at the Sheraton Boston — Back Bay Ballroom A. Please note a cash bar reception runs from 12:15 to 12:45 followed by lunch service at 12:45 p.m.

Luncheon reservations can be made online [here](#). The deadline to guarantee your place at this popular event is **Friday, December 19, 2014, 5:00 p.m. EST**. Please direct questions to: info@aere.org.

AERE ELECTION

All 2014 AERE members are eligible to vote in this year's election for two new members of the Board of Directors. The ballot information will be sent via email from info@aere.org on Monday, November 17, along with the biographical sketches submitted by each candidate. AERE Vice President Richard Newell, Cathy Kling, and Catherine Wolfram have put together an excellent slate of candidates. Please remember to cast your vote **by December 1st, 11:59 p.m. PST**. Questions regarding the on-line election process should be directed to: info@aere.org.

JAERE Update

JAERE is off to a great start. Three issues of the journal are now available online: the first (double) issue, and the recently posted issue 3. You can browse these by visiting the UCP website (click [here](#)) and navigating to the read online area. Please help publicize this content by referring individual papers to colleagues who you think may be interested in them.

In terms of new content, from January 2014, we have received nearly 150 submissions. For comparison, in recent years *JEEM* has been at 400+ annual submissions, though this includes a large number of lower quality papers that *JAERE* is not currently getting. Thus I am reasonably satisfied with the number of submissions to date, though a bit concerned that the submission rate may have fallen off in the last two months.

JAERE's review times have been quite good by the standards of the profession, with rejections after review taking on average 74 days, and revise and resubmit decisions taking 81 days. This is nonetheless a bit longer than the two months to first decision we are aiming for. I am hoping we can improve on this as the journal's organizational structures mature.

In terms of decision types, nearly 25 percent of submissions have received revision invitations, with the remainder split between reject after reviewing and desk rejects. The R&R rate is higher than the long term steady state will be, but appropriate for the moment, as the quality of the median submission has remained high. The desk reject rate is 33 percent, which I believe is a good steady state given our time to decision goals. It does mean, however, that many good papers are not reviewed. We are trying to provide careful explanations in our decision letters on papers that are not reviewed, and my sense is that authors appreciate the faster turnaround, when success is thought unlikely by the handling editor.

I think we have had a very good start and *AERE* members' enthusiastic willingness to submit, review, and edit papers is the major explanation for this. We will need to sustain these efforts in the future for *JAERE* to reach its full potential, and I look forward to working with you on this goal. Please feel free to contact me if you have questions or suggestions.

Daniel J. Phaneuf, Professor
University of Wisconsin-Madison
dphaneuf@wisc.edu

AERE MEMBERSHIP OPTIONS

AERE membership rates for 2015 remain the same. Membership renewal will open mid-November. Discounted rates are available for students, members of EAERE, as well as individual residents of low, lower-middle, and upper-middle income countries in accordance with the definition provided by the World Bank. Membership will include a free electronic subscription to the *Journal of the Association of Environmental and Resource Economists (JAERE)*.

AERE also invites colleges, universities, and university research centers to become University Members of AERE and research institutions, nonprofit organizations, government agencies, and corporations to become Institutional Members of AERE. These memberships include special benefits.

To become a **University Member** of AERE, a contribution of \$350* is required. With this contribution, colleges and universities:

- may designate one person (or up to four students) to receive a 2015 individual membership in AERE. Benefits include electronic subscriptions to the *Review of Environmental Economics and Policy (REEP)* and AERE's new journal, the *Journal of the Association of Environmental and Resource Economists (JAERE)*. Please see the complete listing of membership benefits on the AERE web page;
- are entitled to a sponsorship listing on the AERE Web page (www.AERE.org) and in the *AERE Newsletter* and *JAERE*;
- will receive one free advertisement on the AERE Web page and in the *AERE Newsletter* for the calendar year (a savings of \$250).

To become an **Institutional Member** of AERE, a contribution of \$1,000* is required. With this contribution, 2015 membership institutions receive the above benefits plus:

- two nontransferable tickets for institution staff to the annual AERE Business Meeting and Luncheon at the ASSA meeting in San Francisco, CA in January 2016;
- one nontransferable registration for the 2015 AERE Summer Conference in San Diego;
- recognition at the annual AERE Business Meeting and Luncheon at the ASSA meeting.

*Note: A discounted rate of \$100 for University and Institutional membership with some benefits (see the AERE web page under "Membership") is available for organizations located in low, lower-middle, and upper-middle income countries in accordance with the definition provided by the World Bank.

AERE Newsletter

Co-Editors

John Loomis

Colorado State University
Dept. of Agricultural and Resource Economics
jloomis@lamar.colostate.edu

Marilyn M. Voigt

AERE Executive Director
voigt@rff.org

Assistant Editor

Kathleen Meaney Stobie
kmstobie@verizon.net

Publisher

Association of Environmental and Resource Economists
1616 P Street NW, Suite 600
Washington, DC 20036
202-328-5125

AERE MEMBERSHIP SERVICES

Please direct any questions or requests regarding your membership, subscriptions to *REEP*, luncheon or AERE Conference registrations, receipts, or related membership matters to:

AERE Membership Services
Future Field Solutions
13006 Peaceful Terrace
Silver Spring, MD 20904
info@aere.org
Telephone: 202-559-8998
Fax: 202-559-8998

Marilyn M. Voigt, AERE Executive Director, can be reached at:

AERE
1616 P Street NW, Suite 600
Washington, DC 20036-1400
voigt@rff.org
Telephone: 202-328-5125

**CALL FOR NOMINATIONS
AERE FELLOWS 2014**

This program recognizes outstanding contributions to the field by members of the association. The 2014 AERE Fellows will be announced at the AERE Summer Conference in San Diego, California in June 2015.

Criteria: Awardees will have demonstrated a significant contribution to the advancement of the profession of environmental and resource economics. A candidate must be living at the time of nomination; membership in AERE is not required.

Nomination Process: Any member of AERE may nominate a candidate for Fellow. A nomination packet should include a vita of the nominee, a two-page nomination letter outlining what contributions the individual has made that warrant the award, and at least one additional letter of support from a second individual.

In addition, members of the AERE Board of Directors may consider candidates that have not been otherwise nominated that they feel are especially worthy.

Selection Process: Nomination packages are to be submitted by **December 1, 2014**, to:

Dr. Alan J. Krupnick
AERE President
Resources for the Future
1616 P Street NW
Washington, DC 20036
Krupnick@rff.org
Office phone: 202-328-5107

The president will distribute copies to each of the Board members who will select newly appointed Fellows from the set of nominations. Newly elected Fellows will be notified in advance to provide ample time to make travel arrangements to attend the Awards Program. In future years, a separate Fellows Committee may be impaneled to aid in the initial screening of candidates.

Maximum Number of Awards: Three for 2014

Inaugural AERE Fellows 2005

Maureen L. Cropper
W. Michael Hanemann
Karl-Göran Mäler
Wallace E. Oates
V. Kerry Smith
Tom Tietenberg

AERE Fellows 2006

Richard C. Bishop
Nancy E. Bockstael
Ronald G. Cummings
Anthony (Tony) C. Fisher
Geoffrey M. Heal
Clifford S. (Cliff) Russell

AERE Fellows 2007

Daniel W. Bromley
Gardner M. Brown, Jr.
Charles W. (Chuck) Howe
Kenneth E. (Ted) McConnell
Kathleen Segerson
David Zilberman

AERE Fellows 2008

Thomas Crocker
A. Myrick Freeman III
Alan Randall

AERE Fellows 2009

Richard T. Carson
Charles D. Kolstad
Robert N. Stavins

AERE Fellows 2010

Alan J. Krupnick
Stephen Polasky
Martin L. Weitzman

AERE Fellows 2011

Trudy Ann Cameron
William D. Nordhaus
James Wilen

AERE Fellows 2012

Lawrence H. Goulder
John B. Loomis
Robert Pindyck

AERE Fellows 2013

Joseph A. Herriges
Jason Shogren

**CALL FOR NOMINATIONS
AERE PUBLICATION OF
ENDURING QUALITY AWARD 2014**

The AERE Board of Directors will present the annual award (to co-authors if appropriate) for a publication of enduring quality that appeared at least five years prior to the year of the award. Nominated works are to be evaluated on their seminal nature and enduring value. Place and type of publication are unrestricted but posthumous awards will not be given. Nominees may include individuals who are not members of AERE.

Evaluation of nominated works and final selection for the 2014 award will be undertaken by a committee chaired by Klaas van 't Veld (University of Wyoming). Nomination packages should consist of four copies each of a cover letter, a document supporting the nomination, and the publication itself. The supporting document (not to exceed three pages) should include quantitative as well as qualitative information (e.g., number of citations or copies printed). Nominations should be sent to arrive no later than **December 1, 2014**. This is an important award for AERE and for the recipients. Please give serious consideration to nominating a publication and to observing the submission requirements.

Klaas van 't Veld
University of Wyoming
Email: klaas@uwyo.edu
Subject Line: AERE PEQ Award

***REEP* Update**

The Review of Environmental Economics and Policy (REEP) continues to do well. Its 2013 two-year Impact Factor places it as the #11 economics journal, out of 333 listed economics journals. *REEP* also performs well on the 5-year impact factor. Impact factors reflect the ratio of the number of times articles are cited to the number of articles published, and are thus a measure of impact. No other environmental economics journal performs as well. We are grateful for the support of EPA's National Center for Environmental Economics in helping us achieve this success.

Many people have indicated to me that articles in *REEP* are particularly useful in graduate and undergraduate classes. I have also found that to be true in my teaching. From this perspective, if any AERE members see an obvious hole in coverage in *REEP*, please feel free to contact us with suggestions (reep@aere.org). Even better, if you would like to propose an article for *REEP*, all it takes is a 1-3 page proposal.

It is important to underscore that *REEP* is an economics journal, not an interdisciplinary journal. It is intended to bridge academic economics and more policy oriented non-academic economics, and is modelled on the *Journal of Economic Perspectives*. It is also international in scope and most certainly NOT intended to be a North American focused journal. This reflects the fact that AERE is the international professional organization of environmental and resource economists.

As with any journal, editors change from time to time. From *REEP*'s inception, the plan was that editor terms would be 3-5 years. Rob Stavins served for three years and I have served for five years. Starting January 1, 2014, Prof. Carlo Carraro of the University of Venice will take over as Editor of *REEP*. Carlo has been a co-editor since the inception and is the perfect candidate to be editor. Suzy Leonard will continue her very constructive role as Managing Editor, Oxford University Press will remain the publisher, and AERE will remain the journal owner. As always, correspondence can be addressed to reep@aere.org.

Charlie Kolstad (*REEP* Editor)
Stanford University

2014 INSTITUTIONAL AND UNIVERSITY MEMBERS OF AERE

Institutional Members

Environmental Defense Fund
Rocky Mountain Research Station U.S.F.S.
Fondazione Eni Enrico Mattei – FEEM
Stratus Consulting
Industrial Economics, Inc.
W.H. Desvousges and Associates, Inc.
Resources for the Future

University Members

Appalachian State University
Department of Economics
University of California, Davis
Department of Agriculture and
Resource Economics
Clark University
Department of Economics
University of California, San Diego
Department of Economics
Colorado State University
Agricultural and Resource Economics
University of Chicago
Energy Policy Institute at Chicago (EPIC)
Georgia State University
Department of Economics
University of Connecticut
Department of Economics
Harvard University
Harvard Environmental Economics Program
University of Gothenburg
Department of Economics
Iowa State University
Center for Agricultural and Rural Development
University of Hawaii at Manoa
Department of Economics
Mississippi State University
Department of Agricultural Economics
University of Idaho
Department of Conservation and Social Sciences
North Carolina State University
Agricultural and Resource Economics
University of Illinois at Urbana-Champaign
Department of Agricultural and Consumer Economics
Texas A&M University
Department of Agricultural Economics
University of Minnesota
Department of Applied Economics
Tufts University
Tufts Institute of the Environment
University of North Carolina at Greensboro
Department of Economics
University of Alberta
Department of Resource Economics and Environmental
Sociology
University of Oregon
Department of Economics
University of Calgary
Department of Economics
University of Tennessee
Department of Economics
University of California, Berkeley
Department of Agriculture and
Resource Economics
University of Wisconsin
Department of Agricultural and Applied Economics
Virginia Tech
Department of Agricultural and Applied Economics

CALLS FOR PAPERS

AERE SUMMER CONFERENCE 2015



Downtown View from Point Loma--Courtesy Joanne DiBona, SanDiego.org

AERE Summer Conferences *Excellence in Academic Programming* *Collegiality in Destinations Worth Visiting*

The fourth annual AERE Summer Conference will be held Wednesday, June 3, to Friday, June 5, at the U.S. Grant Hotel located in the lively and historic Gaslamp Quarter of San Diego, California. An all-day pre-conference workshop, led by Meredith Fowlie (University of California, Berkeley) and Mushfiq Mobarak (Yale University), will be held on Wednesday, June 3. The pre-conference workshop will focus on “Field Experiments: Design, Methods and Applications.” The conference will begin with an informal reception on Wednesday evening; the academic program will follow on Thursday and Friday. We encourage participation from academic, public, and private sector environmental and resource economists as well as graduate students, in particular those entering the job market.

The conference will feature **General Sessions**, **Sponsored Sessions**, and a **Poster Session**. **General Sessions** and the **Poster Session** are open to all topics of interest to environmental and natural resource economists. **Sponsored Sessions** will feature papers

focusing on one of the following two themes: (1) use of big data or field experiments in environmental and natural resource applications, and (2) evidence-based ecosystem management: evaluating the effectiveness of resource policies. Presenters in the Sponsored Sessions must provide full papers to discussants by May 15, 2015. Registration plus up to \$1,000 in travel costs (with original receipts) will be reimbursed for one presenter per paper accepted for a Sponsored Session. **Note: Presenters must be 2015 AERE members.** AERE gratefully acknowledges funding provided for the Sponsored Sessions by the Economic Research Service, U.S. Department of Agriculture, and the National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

Abstract Submission

To submit an abstract, go to www.aere.org and click on the conference link. After logging onto Conference Maker (the online abstract submission platform), select “Submit an Abstract” and, when prompted, select the

appropriate submission type (i.e., **General Sessions**, **Sponsored Sessions**, or **Poster Session**). In the event they are not selected, abstracts submitted for the **Sponsored Sessions** will automatically be considered for inclusion in the **General Sessions** unless otherwise noted in the abstract. In the event they are not selected, abstracts submitted for the **General Sessions** will automatically be considered for inclusion in the **Poster Session** unless otherwise noted in the abstract. Abstracts submitted for the **Poster Session** will be considered exclusively for the **Poster Session**.

Proposals for complete sessions as part of the **Sponsored Sessions** and **General Sessions** are also encouraged. To submit a complete session, after logging onto Conference Maker, select "Submit a Session" and follow the submission instructions that appear. Papers submitted as part of a proposed session may be accepted or rejected on an individual basis unless the organizer specifically requests the session be considered only in its entirety.

Each submission requires an abstract of no more than 1,200 words (including references) that describes the paper. The submitter should plan to attend and present if his/her abstract is accepted. Each submitter may submit a maximum of two abstracts (though may be a co-author of papers to be presented by others), only one of which will be accepted. If two abstracts are submitted, each abstract must include a ranking to indicate which paper the submitter prefers to present in the event that both are selected (1, 2). We will follow a strict rule of one presentation per presenter. All participants must register for the conference by April 15, 2015 in order to be included in the final program.

Abstracts will be accepted beginning on December 15, 2014. The deadline for submissions is **January 15, 2015** (midnight eastern standard time). Electronic acknowledgement of submissions will be sent to all submitters. We expect to notify authors by February 28, 2015 (for **Sponsored Sessions** and **General Sessions**) or by March 15, 2015 (for the **Poster Session**). All paper and poster presenters must be 2015 AERE members. Accepted papers must not be published before the time of the conference.

AERE looks forward to welcoming you to San Diego, California, and the U.S. Grant, a historic hotel in the heart of downtown. Conference activities will take place at the U.S. Grant hotel but additional lodging is available in the nearby Westin Hotel. Additional details about the conference will be posted on AERE's website (www.aere.org).

Conference Organizing Committee:
Co-Chair Mary Evans, Claremont McKenna College
Co-Chair Andrew Plantinga, University of California, Santa Barbara
Susan Capalbo, Oregon State University
Junjie Zhang, University of California, San Diego

Questions should be directed to the organizing committee at aere2015sandiego@gmail.com

AERE NEWSLETTER

The *AERE Newsletter* is soliciting essays from AERE members about natural resource and environmental economics issues of general interest to the membership. These essays can be relatively short (6-10 double spaced pages) and address a topic that does not fit into the traditional journal outlet. There is currently no backlog, so your essay would likely be published in the May AERE Newsletter. Marilyn Voigt and I need your essay by February for the May issue. If you wish to float an idea by me, feel free to contact me.

John Loomis
AERE Newsletter Co-Editor
jloomis@lamar.colostate.edu
Telephone: 970-491-2485

AGRICULTURAL & APPLIED ECONOMICS ASSOCIATION (AAEA)

July 26 – 28, 2015
San Francisco, California

Call for Papers: AERE Sessions

The 2015 Agricultural & Applied Economics Association (AAEA) & Western Agricultural Economics Association (WAEA) Joint Annual Meeting will be held in San Francisco from July 26–28, 2015. The AERE Program Committee, chaired by Meredith Fowlie (University of California, Berkeley), will organize AERE sessions.

Authors wishing to have a paper considered for the AERE sessions should send a .pdf file by e-mail to:

Dr. Meredith Fowlie
University of California, Berkeley
fowlie@berkeley.edu
Subject Line: AERE AAEA--Surname of corresponding author

The deadline to submit is **January 15, 2015**. Only .pdf files will be accepted as electronic format. No submissions will be accepted via fax or postal mail. Abstracts cannot be jointly considered for inclusion in AERE sessions and in sessions sponsored by other associations at the AAEA meeting.

Files should be sent by the proposed presenter, who will be the contact for correspondence. No more than one submission will be accepted per presenter. The file must provide the following information according to the following format:

1. Paper presenter's name, institutional affiliation, mailing address, email
2. All co-author(s) name(s), institutional affiliation(s), email address(es)
3. Title of paper and a one sentence description
4. Brief abstract of the paper containing no more than 300 words, along with a word count
5. Up to six key words;
6. JEL codes;
7. References

The total file length should be two to three pages, with a maximum of three pages, including all of the required information. Papers submitted without all of the required information will not be considered. Electronic acknowledgements of submissions will be sent to all submitters. Proposals for complete sessions are also encouraged. Organizers of proposed sessions should submit complete information for EACH of the papers following the above instructions. Papers may be accepted or rejected on an individual basis unless the organizer specifically requests the session be considered only in its entirety.

Please note that all selected presenters must be 2015 AERE members and priority consideration for discussants will be given to current AERE members.

<p>ALLIED SOCIAL SCIENCE ASSOCIATIONS (ASSA)</p>

**January 3 – 5, 2016
San Francisco, CA**

Call for Papers: AERE Sessions

The 2016 annual winter meeting of the ASSA will be held in San Francisco, California on January 3 - 5, 2016. The AERE Program Committee, chaired by Meredith Fowlie (University of California, Berkeley), will organize AERE sessions.

Authors wishing to have a paper considered for the AERE sessions should send a .pdf file by e-mail to:

Dr. Meredith Fowlie
University of California, Berkeley
Email: fowlie@berkeley.edu
Subject Line: AERE ASSA--Surname of corresponding author

The deadline to submit is **April 15, 2015**. All submissions are to be sent electronically via e-mail. Only .pdf files will be accepted as electronic format. No submissions will be accepted via fax or postal mail. Abstracts cannot be jointly considered for inclusion in AERE sessions and in sessions sponsored by other associations at the ASSA meetings (e.g., general AEA sessions).

Files should be sent by the proposed presenter, who will be the contact for correspondence. No more than one submission will be accepted per presenter. The file must provide the following information according to the following format:

1. Paper presenter's name, institutional affiliation, mailing address, email
2. All co-author(s) name(s), institutional affiliation(s), email address(es)
3. Title of paper and a one sentence description
4. Brief abstract of the paper containing no more than 300 words, along with a word count
5. Up to six key words;
6. JEL codes;
7. References

Papers submitted without all of the required information will not be considered. Electronic acknowledgements of submissions will be sent to all submitters.

Proposals for complete sessions are also encouraged. Organizers of proposed sessions should submit complete information for EACH of the papers following the above instructions. Papers may be accepted or rejected on an individual basis unless the organizer specifically requests the session be considered only in its entirety.

Please note that all selected presenters must be 2016 AERE members and priority consideration for discussants will be given to AERE members.

**5TH CONGRESS OF THE EAST ASIAN
ASSOCIATION OF ENVIRONMENTAL AND
RESOURCE ECONOMISTS (EAAERE)**

**August 5 – 7, 2015
Academia Sinica, Taipei, Taiwan**

Call for Papers Deadline: **April 7, 2015**
Website: www.econ.sinica.edu.tw/2015EAAERE

EAERE 23rd ANNUAL CONFERENCE

**June 28 – July 1, 2017
Venue to be decided**

Call and Guidelines for Expressions of Interest, Local Organizing Committee and Conference Venue

Deadline: **December 15, 2014**
Email: eaere@eaere.org
Subject Line: EAERE Conference 2017

Website: <http://www.eaere.org/section-event-next-conferences>

**2ND ENVIRONMENTAL PROTECTION
AND SUSTAINABILITY FORUM**

**April 9 – 11, 2015
University of Bath
Bath, United Kingdom**

Submission of Papers Deadline: December 15, 2014
Website:
www.bath.ac.uk/economics/events/news_0003.html

**OUR COMMON FUTURE UNDER CLIMATE
CHANGE INTERNATIONAL SCIENTIFIC
CONFERENCE**

**July 7 – 10, 2015
Paris, France**

Call for Papers Deadline: November 15, 2014
Website: www.commonfuture-paris2015.org/

**SOUTHERN ECONOMIC ASSOCIATION
(SEA) ANNUAL MEETING**

Call for Papers: AERE Sessions

The SEA 2015 Annual Meeting will be held in November 2015; meeting details will soon be available at <http://southernecon.org/>

Authors wishing to have a paper considered for the AERE sessions should send a .pdf file by e-mail to:

**Dr. John Whitehead
Appalachian State University
Email: whiteheadjc@appstate.edu
Subject Line: AERE SEA**

Deadline to submit is **March 1, 2015**. Files should be sent by the proposed presenter who will be the contact for correspondence. The file should contain the following information:

1. Author's (and co-author's) name, address, affiliation, telephone number, and e-mail address.
2. Title of paper.
3. Abstract of no more than 100 words.
4. JEL codes.

Papers submitted without all the required information will not be considered. Electronic acknowledgements of submissions will be sent to all submitters. Proposals for complete sessions are also encouraged. Organizers of proposed sessions should submit abstracts for EACH of the papers following the above instructions. Papers may be accepted or rejected on an individual basis unless the organizer specifically requests the session be considered only in its entirety.

Please note that all selected presenters must be 2015 AERE members and priority consideration for discussants will be given to current AERE members.

**WESTERN ECONOMIC ASSOCIATION
INTERNATIONAL (WEAI)
ANNUAL CONFERENCE**

**June 28 - July 2, 2015
Honolulu, Hawaii**

**Call for Papers—AERE Sessions
June 29 - July 1, 2015**

AERE will sponsor up to twelve conference sessions during Saturday through Monday, June 29-Wednesday, July 1, as a special track within the 90th Annual Conference of the Western Economic Association International (WEAI). These sessions are intended to provide an accessible conference option for AERE's western members and to ensure that interesting research in our field continues to appear on the program of a major general-interest conference in economics. All paper presenters must be 2015 AERE members, but need not join WEAI to attend.

Submissions will open starting December 10, 2014. For full consideration by the selection committee, a submission must be received by **January 10, 2015**. Submissions should be sent by the proposed presenter who will be the contact for correspondence. The selection committee will consider only *one submission per presenter*. A submission will require the following information:

1. Name, professional affiliation, highest academic degree held, mailing address, telephone number and e-mail address for the presenter *and all co-authors*. (Please identify cases where the presenter is a graduate student or may have limited experience in academic conference settings. We heartily encourage new talent but also appreciate that mentorship attention is sometimes helpful to ensure successful presentations.)
2. Title of paper (maximum 60 characters and spaces).
3. An expanded abstract with sufficient detail to allow the selection committee to fully assess the nature of the research (limit one page, single-spaced, 12-point font).
4. The URL for a link to a current version of the paper or draft manuscript, if available.

Papers submitted without all the required information will not be considered. Electronic

acknowledgements of submissions will be sent to all submitters.

Proposals for complete sessions are also encouraged. Each 1 hour and 45 minute session will typically consist of four short presentations with discussants and a chair. Proposals for panel discussions will also be entertained.

Submitters of proposed sessions will submit abstracts for EACH of the papers following the above instructions, along with a roughly 200-word description of the session's theme that would motivate potential audience members to attend. Papers may be accepted or rejected on an individual basis unless the organizer specifically requests the session be considered only in its entirety.

All selected presenters must be 2015 AERE members but need not also join WEAI to participate in the conference. Discussants and session chairs need not be current AERE members, although priority consideration will be given to those who are. All participants must register for the conference and AERE members will enjoy "WEAI member" rates. See <http://www.weai.org/AC2015> for registration information as it becomes available. Note that AERE-coordinated sessions qualify as "organized sessions" rather than "volunteer papers," so there is no contributed-paper submission fee.

In planning their calendars, submitters should be aware that the AERE 4th Annual Summer Conference will be held on June 3-5, 2015, in San Diego, CA. However, the WEAI/AERE event will follow very closely on the heels of the EAERE 21st Annual Conference to be held June 24-27 in Helsinki, Finland, so please plan accordingly. Submission of a paper for the WEAI/AERE sessions represents a commitment to attend the conference, including *a substantial share* of the WEAI/AERE sessions, should the paper be accepted. All AERE participants have an important role in the success of these sessions, beyond just their own presentations.

Dr. Trudy Ann Cameron
**R.F. Mikesell Professor of Environmental and
Resource Economics**
University of Oregon
Email: cameron@uoregon.edu
Telephone: 541-346-1242

CONFERENCES, MEETINGS, AND WORKSHOPS

ALLIED SOCIAL SCIENCE ASSOCIATIONS (ASSA)

**January 3 - 5, 2015
Boston, Massachusetts**

AERE Sessions

Editor's Note: Presenters are indicated in bold face type.

Joint Session with AEA

China and the Future of Climate Policy (Q5; O4)

Presiding: MAXIMILLIAN AUFFHAMMER
(University of California, Berkeley)

Is China on Track to Comply with Its 2020 Copenhagen Carbon Intensity Commitment?

JUNJIE ZHANG (University of California, San Diego)

YUAN YANG (Tsinghua University)

CAN WANG (Tsinghua University)

The Evolving Geography of Industrial Parks in China: Implications for Energy Consumption and National GHG Emissions

MATTHEW E. KAHN (University of California, Los Angeles)

SIQI ZHENG (Tsinghua University)

WEIZENG SUN (Tsinghua University)

JIANFENG WU (Fudan University)

Environmental Regulation in a Mixed Economy

JINHUA ZHAO (Michigan State University)

GUANGLIANG YE (Renmin University)

Comparing the Cost of a Carbon Tax in China and the United States

ANTUNG A. LIU (Cheung Kong Graduate School
of Business and Resources for the Future)

RICHARD T. CARSON (University of California,
San Diego)

MARK R. JACOBSEN (University of California,
San Diego)

Discussants:

MAXIMILLIAN AUFFHAMMER (University of
California, Berkeley)

NICHOLAS Z. MULLER (Middlebury College)

SHANJUN LI (Cornell University)

JOSEPH ALDY (Harvard University)

Behavioral Economics and Energy (Q4; D1)

Presiding: CATHERINE WOLFRAM (University of
California, Berkeley)

Default Bias, Follow-on Behavior and Welfare in Residential Electricity Pricing Programs

MEREDITH FOWLIE (University of California,
Berkeley)

PETER CAPPERS (Lawrence Berkeley National
Laboratory)

STEPHEN GEORGE (Nexant)

ANNA SPURLOCK (Lawrence Berkeley National
Laboratory)

MICHAEL SULLIVAN (Nexant)

ANNIKA TODD (Lawrence Berkeley National
Laboratory)

CATHERINE WOLFRAM (University of
California, Berkeley)

Understanding the Water-Energy Nexus: Experimental Evidence from Residential Energy and Water Use

KATRINA JESSOE (University of California,
Davis)

The Lightbulb Paradox: Evidence from Two Randomized Experiments

HUNT ALLCOTT (New York University)

DMITRY TAUBINSKY (Harvard University)

The Impact of Social Information and Advertising on Technology Adoption

ROBERT METCALFE (University of Chicago)

ALEC BRANDON (University of Chicago)

JOHN LIST (University of Chicago)

MICHAEL PRICE (Georgia State University)

Discussants:

BRIGITTE MADRIAN (Harvard University)

PAUL FERRARO (Georgia State University)

JOSH SCHWARTZSTEIN (Dartmouth College)

STEFANO DELLA VIGNA (University of
California, Berkeley)

Environment and Health (Q53, Q58, R41, R48)

Presiding: ANTONIO BENTO (*Cornell University*)

Increased Provision of Roads May Not Relieve Traffic Congestion But It May Change its Composition: Urban Air and Health Effects from São Paulo's Beltway

ALBERTO SALVO (*National University of Singapore*)

JIA XIU HE, KELLOGG (*Northwestern University*)

FRANZ M. GEIGER (*Northwestern University*)

NELSON GOUVEIA (*University of São Paulo*)

Air Pollution, Power Grid, and Infant Health: Evidence from the Shutdown of Nuclear Power Plants in the Tennessee Valley Authority in the 1980s

EDSON SEVERNINI (*Carnegie Mellon University*)

Spring Forward at Your Own Risk: Daylight Saving Time and Fatal Vehicle Crashes

AUSTIN C. SMITH (*University of Colorado, Boulder*)

Hurricanes and Avoidance Behavior: Evidence from Bottled Water Sales

JAY SHIMSHACK (*Tulane University*)

TIMOTHY BEATTY (*University of Minnesota*)

RICHARD VOLPE (*USDA Economic Research Service*)

Discussants:

ANTONIO BENTO (*Cornell University*)

REED WALKER (*University of California, Berkeley*)

MATHEW KOTCHEN (*Yale University*)

MATHEW NEIDELL (*Columbia University*)

Valuation and Amenities (H43, Q51, Q54, Q58)

Presiding: DAN PHANEUF (*University of Wisconsin*)

Why Do Discrete Choice Approaches to Valuing Urban Amenities Yield Different Results than Hedonic Models?

MAUREEN L. CROPPER (*University of Maryland, College Park*)

PARAMITA SINHA (*RTI International*)

MARTHA CAULKINS (*University of Maryland*)

Whose Property Rights Matter? Lost Amenities Versus Storm Protection in Coastal Communities

STEVEN DUNDAS (*North Carolina State University*)

An Imperfect Storm: How FEMA, Private Hurricane Insurers, and Climate Change can Create Inefficient Coastal Housing Markets and Impose a Burden on Inland Taxpayers

MARC CONTE (*Fordham University*)

DAVID L. KELLY (*University of Miami*)

The Net Value of Open Space: Regression Discontinuity Evidence from Ballot Initiatives

COREY LANG (*University of Rhode Island*)

Discussants:

DAN PHANEUF (*University of Wisconsin*)

ERIC EDWARDS (*Utah State University*)

CRAIG LANDRY (*East Carolina State University*)

NICK KUMINOFF (*Arizona State University*)

Regulation and Governance (Q5, H23, K42)

Presiding: ERIN MANSUR (*Dartmouth College*)

Strategic Interactions in the Regulatory Environment and Output Market: Implications for General Deterrence

MARY EVANS (*Claremont McKenna College*)

SCOTT M. GILPATRICK (*University of Tennessee*)

JAY SHIMSHACK (*Tulane University*)

Corporate Governance and Emissions

BEN GILBERT (*University of Wyoming*)

SRIDHAR GOGINENI (*University of Wyoming*)

KLAAS VAN 'T VELD (*University of Wyoming*)

CHENYANG XU (*University of Wyoming*)

Re-Evaluate the Effectiveness of Voluntary Program Considering the Information Diffusion Impact

RONG ZHOU (*University of Connecticut*)

KATHLEEN SEGERSON (*University of Connecticut*)

A Model of the Model: Unpacking CGE Results on Leakage from Climate Policy

DON FULLERTON (*University of Illinois*)

KATHY BAYLIS (*University of Illinois*)

DANIEL H. KARNEY (*University of Illinois*)

Discussants:

ERIN MANSUR (*Dartmouth College*)
KAREN FISHER-VANDEN (*Pennsylvania State University*)
ANNA ALBERINI (*University of Maryland*)
ROB WILLIAMS (*University of Maryland*)

Energy: Renewables, Electricity Usage and the Energy Efficiency Gap (C93, D83, L94, Q4)

Presiding: KEN GILLINGHAM (*Yale University*)

Effectiveness of Capacity-Dependent Rooftop Solar Subsidies: Lessons from California

EVAN ROGERS (*North Carolina State University*)

Empowering Consumers through Smart Technology: Experimental Evidence on the Consequences of Time-of-Use Electricity Pricing

MATTHEW HARDING (*Stanford University*)
CARLOS LAMARCHE (*University of Kentucky*)

Does Information Provision Shrink the Energy Efficiency Gap? A Cross-City Comparison of Energy Benchmarking and Disclosure Laws

MARGARET WALLS (*Resources for the Future*)
MATTHEW LEISTEN (*Northwestern University*)
KAREN PALMER (*Resources for the Future*)

Prices vs. Nudges: A Large Field Experiment on Energy Efficiency Fixed Cost Investments

SCOTT HOLLADAY (*University of Tennessee*)
JACOB LARIVIERE (*University of Tennessee*)
DAVID NOVGORODSKY (*University of Chicago*)
MICHAEL PRICE (*Georgia State University*)

Discussants:

KEN GILLINGHAM (*Yale University*)
KOICHIRO ITO (*Boston University*)
NILS KOK (*Maastricht University*)
DMITRY TAUBINSKY (*Harvard University*)

Natural Resources: Economic Impacts and Valuation (N52, Q2, Q3, Q51, Q54)

Presiding: MICHAEL HANEMANN (*Arizona State University*)

A Delphi Exercise as a Tool in Amazon Rainforest Valuation

JON STRAND (*World Bank*)

RICHARD T. CARSON (*University of California, San Diego*)

STALE NAVRUD (*Norwegian University of Life Sciences*)

ARIEL ORTIZ-BOBEA (*Resources for the Future*)

JEFFREY VINCENT (*Duke University*)

Resources and Curses: Evidence from the United States 1880-2000:

KAREN CLAY (*Carnegie Mellon University*)

ALEX WECKENMAN (*Harvard University*)

What Drives Forest Leakage?

KATHY BAYLIS (*University of Illinois*)

DON FULLERTON (*University of Illinois*)

PAYAL SHAH (*Okinawa Institute of Science and Technology*)

Climate Change Impacts on U.S. Agriculture: Accounting for the Option Value of Farmland in the Hedonic Approach

ARIEL ORTIZ-BOBEA (*Resource for the Future*)

Discussants:

MICHAEL HANEMANN (*Arizona State University*)

PAUL RHODE (*University of Michigan*)

KATE SIMS (*Amherst College*)

MARSHALL BURKE (*University of California, Berkeley*)

Pollution Markets (G12, Q54, Q58)

Presiding: ERICA MYERS (*University of Illinois*)

Rent-seeking over Tradable Emission Permits: Theory and Evidence

ASHWIN RODE (*University of California, Santa Barbara*)

Pollution Permit Consignment Auctions: Theory and Experiments

NOAH DORMADY (*Ohio State University*)

PAUL J. HEALY (*Ohio State University*)

The Co-Benefits of Climate Policy: An Empirical Analysis of the EU Emissions Trading Scheme

ULRICH WAGNER (*University of Madrid*)

Applying Asset Pricing Theory to Calibrate the Price of Climate Risk: A Declining Optimal Price for Carbon Emissions

GERNOT WAGNER, (*Environmental Defense Fund and Columbia University*)

KENT DANIEL (*Columbia University*)
ROBERT LITTERMAN (*Kepos Capital*)

Discussants:

SANJAY PATNAIK (*George Washington University*)

ERICA MYERS (*University of Illinois*)

STEPHEN HOLLAND (*University of North Carolina, Greensboro*)

CHRISTIAN TRAEGER (*University of California, Berkeley*)

Electricity/Energy (H2, L2,Q4)

Presiding: MEREDITH FOWLIE (*University of California, Berkeley*)

The Value of Transmission in Electricity Markets: Evidence from a Nuclear Power Plant Closure

CATIE HAUSMAN (*University of Michigan*)

LUCAS DAVIS (*University of California, Berkeley*)

The Causal Effects of the European Union Emissions Trading Scheme: Evidence from French Manufacturing Plants

RALF MARTIN (*Imperial College London*)

ULRICH WAGNER (*University of Madrid*)

MIRABELLE MUULS (*Imperial College London*)

JONATHAN COLMER (*London School of Economics*)

The Effect of Electricity Taxation on the German Manufacturing Sector: A Regression Discontinuity Approach

BENJAMIN JOHANNES LUTZ (*Centre for European Economic Research*)

FLORENS FLUES (*Organization for Economic Co-operation and Development*)

What's Killing Coal? The Effects of Natural Gas Abundance and Renewables on Coal-Fired Plants

HARRISON FELL (*Colorado School of Mines*)

DANIEL KAFFINE (*University of Colorado, Boulder*)

Discussants:

JAMES BUSHNELL (*University of California, Davis*)

MEREDITH FOWLIE (*University of California, Berkeley*)

RALF MARTIN (*London School of Economics*)

KEVIN NOVAN (*University of California, Davis*)

**THE ECONOMICS OF LOW-CARBON
MARKETS CONFERENCE**

**December 15 – 16, 2014
Ribeirao Preto, Brazil**

Website: <http://fearp.usp.br/lcm/>

EAERE 21st ANNUAL CONFERENCE

**June 24 – 27, 2015
Helsinki, Finland**

Organization: EAERE and University of Helsinki

For conference information:

<http://www.eaere.org/section-event-next-conferences>

EAERE 22nd ANNUAL CONFERENCE

**June 22 – 25, 2016
Zurich, Switzerland**

Organization: EAERE and Swiss Federal Institute of Technology (ETH) in Zurich

For conference information:

<http://www.eaere.org/section-event-next-conferences>

**3rd ANNUAL CONFERENCE OF THE
GREEN GROWTH KNOWLEDGE
PLATFORM**

**29 - 30 January 29 – 30, 2015
University of Venice
Venice, Italy**

***Fiscal Policies and the Green Economy Transition:
Generating Knowledge - Creating Impact***

Website:

www.greengrowthknowledge.org/conference2015

**MIDWEST ECONOMIC ASSOCIATION
(MEA) ANNUAL MEETING**

**March 27 – 29, 2015
Hyatt Regency Minneapolis
Minneapolis, Minnesota**

AERE Sessions

Dr. Lea-Rachel Kosnik is organizing a dinner on Saturday evening, March 28th, for AERE members at the MEA meeting. Anyone interested can reach her at: kosnik@umsl.edu.

Note: Names in bold font are the presenting authors.

Water

Session Chair: Lea-Rachel Kosnik, University of Missouri-St. Louis

“Water Conservation and Soil Adoption in a Highly Erosive Watershed: The Case of Ft. Cobb and SW Oklahoma”

Tracy Boyer, Oklahoma State University

Larry Sanders, Oklahoma State University

Discussant: Jay Coggins, University of Minnesota

“The Influence of Enforcement Approach on the Effects of Government Interventions on Environmental Management: Cooperative vs. Coercive Approaches”

Zachary Raff, University of Kansas

raff.zach@ku.edu

Dietrich Earnhart, University of Kansas

Discussant: Huan Li, State University of New York at Binghamton

“Stochastic Cost Frontier Analysis of Canadian Drinking Water Plants: Investigating the Roles of Water Quality, Efficiency and Scale”

Steven Renzetti, Brock University

srenzetti@brocku.ca

James Price, Brock University

Diane Dupont, Brock University

Discussant: Akio Yamazaki, University of Calgary

“Could Increasing Block Tariffs Reduce Water Shortage in Chinese Cities? A Welfare Analysis”

Xianchun Liao (aka Bill), Nankai University

liaoxian2@yahoo.com

Wei Geng, Tianjin University of Finance and Economics

Junyan Qi, Tianjin University of Finance and Economics

Discussant: Taro Mieno, University of Minnesota

Air

Session Chair: Jay Coggins
University of Minnesota

“What Did RGGI Do, and How Did It Do It? Measuring the Impact of the Regional Greenhouse Gas Initiative Using Electricity Generation Microdata”

Peter Maniloff, Colorado School of Mines

maniloff@mines.edu

Harrison Fell, Colorado School of Mines

Discussant: Adrienne Ohler, Illinois State University

“Information Disclosure within Canada’s Greenhouse Gas Emissions Reporting Program”

Keith Brouhle, Grinnell College

brouhle@grinnell.edu

Donna Harrington Ramirez

Discussant: Steven Renzetti, Brock University

“Why China Becomes a Pollution Haven? A Perspective of Inward FDI and Corruption”

Wei Geng, Tianjin University of Finance and Economics

mwgeng515@gmail.com

Xianchun Liao, Nankai University

Junyan Qi, Tianjin University of Finance and Economics

Discussant: Julia Brandes, The University of

Redlands

“On the Employment Effects of Climate Policy: The Evidence from Carbon Tax in British Columbia”

Akio Yamazaki, University of Calgary

ayamazak@ucalgary.ca

Discussant: Matthew Winden, University of Wisconsin-Whitewater

Housing

Session Chair: Allen Bellas, Metropolitan State University

“Putting a Price on Sunshine: Optimal Net Metering Policy”

Burcin Unel, New York University

Burcin.unel@nyu.edu

Richard Revesz, New York University

Discussant: R. Max Melstrom, Oklahoma State University

“Does the Green Home Label Improve Residential Energy Performance? An Analysis of the Energy Star Program in Florida”

Huan Li, State University of New York at Binghamton hli14@binghamton.edu

Carmen Carrion-Flores, State University of New York at Binghamton

Discussant: Jessica Harriger, Western Illinois University

“Limited Attention in Housing Markets: The Case of Energy Efficiency”

Ian Lange, Colorado School of Mines ilange@mines.edu

David Comerford, Colorado School of Mines
Harrison Fell, Colorado School of Mines
Mirko Moro, Colorado School of Mines

Discussant: Brian Scott, Washington College

Land & Ecosystem Services

Session Chair: Terry Hurley, University of Minnesota

“Multi-Metric Indicator Use in Social Preference Elicitation and Valuation”

Matthew Winden, University of Wisconsin-Whitewater windenm@uw.edu

Tim Haab, The Ohio State University
Patrick Fogarty, University of Wisconsin-Whitewater

Discussant: Ian Lange, Colorado School of Mines

“Managing the Impact of Exhaustible Resource Extraction on Ecosystem Service Values”

R. Max Melstrom, Oklahoma State University melstrom@okstate.edu

Discussant: Terry Hurley, University of Minnesota

“Optimal Timing of Irreversible Land Use Conversion Under Uncertainty: An Experimental Approach”

Taro Mieno, University of Minnesota Tmieno2@illinois.edu

Kenta Tanaka, Musashi University
Payal Shah, Okinawa Institute of Science and Technology

Discussant: Allen Bellas, Metropolitan State University

“Estimation of Markov Transition Matrices with Aggregate Data: An Application to Modeling Conservation Tillage Frequency”

Lyubov Kurkalova, North Carolina A&T State University lakurkal@ncat.edu

D. Tran, North Carolina A&T State University

Discussant: Ron Gecan
Congressional Budget Office (CBO)

Cars & Bikes

Session Chair: Julia Brandes, The University of Redlands

“Vehicle Fuel Efficiency and the Rebound Effect: Evidence from U.S. Panel Data”

Hocheol Jeon, Iowa State University hjeon@iastate.edu

Joseph Herriges, Michigan State University

Discussant: Sarah West, Macalester College

“The Renewable Fuel Standard: Compliance Challenges and Effects of Prices for Fuel and Food”

Ron Gecan, Congressional Budget Office ron.gecan@cbo.gov

Terry Dinan, Congressional Budget Office
David Austin, Congressional Budget Office

Discussant: Peter Maniloff
Colorado School of Mines

“Bike Trails and Spatial Hedonic Prices: An Estimation of the Time to Capitalization”

Adrienne Ohler, Illinois State University ahohler@ilstu.edu

German Blanco, Illinois State University

Discussant: Tracy Boyer, Oklahoma State University

“Baby Boomers, Generation X, and the Influence of Environmental Social Norms”

Jessica Harriger, Western Illinois University JL-Harriger@wiu.edu

Neha Khanna, Binghamton University

Michael Delgado (Purdue University)

Discussant: Xu Wang, Binghamton University

Environmental Hodgepodge

Session Chair: Brian Scott, Washington College

“Environmental Patent Collaboration and Financial Development”

Sahar Milani, University of Wisconsin-Milwaukee

smilani@uwm.edu

Discussant: Lyubov Kurkalova, North Carolina A&T State University

“Environmental Pollution and Subjective Wellbeing in China”

Julia Brandes, The University of Redlands julia_brandes@redlands.edu

Discussant: Keith Brouhle, Grinnell College

“Public Policy, Environmental Impact and the Second-Hand Clothes Market: Market-Distortions or Welfare Improvements from In-Kind Donations?”

Debra Israel, Indiana State University

debra.israel@indstate.edu

Discussant: Burcin Unel, New York University

“An Assessment of Responsible Care on Reducing Worker Exposure in the US Chemical Industry”

Xu Wang, Binghamton University

Xwang52@binghamton.edu

Neha Khanna, Binghamton University

Discussant: Andrew Meyer, Marquette University

**7TH ANNUAL CONFERENCE OF THE
SOCIETY FOR BENEFIT-COST ANALYSIS**

March 19 - 20, 2015

**The George Washington University
Marvin Center
Washington, DC**

Website:

<http://benefitcostanalysis.org/events/2015-conference>

**SOUTHERN ECONOMIC ASSOCIATION
(SEA)**

**84TH Annual Meeting
November 22-24, 2014
Marriott Marquis Atlanta
Atlanta, Georgia**

AERE Sessions

Note: Names marked with asterisk are the presenters.*

Hazards

Session Chair: Nikolaos Mykoniatis, Texas A&M University at Galveston

Papers:

"How Spatially Extensive Are the Effects of Flood Risks? An Evaluation Using the Simulated Inundation Maps"

[Ajita Atreya*](#), University of Pennsylvania

"Local and Regional Impacts of Hurricane Katrina"

[Meri Davelasheridze*](#), Texas A&M University at

Galveston and [Qin Fan](#), California State University

"Going Toward the Flow: Subsidizing Migration and Development Patterns in Flood Plains"

[Douglas S. Noonan*](#) and [Abdul-Akeem](#)

[Sadiq](#), Indiana University-Purdue University, Indianapolis

Fisheries

AERE Session 17

Session Chair: [Meri Davlasheridze](#), Texas A&M University at Galveston

Papers:

"Fisheries Annual Cost Estimation Methodology: An Application in the Northeast, U.S."

[Chhandita Das](#), Northeast Fisheries Science Center

"The Potential Contribution of a Bivalve Fishery Management to the Achievement of Water Quality Goals: The Case of Eastern Oyster and Nitrogen in the Chesapeake Bay"

[Nikolaos Mykoniatis*](#), Texas A&M University at Galveston and [Richard Ready](#), The Pennsylvania State University

Health

Session Chair: [Martin D Heintzelman](#), Clarkson University

Papers:

"Third Party Certification and the Effectiveness of Self-Regulation: Evidence from Responsible Care and Accidents in the US Chemical Industry"

[Huan Li*](#) and [Neha Khanna](#), Binghamton University, and [Martina Vidovic](#), Rollins College

"The Impact of Air Pollution on Morbidity, Mortality, and Healthcare Cost in the Medicare Population"

[Garth Heutel*](#), The University of North Carolina at Greensboro; [Nolan Miller](#), University of Illinois; [David Molitor](#), University of Illinois

"Dirty and Perverse: Substitution Responses to the Clean Air Act"

[Matthew Gibson*](#), University of California at San Diego

"Meta-Analysis and Publication Bias in the Hedonic Wage Literature"

[Will Wheeler*](#), U.S. Environmental Protection Agency (EPA) and [Chris Dockins](#), EPA

Recreation

Session Chair: [Daniel Petrolia](#), Mississippi State University

"Forecasting Marine Recreational Fishing Participation with Climate Change"

[John C. Whitehead*](#) *Appalachian State University* and [Daniel Willard](#), *Environmental Defense Fund*

"Finite Mixture Model of Wildlife Watching Recreation with Multiply-Imputed Travel Cost"

[Jee W. Hwang*](#) and [Alok K. Bohara](#), *University of New Mexico*

"Expectations and Environmental Goods Valuation"

[Younjun Kim*](#), *Iowa State University*, and [Tanya Rosenblat](#), *University of Michigan*

"Measuring the Effects of Offshore Wind Projects on Beach Use on the East Coast of the United States"

[George R. Parsons*](#), [Jenna Toussaint](#), and [Jeremy Firestone](#), *University of Delaware*

Water

Session Chair: [Merlin Mack Hanauer](#), Sonoma State University

"Water Quality and Property Prices in the Chesapeake Bay"

[Patrick J. Walsh*](#), *U.S. Environmental Protection Agency*

"The Effect of Lawn Watering Class on Residential Water Demand"

[Jingjing Wang*](#) and [Janie M. Chermak](#), *University of New Mexico*

"Shock or Salience? A Natural Experiment in Billing Frequency"

[Casey J. Wichman*](#), *University of Maryland*

"A Spatial Economic-Hydrological Model of Fertilizer Demand and Phosphorus Loadings in the Western Lake Erie Basin"

[Wendong Zhang*](#), *Ohio State University*

Natural Resources

Session Chair: [Wendong Zhang](#), The Ohio State University

"Two Birds With One Stone? Targeting Forest Conservation for Multiple Benefits"

[Allen Blackman](#), [Jessica Chu](#), [Leonard Goff*](#), and [Juha Siikamaki](#), *Resources for the Future*

"Poverty Traps and Degraded Ecosystems"

[Kyle Montanio*](#), [Thomas Sproul](#), and [Emi Uchida](#), *University of Rhode Island*

"Optimal Fines When Oil Spills Are Random"

[Will Wheeler*](#) and [Charles Griffiths](#), *U.S. EPA*

Stated Preferences

Session Chair: [Pengfei Liu](#), University of Connecticut

"Cheap Talk vs. Priming in a Survey of Lake Erie Cleanup Programs: Combating Hypothetical Bias in Internet Choice Exercises"

[Greg Howard*](#), *East Carolina University*, [Brian Roe](#), *Ohio State University (OSU)* and [Erik Nisbet](#), *OSU*

"Using Choice Experiment to Estimate People's Willingness to Pay for Improved Solid Waste Management System in Kathmandu, Nepal"

[Menuka Karki*](#) and [Alok K. Bohara](#), *University of New Mexico*

"Single-Choice, Repeated-Choice, and Best-Worst Elicitation Formats: Do Results Differ and by How Much?"

[Daniel Petrolia*](#), [Joonghyun Hwang](#), and [Matthew G. Interis](#), *Mississippi State University*

"Willingness-to-Pay for Intermediate and Final Ecosystem Services: An Example of Land Conservation"

[Lingqiao Qi*](#) and [Stephen K. Swallow](#), *University of Connecticut*

Experiments

Session Chair: Xiang Bi, University of Florida

"Does Experience Overcome Perception Bias for Consumers of Grass-Finished Beef?"

[Yunkyung Lee](#), [Matthew A. Freeman*](#), [Kalyn T. Coatney](#), [Wes Schilling](#), and [Alba Collart](#), *Mississippi State University*

"Multi-Units Public Good Provision Using Individualized Price Auctions: Experimental Evidences"

[Pengfei Liu*](#) and [Stephen K. Swallow](#), *University of Connecticut*

"Voting on Prices vs. Quantities for Emissions Control Policies"

[David M. McEvoy*](#), *Appalachian State University*

"Practicing what they Preach?: A Comparison of Real and Hypothetical Behavior in a Field Experiment"

[David M. McEvoy](#) and [John C. Whitehead*](#), *Appalachian State University*

Energy

Session Chair: Amy B. Henderson, St. Mary's College of Maryland

"Is the U.S. Ready for Conversion of Shipping Fleets from Diesel to Compressed Natural Gas? A Real Options Analysis"

[Hui Xian*](#), [Gregory J. Colson](#), [Berna Karali](#), and [Michael E. Wetzstein](#), *University of Georgia*

"Option Values and the Sale and Timing of Natural Gas Pipeline Expansion"

[Matthew E. Oliver*](#), *Georgia Institute of Technology*, [Charles F. Mason](#), *University of Wyoming*, and [David Finnoff](#), *University of Wyoming*

"Effectiveness of Capacity-Dependent Rooftop Solar Subsidies: Lessons from California"

[Evan Rogers*](#) and [Steve Sexton](#), *North Carolina State University*

"The Clean Air Act and the Low Sulfur Coal Boom"

[Michael Craig*](#), *The University of Tennessee*

Energy and Environment

Session Chair: Jingjing Wang, The University of New Mexico

"Cleansing the Air at the Expenses of Waterways?" Empirical Evidence from the Toxic Releases of the Power Plants in the U.S."

[Xiang Bi*](#), *University of Florida*

"Environmental Regulation and the Changing Composition of the U.S. Electric Generating Industry"

[Elaine F. Frey*](#) and [Neda Jahedmotlagh](#), *California State University, Long Beach*

"The Environmental Effects of Electricity Congestion"

[Erik P. Johnson*](#) and [Juan Moreno-Cruz](#), *Georgia Institute of Technology*

"Climate Change Adaptation and International Environmental Agreements with Heterogeneous Agents"

[Hongxiu Li*](#) and [Horatiu A. Rus](#), *University of Waterloo*

Residuals

Session Chair: [John C. Whitehead](#), *Appalachian State University*

"Hedonic Prices, Taxation, and Imperfect Competition"

[Ju-chin Huang*](#), *University of New Hampshire*, [Min Qiang Zhao](#), *Xiamen University*, and [Laura Beaudin](#), *Bryant University*

"Incentive Targeting for Carbon Sequestration with Spatially Heterogeneous Land Types Under Asymmetric Information"

[Taeyoung Kim*](#), *University of Tennessee (UT)*, [Christian Langpap](#), *Oregon State University*, [Seong-Hoon Cho](#), *UT*, and [Paul R Armsworth](#), *UT*

"Environmental Quality and Health: A Dynamic Optimization Approach"

[Shana M. McDermott*](#) and [Benjamin A Jones](#), *University of New Mexico*

Research Experience for Undergraduates

Session Chair: Younjun Kim, Iowa State University

"Growing by Getting Their Hands Dirty: Meaningful Research Transforms Students"

[Amy B. Henderson*](#), *St. Mary's College of Maryland*

"Demonstrating Nonmarket Valuation Methods in the Classroom"

[Max Melstrom*](#) and [Jill L. Caviglia-Harris](#), *Salisbury University*

"Community Based Economic Research"

[John C. Whitehead*](#), *Appalachian State University*

"The Impact of Positive Affect on Willingness to Pay for Whale Shark Conservation in Belize"

[James F. Casey*](#), *Washington and Lee University*

Regulation

Session Chair: [Shana M. McDermott](#), University of New Mexico

"Understanding Local Regulation of Hydro-Fracking: A Spatial Econometric Approach"

[Martin D Heintzelman*](#), *Clarkson University*, [Stephen Bird](#), *Clarkson University*, and [Patrick J. Walsh](#), *U.S. Environmental Protection Agency*

"It's the Fracking Economy: The Local Economic Impacts of Unconventional Shale Gas Development"

[Peter Maniloff](#), *Colorado School of Mines* and [Ralph Mastromonaco*](#), *University of Oregon*

"When Neither Emissions Taxes nor Cap-and-Trade Are Efficient: Implications in a Non-Linear

'Weitzman' Model"

[Peter Grossman*](#), *Butler University*, [Kathy P. Gjerde](#), *Butler University*, and [Daniel H. Cole](#), *Indiana University*

Firm Behavior

Session Chair: [Erik P. Johnson](#), Georgia Institute of Technology

"Sustainable Investing in Capital Markets: A Strategic Approach"

[Johnson Kakeu*](#), *Morehouse College*

"How Do Firms Certify Green?"

[Daniel Matisoff*](#), *Georgia Institute of Technology*, [Douglas S. Noonan](#), *Indiana University-Purdue University, Indianapolis*, and [Mallory Flowers](#), *Georgia Institute of Technology*

"Does Size Matter: The Effect of Firm Size on Safety in the Context of Fracking"

[Jonathan Eyer*](#), *North Carolina State University*

"The Environmental Performance of Foreign Owned Firms: A Facility Level Analysis of Firm Emissions in the United States"

[Scott Holladay](#) and [Justin Roush*](#), *The University of Tennessee*

Top Ten Tips for Young Economists: Teaching, Research and Service

Organizer and Moderator:

[John C. Whitehead](#), *Appalachian State University*

Panelists:

[Glenn C. Blomquist](#), *University of Kentucky*

"Sayings from the Professor's Almanac"

[Douglas S. Noonan](#), *Indiana University-Purdue University, Indianapolis*

"Navigating the Journal Review Process"

[Will Wheeler](#), *U.S. Environmental Protection Agency*

"Grant Writing Best Practices"

[Jill L. Caviglia-Harris](#), *Salisbury University*

"Five Steps to a Kick-Ass Presentation"

[John C. Whitehead](#), *Appalachian State University*

"Academic Blogging"

ESSAYS

A Tale of Apples and Oranges (and Footnotes): Comments on Grosse's Review of the IQ-Earnings Literature

David S. Salkever
Professor, Dept. of Public Policy
University of Maryland-Baltimore County (UMBC)
Professor Emeritus
Dept. of Health Policy and Management
Bloomberg School of Public Health
The Johns Hopkins University
e-mail: dsalkeve@jhsph.edu
e-mail: salkever@umbc.edu

April 17, 2014

In his recent essay in this newsletter, Scott Grosse (2007) asserted that estimates I had previously developed for the link between lead-related IQ decrements and earnings were “inconsistent with the findings of other economic studies...” He compared my estimates (Salkever, 1995) with other results from the labor economics literature to document a pattern of results ostensibly below my own previous estimates. Unfortunately, there are major comparability issues that he does not mention and that undermine his efforts at cross-study comparisons. In addition, there are a few factual inaccuracies in his essay that reinforce his erroneous conclusion.

In this commentary I will explain the comparability issues, as well as the factual inaccuracies. I will also take note of other research findings not covered by Grosse that point to the conclusions that (1) my own estimates of the impact of IQ on earnings could actually have been underestimates rather than overestimates, and (2) that Grosse's own “best estimate” is itself inconsistent with results in the literature.

As a prefatory comment, the reader should also note that in comments to me on the initial draft of this piece, Grosse pointed to a number of possibilities of misinterpretation because of insufficient clarity of language in my own piece and other relevant cited works. As a general matter, I think there is some substance to his concern. Therefore I have taken pains to document the specific definitions of terms and sources of these definitions in the comments below, and to note

several cases where the language of other studies may have contributed to this confusion.

Hourly Wages (of Persons who Worked) vs. Annual Earnings (of Persons who Worked)

The most problematic aspect of the Grosse essay is the absence, in a number of instances, of a clear distinction between IQ impacts on hourly wages of persons who worked and IQ impacts on annual earnings of persons who worked. Thus, in characterizing my own findings, Grosse reports that I

“...estimated that a 1-point difference in normalized AFQT score, controlling for years of schooling and family background, was associated with direct effects on hourly wages of 1.2% for men and 1.4% for women.”(p.18)

In fact, I never estimated or reported IQ effects on hourly wages. Instead, as I specifically indicated, in the “Data and Methods” section of my paper, I used “data...on annual earned income” and (in my Appendix Table of regression results) reported estimates of direct IQ effects on annual earnings of workers in the columns with the dependent variable labeled as “Log 1990 earnings”. Moreover, in 4 different places in my main results tables (Tables 1 and 2), I indicated that reported IQ impacts are on “1990 earnings”. I would like to think that these multiple references, none of which referred to “hourly” or “wages”, prevented most readers from

misinterpreting my results as applying to hourly wages rather than annual earnings.^{1,2}

The problem of inappropriately comparing hourly wage impacts for workers from other studies with annual earnings impacts for workers for my study first appears when Grosse invokes the results from Neal and Johnson (1996). He compares their results for hourly wages of those who worked with my own results by noting that Neal and Johnson estimated

“...the direct effect of a 1-point difference in cognitive ability on wages to be 0.8% for men, one third lower than the effect reported by Salkever...”(p.18)

Of course, unlike the Neal and Johnson result for hourly wages, my own direct effect estimate of 1.24% was for annual earnings of men who worked.³ As noted below, and by Grosse as well (see the following paragraph), hourly wage effects should underestimate earnings effects since they assume zero IQ effect on hours of work. Thus, notwithstanding Grosse’s observation about Neal and Johnson’s estimate being “one third lower” than my own, the Neal and Johnson estimate for a direct wage impact is clearly not inconsistent with my own larger estimate for earnings impact (since my estimate also includes the impact of IQ on hours of work).

A further example of this mixing of wage and earnings effects occurs in Grosse’s discussion of results from Heckman et al. (2006). He first cites this study as one of

“(t)wo recent economic analyses (that) offer new estimates of the association of cognitive ability with earnings.” (p.18)

¹ In commenting on the draft of this commentary, Grosse (private communication) suggests that this inappropriate comparison resulted from confusion because of the reference in my article to the direct effect of IQ on earnings “not controlling for labor force participation” (i.e., the probability of working). However, my article included no such reference. Moreover, the use of my annual earnings variable in logarithmic form in my regressions clearly implies the exclusion of non-participants, that is, persons with zero annual earnings, since the logarithm of zero is minus infinity.

² Note that in this paragraph, and in the remainder of this comment, I use the term “worker” to signify someone with non-zero earnings.

³ See my Appendix Table 1, column 5 (labeled “Log 1990 earnings – Males) for my results cited by Grosse. Neal and Johnson define their dependent variable as the log of hourly wages in their notes to Tables 1, 4, and A2.

He goes on to correctly note (p. 19) that Heckman et al. only report estimates of IQ impacts on hourly wages, and then observes that

“(t)hese estimates do not incorporate the effects of hours of work and are thus likely to be an underestimate of the association of IQ with annual earnings.”

However, at the end of p. 19 he ignores his own caveat and combines results from this study with results of an analysis of annual earnings of workers by Zax and Rees (2002) (to which I return shortly) as implying

“...a total effect of a 1-point difference on IQ scores of 0.8% or 0.9% on earnings...”⁴

Men vs. Women

A further source of confusion in the Grosse exposition relates to gender and to his discussion of Zax and Rees (2002). He notes that this study reported total (direct plus indirect) effects on earnings of those who worked of 0.75% per IQ point at age 35 and 1.39% per IQ point at age 53. He also correctly notes that

“the study included both wages and annual hours of work in its estimate of annual earnings” (p. 19)⁵

He then goes on to note that the 0.8% or 0.9% “total effect...on earnings” from the Heckman et al. (2006) and Zax and Rees studies apply to “both men and women...in their early 30s. However, the cited results from both studies in fact apply only to men.”⁶

The inappropriate attribution to women of results based almost entirely on men also occurs in Grosse’s summary of the results from Schwartz (1994). He notes that the Grilliches (1977) study used by Schwartz did use data restricted to men, but does not indicate that the estimates used to link education to annual earnings of

⁴ Note the 0.9% figure cited by Grosse is the same one that he cites from Heckman et al. (2006) earlier on p. 19 as being an effect on “wages”.

⁵ Grosse uses the terms “wages” here with further clarification but the context of this sentence, as well as his earlier comment on Heckman et al. (2006) implies that “wages” here signifies “hourly wages”.

⁶ Grosse himself notes that the 0.9% figure from Heckman et al. does not include women. Zax and Reese first state and discuss their exclusion of women in their section on “Data and Methods” and restate the restriction to males in the brief explanatory notes directly underneath each of 4 of their tables, including the first three and another table with an important set of results (Table 6).

those who worked, and to link education to work participation, were also based on studies of males. (See Salkever, 2014(a) and 2014(b) for further details on the sources used by Schwartz.) This omission by Grosse, however, is largely due to the same omission in Schwartz (1994). Schwartz provides insufficient detail on the sources for the links he estimates, and the males-only data from which they were derived. He also presents his analysis as applying to workers generally, without any qualifying comments about gender differences.

The attribution of results from Zax and Rees (2002) and from Schwartz (1994) is of some importance because of the very substantial evidence indicating that the relative IQ effect for women is clearly greater. As Grosse notes

“(for)...women...the estimated associations between earnings and test scores are 30-40% larger than for men.” (p. 19)

Direct evidence on this point is provided by results of hourly wage regressions, as well as regressions for annual earnings of workers. Heckman et al. report (in their Table 1) that total wage effects per IQ point for women are about one-third larger than for men (1.67% vs. 1.27%). Neal and Johnson’s (1996) total IQ wage-impact estimates are very similar: 1.167% for men vs. 1.66% for women. Similar results for hourly wages are provided in another study not referenced by Grosse. Johnson and Neale (1998), using a similar data base and similar empirical strategy to that used by Neale and Johnson (1996), report an hourly wage effects for men of 1.17% vs. a 1.66% effect for women.

The evidence from results for annual earnings of workers includes the Johnson and Neale findings that total IQ earnings effects are 2.27% for men and 3.39% for women. My own results showed a similar gender differential, 1.73% for males and 2.42% for females.

Implications

As noted above, the consequence of comparing my estimates relating to annual earnings for workers with estimates from other studies of IQ impacts on hourly wages is, of course, to find my estimates to be relatively “high” since they include IQ impacts on hours while the results from the wage studies do not. The most direct evidence that there is indeed a large difference between an hourly wage effect and an analogous annual earnings effect for workers is provided by the results from Johnson and Neale (1998) that were just cited. Their estimated annual earnings effects are roughly twice as

large as their estimated wage effects (2.27% vs. 1.17% for men and 3.39% vs. 1.66% for women).

Similarly, given the strong evidence of relatively larger percentage IQ effects for women vs. men, the obvious consequence of comparing an average combined male and female annual earnings effect from my analysis with a males-only effect from another study is that my result will look too high. Thus, Grosse notes that the male-female average annual earnings impact of 2.4% (including participation effects) that he computed from my results is higher than Schwartz’s corresponding estimate (including participation effects) of 1.8%; but this takes no account of the fact that the estimate from Schwartz is based largely on data for men. In fact, the Schwartz’ estimate of 1.8% is quite close to my estimate for males alone, including participation effects, of 1.9%.⁷

Finally, note that while the corresponding estimated earnings impacts from Zax and Rees (2002) of 0.58% to 0.75% differ from my own estimate for males who worked (i.e., excluding work participation effects) of 1.73%, the Zax and Rees estimate is derived from a selected sample only including high school graduates. Thus, their result is really a close cousin of a direct effect (i.e., controlling for schooling) rather than a total effect (including direct IQ impacts on earnings working through the influence of IQ on schooling). Zax and Rees’ data also contain less than 2% African-American males, a group found by Johnson and Neal (1998) to show stronger earnings impacts of IQ. (Similar race

⁷ In an earlier study cited by Grosse (Grosse et al., 2002), the 2.37% figure he computed from my results as a male-plus-female average is used as an upper bound and the 1.76% figure from Schwartz is used as a lower bound. (These are rounded up to 2.4% and 1.8% in Grosse (2007).) However, no mention is made of the problem that applying the Schwartz estimate to both males and females is an understatement because it is derived mainly from data on males. That same study by Grosse et al. also presents separate figures for males (1.35%) and for females (2.24%), that are the sums for each gender of the hourly wage impacts (from Neal and Johnson (1996)) and the estimates of participation effects (from my study). These figures are then averaged to yield a combined 1.66% overall rate which is then compared to the 1.76% from Schwartz and judged to be “essentially the same”. Of course, since this 1.66% figure omits any impacts on hours of work, it will substantially understate any estimate (such as the 2.4% figure based on my work) that includes these impacts. Given that the results from Johnson and Neal suggest that the percentage hours effect is almost as large as the hourly wage effect, correction of this error in the 1.66% figure should yield a result roughly equal to or larger than the 2.4% figure Grosse et al. use as their “upper bound.” Since Grosse et al. (2002) specifically note that the Neal and Johnson estimates are “total effect(s) on hourly earnings”, it is unclear why this 1.66% figure is offered without further adjustment for hours effects.

differences are reported for wage impacts by Neal and Johnson (1996) and Johnson and Neal (1998).⁸

Comparability Problems in Two Other Reviews Cited by Grosse

Two other reviews of evidence on the IQ-earnings link are cited by Grosse in his essay. In a long and wide-ranging discussion of regulation of mercury emissions, Gayer and Hahn (2006) include a brief review of IQ impact results from only 4 studies: the Zax and Rees study of males' earnings impacts, the Neal and Johnson results for males' wage impacts, the Cameron and Heckman (1993) results for males' wage impacts, and the Bound et al. (1986) wage-impact results for males and for females. There are obviously 4 problems to using their summary of the range of results from these studies as a range for overall IQ impacts on earnings for both genders combined. One problem is that 3 of the 4 studies (all except Bound et al.) use only data on males, suggesting an underestimate when applied to females. A second problem is that 3 of the 4 studies (all but Zax and Rees) use only data on wages, ignoring hours effects and participation effects. A third problem is that 2 of the 3 wage impact studies (Cameron and Heckman; Bound et al.) control for schooling and thus report direct IQ effects on wages and omit corresponding indirect IQ effects. Fourth, the only one study reporting total IQ impacts on earnings of workers (Zax and Rees) omits participation effects.

Grosse comments on Gayer and Hahn by first noting that

“They reported that estimates in the relevant labor economics literature range from 0 to a 1.1% reduction in earnings per IQ point.” (p. 17)

He goes on to state:

“No perfect estimate of the relation between IQ and earnings exists, and findings...depend on the assumption made by the investigators. I suggest that the best estimate of the association might be close to the upper end of the range cited by Gayer and Hahn, 1.1% difference in earnings per IQ point.” (pp. 17-18)

Then, in his conclusions, Grosse observes that:

“If the Canfield et al. (2003) estimate of an average 0.46 IQ point loss per 1 µg/dL increase

⁸ Salkever, 2014(a) provides details on other possible reasons for the low levels of the Zax and Rees estimates.

in blood lead were combined with a 1.1% increase in earnings per 1 IQ point, the estimate of economic benefits would have been...virtually identical to the base-case estimate in Grosse et al. (2002).” (p. 19)⁹

The second review cited by Grosse is Bowles et al. (2001). Grosse suggests that their finding of a direct 0.5% increase in earnings per IQ point supports his conclusion that my estimate of the direct IQ effect on earnings is inconsistent with “findings of other economic studies” (p. 18). However, the preponderance of studies on which the Bowles et al. meta-analysis is based display the same non-comparability problems we have already discussed (e.g., restriction of analysis to data for males, use of hourly or weekly wages as the dependent variable rather than annual earnings of workers) as well as use of selected non-representative populations; the expected result of these study limitations is understatement of the direct IQ effects on earnings. (A more detailed dissection of the studies reviewed in Bowles et al. is provided in Salkever, 2014(a) and 2014(b).)

Summary and Comments on the Estimates

The literature cited here can be organized into two large groups. One is the studies using the NLSY79 data from the period 1989-1993 as their empirical base (Cameron and Heckman, 1993; Salkever, 1995; Neal and Johnson, 1996; Johnson and Neal, 1998; Heckman et al., 2006). While these studies often applied variations in modeling and estimation strategy, comparisons of estimated IQ impacts across these studies show quite similar results when the impacts are in fact comparable (e.g., in terms of types of impacts such as direct or indirect, gender and race of population sub-groups studied, and dependent variables such as hourly wages or annual earnings of workers). For some comparisons, such as estimated direct and total IQ impacts on annual earnings of workers, the only two comparable studies are Salkever vs. Johnson and Neale. Estimated impacts for the latter study tend to be somewhat larger (by +0.5% for males and +0.9% for females). Possible reasons include Johnson's use of a longer averaging period (3 years vs. 1 year) and Salkever's inclusion of family

⁹ Note that this 1.1% figure is also the mid-range of the 0.8% to 1.4% range in “total effect” estimates from Zax and Rees (the first for age 35 and the year 1974, the second for age 53 and the year 1992). The inclusion of the Zax and Rees finding of an increase in IQ impact with age presumably offsets at least some of the understatements for reasons already noted; but it may also signal a more general problem of understatement in the literature (my own study included) because almost all other available estimates are based on adults between the ages of 25 and 35.

background covariates. (See Salkever, 2014(a) and (b), for further details on these issues.)

The second group is the remaining studies using somewhat older data, predominantly data on males, and in many cases data from samples that are not representative of the U.S. population. Only two of these studies, Schwartz (1994) and Zax and Rees (2002) present estimates of total IQ impacts on annual earnings of workers. Only Schwartz develops total IQ impacts that include participation effects as well as impacts on annual workers' earnings, and his results for males are slightly below the estimates by Salkever, and considerably below the estimates by Johnson and Neal. Estimates by Zax and Rees relating to annual earnings of workers are considerably lower for a variety of reasons noted above and in Salkever, 2014(a). While these reasons suggest why Zax and Rees estimates are so much below the estimates for males by Salkever, by Johnson and Neal, and (to a slightly lesser degree) by Schwartz, it appears that Grosse (2007) has given considerable weight to these estimates in coming up with his own preferred estimate of a 1.1% total IQ impact for both genders. This 1.1% figure for annual earnings is roughly the same as the total (direct plus indirect) hourly wage effect figures for males reported by Johnson and Neal, Neal and Johnson, and Heckman et al. Given the evidence that IQ affects hours of work positively, and that IQ percent impacts on earnings are larger for females, it is difficult to see how Grosse could view his "best estimate" as consistent with the literature, even if we ignore the additional "participation effect" (i.e., positive IQ impact on the probability of working).

Thus, it is difficult to see a sound basis for Grosse's bottom-line estimate, or for his conclusion that

"...environmental health studies are likely to have overstated the economic impacts of changes in cognitive ability resulting from environmental exposures to children, particularly those studies that have used the Salkever estimates."

A Concluding Note on Expository Brevity vs. Clarity vs. Footnotes

A careful reading of the various papers referred to above, including Grosse (2007), has convinced me that a portion of the controversy over the magnitude of IQ impacts results from the tendency for all contributors to this literature (including yours truly) to abbreviate concepts down to a single one-word label; for example, "average hourly wage rates" may be simply abbreviated as "wages" and "average annual earnings of persons who worked during the year" may be simply abbreviated as earnings. Difficulties can arise when the same one-word label is used to signify different meanings by different people, or even by the same person at different points in their exposition.

This is particularly problematic in literature reviews such as Bowles et. al. where the results of number of different papers using different dependent variables are all simply described as estimates of "earnings" impact. It is too easy, in this situation, to compare results across these different variables even though there is insufficient information to render these results fully comparable. Even in papers presenting only original research on a new model and estimates, however, a complete definition of a dependent variable, given in one section introducing the data and variables, can be abbreviated in later sections, with reminders of the detailed definitions relegated to the footnotes or to the notes to the tables of data and/or results. Presumably the best way to avoid unnecessary confusion and controversy is to pay attention to all the details and footnotes of the papers on which we are commenting, and to prepare commentaries that prioritize clarity (in spite of being too wordy) over brevity. In the end, it may be that the net effect of being verbose (but clear) will be to reduce the total amount of verbiage in controversies such the one that I have addressed in the preceding sections of this essay.

References

- Bound, J., Grilliches, Z. and B.H Hall. 1986. "Wages, Schooling and IQ of Brothers and Sisters: Do the Family Factors Differ?" *International Economic Review* 27(1): 77-105.
- Bowles, Samuel, Herbert Gintis, Melissa Osborne. 2001. "The Determinants of Earnings: A Behavioral Approach." *Journal of Economic Literature* 39(4):1137-1176.
- Canfield, Richard L., Charles R. Henderson Jr., Deborah A. Cory-Slechta, Christopher Cox, Todd A. Jusko, Bruce P. Lanphear. 2003. "Intellectual Impairment in Children with Blood Lead Concentrations Below 10 Micrograms per Deciliter." *New England Journal of Medicine* 348:1517-1526.
- Cameron, SJ and J.J. Heckman. 1993. "The Nonequivalence of High School Equivalents," *Journal of Labor Economics* 11:1-47.
- Gayer, Ted, Robert W. Hahn. 2006. "Designing Environmental Policy: Lessons from the Regulation of Mercury Emissions." *Journal of Regulatory Economics* 30:291-315.
- Grilliches Z., "Estimating the Returns to Schooling: Some Econometric Problems," *Econometrica*, 45 (1977), 1-22.
- Grosse SD, Matte TD, Schwartz J, et al. (2002) Economic gains resulting from the reduction in children's exposure to lead in the United States. *Environmental Health Perspectives* 110, 563-569.
- Grosse S. (2007) How much does IQ raise earnings? Implications for regulatory impact analyses. *Association of Environmental and Resource Economists Newsletter* 17, 17-20.
- Heckman, James J., Jora Stixrud, Sergio Urzua. 2006. "The Effects of Cognitive and Noncognitive Abilities on Labor Market Outcomes and Social Behavior." *Journal of Labor Economics* 24:411-482.
- Johnson WR and D. Neal. "Basic Skills and the Black-White Earnings Gap." In Jencks C. and M. Phillips (eds.), *The Black-White Test Score Gap*. Brookings Institution Press, Washington DC, 1998.
- Neal DA and Johnson WR. 1996. "The Role of Pre-market Factors in Black-White Wage Differences." *Journal of Political Economy*. 104:869-895.
- Salkever, D.S. 1995. "Updated Estimates of Earnings Benefits from Reduced Exposure of Children to Environmental Lead." *Environmental Research*. Vol. 70, pp. 1-6.
- Salkever, D.S. 2014(a) and forthcoming. "Assessing the IQ-Earnings Link In Environmental Lead Impacts On Children: Have Hazard Effects Been Overstated?" *Environmental Research*. <http://dx.doi.org/10.1016/j.envres.2014.03.018i>.
- Salkever, D.S. 2014(b). Online Supplement to: Assessing the IQ-Earnings Link in Environmental Lead Impacts on Children: Have Hazard Effects Been Overstated? <https://www.academia.edu/6784487/>
- Schwartz, J. 1994. "Societal Benefits of Reducing Lead Exposure." *Environmental Research*. Vol. 66, pp. 105-124.
- Zax, Jeffrey S., Daniel I. Rees. 2002. "IQ, Academic Performance, Environment, and Earnings." *Review of Economics and Statistics* 84:600-616.

Response to Salkever:

More Information Needed to Estimate the Effect of Childhood IQ on Adult Earnings

Scott D. Grosse

Research Economist

Office of the Director, National Center on Birth Defects and Developmental Disabilities

Centers for Disease Control and Prevention

Atlanta, GA 30333

Email: sgrosse@cdc.gov

October 3, 2014

Disclaimer

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Acknowledgements

The following persons have been generous with comments: Kakoli Roy, William Thompson, and Jeffrey Zax.

David Salkever in his commentary in this issue of the *AERE Newsletter* on my essay of seven years ago (Grosse 2007) observes that I asserted that his estimates of the impact of IQ on earnings were “inconsistent with the findings of other economic studies...” Prof. Salkever correctly points out that I failed to distinguish between annual earnings and average hourly earnings, that is, the sum of wages, salaries, and other labor income divided by estimated hours of work and often referred to as “wages.” The conflation of hourly and annual earnings is also found in the peer-reviewed economic literature (e.g., Hanushek and Woessmann 2006; Jones and Schneider 2010). Salkever is also correct that his regression coefficients on cognitive ability on annual earnings and coefficients in published analyses of hourly earnings cannot be directly compared. Variables such as ability or education may influence annual earnings through both annual hours of work and average hourly earnings; therefore, coefficients on hourly earnings are likely to understate the positive association of ability with annual earnings. For example, an analysis of US data found that since annual hours of work accounted for roughly one third of the positive association of education with annual earnings, the magnitude of the association of education with hourly earnings was lower by one-third relative to its association with annual earnings (Card 1999).

I appreciate this opportunity to respond to Prof. Salkever’s commentary. My response identifies three key methodological issues in the estimation of the effect

of intelligence or IQ on earnings. The first is the need to distinguish intelligence from test scores in general, and between IQ scores and achievement or aptitude test scores, which are subject to influence of motivation and personality traits. The second is the importance of assessing how the association of cognitive ability with annual earnings varies across the lifespan. A third challenge is the fact that IQ scores often change as children age, and it appears that IQ scores assessed in children are less predictive of adult earnings than IQ scores assessed in early adulthood. Because of the scarcity of reliable measures of IQ in longitudinal data sets with adult earnings measured over the lifespan, all currently available estimates are incomplete. Additional challenges include measuring how differences in returns to ability between males and females vary with age and experience and reaching consensus on how best to adjust for social factors in modeling the effect of IQ on earnings.

The data set that has been most widely used by US economists to assess the association of cognitive ability and earnings, including Salkever (1995), is the National Longitudinal Study of Youth 1979 cohort (NLSY79), which enrolled 12,686 individuals ages 14 to 22. Subjects were interviewed annually from 1979 through 1994 and biennially since then. For example, in the 1998 and 2000 waves respondents were between 33 and 41 years old (Kostea 2012), and in 2011 the subjects were between their mid 40s and mid 50s (Webber 2014). During summer 1980 NLSY79 collected data from most

respondents using the Armed Forces Vocational Aptitude Battery (ASVAB) with 10 subsections, of which four were used in the 1989 version of the Armed Forces Qualification Test (AFQT): word knowledge, paragraph comprehension, arithmetic reasoning, and mathematics knowledge (Neal and Johnson 1976). The AFQT has been widely used by labor economists as a general test of cognitive ability.

The AFQT is characterized as an achievement test, that is, a measure of learned knowledge, not a test of general intelligence or IQ (Heckman and Kautz 2014). Nonetheless, the AFQT has been widely, albeit erroneously, interpreted as if it were an IQ test, most famously by Herrnstein and Murray (1994) in a book, “The Bell Curve”. Obviously, there is a strong correlation between achievement and intelligence test scores; the NLSY79 obtained IQ test scores for a subset of about one thousand subjects, and the correlation with AFQT was 0.65 (Borghans et al. 2011). On the other hand, a correlation of 0.65 between two variables is low if one wishes to use one as a surrogate for the other; an important implication of this finding is that less than one-half the variability in IQ scores is predicted by AFQT scores.

Standardized test scores can be influenced not only by cognitive ability but also by personality traits such as persistence (Heckman and Kautz 2012) as well as motivation to perform on a particular test (Duckworth et al. 2011). In particular, it has been argued that achievement test scores such as the AFQT are better predictors of labor market and occupational outcomes than are IQ scores because they are influenced more by personality traits that are rewarded in the labor market (Borghans et al. 2008; Borghans et al. 2011). Zax and Rees (2002) in their footnote 16 cited a personal communication from Christopher Jencks who had observed that achievement test scores are more predictive than IQ scores of subsequent attainments. The implication of that difference is that use in earnings regressions of normalized AFQT scores is likely to yield upwardly biased estimates of the true effect of IQ on earnings. Treating normalized AFQT scores as IQ scores has been characterized by a group of economists, including Nobel laureate James Heckman, as “a dangerous practice” (Borghans et al. 2011). In recent years, it has become common practice for researchers using NLSY data to predict earnings to control for cognitive ability through AFQT percentiles rather than as normalized scores (Kostea 2012; Webber 2014) which are less likely to be mistaken for IQ scores.

Salkever (1995), using the same approach as Herrnstein and Murray, converted AFQT scores to a scale

with a mean of 100 and a standard deviation of 15, on the same numerical scale as an IQ score. Salkever followed Schwarz (1994) in setting up a path model of the total effect of IQ on earnings with pathways from IQ to years of schooling, from schooling to earnings, and a direct effect from IQ to earnings conditioned on years of schooling. In addition, Salkever added two paths, from IQ to “participation” (positive earnings in a year) and from participation to annual earnings.

Salkever (1995) used NLSY79 data from the 1990 wave, when respondents were 25 to 33 years old. He reported a **direct** effect of 1 “IQ” point (1/15 SD) on the natural logarithm of annual earnings of 1.24% for males and 1.40% for females. That implies an 18.6% increase in earnings for a 1 SD increase in AFQT scores for males and a 21.0% increase for females. The **total** effects of one “IQ” point were modeled by Salkever (1995) as 1.731% for males and 2.415% for females.

Measures of cognitive ability, particularly achievement tests such as the AFQT, can vary during adolescence and early adulthood and are influenced by aging as well as human capital investments such as schooling (Cunha and Heckman 2010). Consequently, many researchers using NSLY97 data, starting with Neal and Johnson (1996) and Johnson and Neal (1998), have sought to minimize that bias. Neal and Johnson restricted their sample to individuals who were under age 18 when they were administered the ASVAB and had wage data from 1990-1991 when respondents were ages 26-29. They calculated normalized AFQT scores with a mean of 0 and SD of 1. Their preferred wage regressions did not control for years of schooling because it is endogenous with regard to cognitive ability; average effects of a 1 SD difference in AFQT scores were 17.2% for males and 22.8% for females. Those results cannot be compared with Salkever’s estimates which did control for schooling. In a footnote, Neal and Johnson (1996) reported estimates for males by race controlling for schooling; 1 SD of AFQT raised earnings by 13.1-13.9%.

Mulligan (1999) used data from the 1990-1991 waves of the NLSY79 data for respondents who reported positive earnings. Mulligan controlled for parental education and income and for measures of school quality and reported that a 1 SD increase in test scores was associated with 10.9% higher hourly wages for both males and females. Salkever in his commentary refers to “strong evidence of relatively larger percentage IQ effects for women vs. men,” but that conclusion may be premature; further analyses are needed.

Two subsequent studies analyzed hourly earnings for NLSY79 males in relation to normalized AFQT scores. First, Altonji and Pierret (2001) analyzed data from the 1992 release of the NLSY79 on males with 8 or more years of education. The incremental effect of 1 SD in AFQT score was to raise hourly earnings by 7.8%, controlling for years of school and father's education. Second, Arcidiacono et al. (2008) analyzed the 2004 release of the NLSY79 data on males who had exactly 12 or 16 years of schooling restricted to earnings data less than 13 years after the completion of schooling. For high school graduates, the effect of 1 SD AFQT was to raise hourly earnings by about 15% after 10 years of post-schooling work experience and for college graduates it raised earnings by 17%. Without prior work experience, AFQT raised hourly earnings by 3% for high school graduates and 12% for college graduates.

To summarize, published analyses of NLSY79 data have estimated that controlling for schooling, average hourly earnings rise by approximately 10-15% with a 1 SD increase in AFTQ scores. If one converts the scores to IQ-equivalents with a SD of 15, the apparent direct effect on hourly earnings conditional on educational attainment is roughly 0.5-1% per 1 "IQ" point.

Salkever in both his essay in this newsletter and in a separate peer-reviewed article (Salkever 2014) notes that I did not cite a chapter by Johnson and Neal (1998). Those investigators analyzed average inflation-adjusted hourly and annual earnings between 1990 and 1993, when the NLSY79 respondents born during 1962-1964 were ages 26 to 32 years. Salkever states that Johnson and Neal reported hourly wage effects (for 1 "IQ" point) for men of 1.17% vs. 1.66% for women. In fact, Johnson and Neal (1998) reported that a 1 SD difference in AFQT scores was associated with a 17.5% difference in hourly earnings for males and 24.9% for females, slightly higher than the equivalent differences of 17.2% and 22.8%, respectively, reported by Neal and Johnson (1996) using NLSY79 earnings data from 1990-1991. In regressions on annual earnings, the coefficients on 1 SD of AFQT were 33.7% for males and 50.6% for females. For males alone, Johnson and Neal also reported earnings regressions that included years of schooling; the direct effect of 1 SD in AFQT was 18.4% for white males and 22.0% for black males. The direct effect of 1 "IQ" point on annual earnings, controlling for schooling, appears to be about 1.3% (1.22-1.47%) for males, which is similar to Salkever's estimate of a 1.24% direct effect of 1 "IQ" point in annual earnings in males.

According to Salkever, the implied "total IQ earnings effects" from Johnson and Neal (1998) are 2.27% for males and 3.39% for females. He points out

that those are larger than his own estimates of total effects of 1.73% for males and 2.42% for females. However, Johnson and Neal made no attempt to control for confounding of individual AFQT scores by measures of family background other than race/ethnicity. It is misleading to characterize an unadjusted association of AFQT scores with annual earnings as a "total IQ earnings effect".

The study by Zax and Rees (2002) is the only currently available published source of US estimates for the association of IQ scores with annual earnings for males across the lifespan, albeit with limits of time, place, and sex. As Salkever points out, because the sample was restricted to males the findings cannot be generalized to workers of both sexes. Unlike Salkever, Zax and Rees had access to actual IQ scores, and they also had earnings data at two different ages, 35 and 53, rather than just ages 26 to 33. At age 35, Zax and Rees reported that 1 IQ point was associated with a 0.75% increase in annual earnings in the absence of any control for confounding factors. Introducing controls for family income and parental education reduced the coefficient to 0.57%, and including measures of community, school, and peer characteristics and parental and peer preferences on schooling and occupational choice reduced it to 0.39%. Those are all small fractions of Salkever's total effect of 1.73% or even the direct effect, controlling for schooling, of 1.24%.

Salkever in his commentary in this issue suggests three reasons why the Zax and Rees estimates are incomplete estimates of the total effect of IQ on annual earnings for males. First, the Zax and Rees estimates are restricted to "high school graduates", that is, individuals with either completed high school or higher level of schooling. He suggests that limiting the sample in that way is "really a close cousin of a direct effect (i.e., controlling for schooling)." That is only partially true. Truncating the lower part of the schooling distribution might have attenuated to some extent the association of IQ with earnings. However, because there is substantial variability in educational attainments within their sample, the approach used by Zax and Rees was not close to being equivalent to controlling for schooling. Indeed, in footnote 23, Zax and Rees report that when years of schooling are included in the regression on earnings at age 35, the coefficient on IQ falls to 0.28%, an estimate of the direct effect of IQ on annual earnings that is less than one-fourth as large as Salkever's 1.24% estimate. Furthermore, the exclusion of individuals with less than complete high school education might have upwardly biased the estimate on cognitive ability, since Heckman et al. (2006) report that males with less than a complete high school education have a much lower

return on cognitive ability in terms of hourly earnings than is true for high school graduates.

Second, Salkever asserts that the Wisconsin Longitudinal Study sample analyzed by Zax and Rees was less than 2% black by race, and he cites Johnson and Neal (1998) as reporting a higher return on cognitive ability for black men. In fact, Zax and Rees (2002) in footnote 9 indicate that just 0.3% of the sample reported paternal "African" ancestry. The coefficient on AFQT in Johnson and Neal's regressions on annual earnings controlling for education was 20% larger for black men than white men; the coefficient not adjusted for education was 40% larger for black men. However, neither difference in coefficients was statistically significant using the z-statistic. Even if the reported black-white difference in returns to AFQT scores were real and AFQT scores were equivalent to IQ scores, it can be shown that the virtual absence of blacks from the WLS sample makes almost no difference to the results reported by Zax and Rees. If the WLS sample were 12% black, the black share of the US population in 2000 and 2010, and the coefficient on IQ were 20-40% larger for black men, the overall coefficient on IQ in the Zax and Rees analysis would have been larger by 0.2-0.4 percentage points, i.e., 0.77-0.79% vs. 0.75% and 0.59-0.61% vs. 0.57%, an unimportant difference.

Third, Salkever states that Zax and Rees omit participation effects, meaning that Zax and Rees excluded subjects who did not report labor earnings because the natural logarithm of earnings is undefined for zero earnings. That observation is correct, but its empirical importance remains to be elucidated. Jeffrey Zax and Daniel Rees have recently analyzed WLS data on the impacts of IQ on both participation and annual earnings conditional on participation for males and females (personal communication, Jeffrey Zax, September 29, 2014); I look forward to seeing their new findings published.

In sum, Prof. Salkever offers no adequate explanation for the magnitude of difference in estimates of the return to cognitive ability on annual earnings of US males between the study of Zax and Rees (2002) and his own. Until further studies are published, the findings of Zax and Rees (2002) remain the only rigorous, robust, and credible econometric estimates of the effect of adolescent IQ on earnings of adult males in the United States.

Additional longitudinal research studies are needed to provide credible estimates of the effect of cognitive ability among adolescents on subsequent labor market earnings in adulthood. A starting point would be to use

recent releases of the NLSY79 data to track earnings of the cohort through 50 years of age. Why in 2014 are we still discussing estimates of the association of AFQT scores with earnings of NLSY79 subjects when they were still in their 20s or early 30s when even the youngest members of the NLSY79 cohort are now 50 years old? We know from Zax and Rees (2002), among others, that the strength of the association of cognitive ability with earnings increases as workers gain experience in the job market. If one is limited to data on earnings at ages 25-35, one will understate the impact of measures of cognitive ability (confounded by personality traits) on cumulative earnings over the lifetime of a cohort.

Longitudinal studies with actual IQ scores and earnings data have been conducted in European countries. Büchner et al. (2012) analyzed data for a Dutch sample of both males and females with IQ scores and math and language achievement test scores at age 12 to predict annual earnings at age 35. They report coefficients on IQ of 0.012 for males and 0.023 for females, controlling for achievement test scores but not for years of schooling. Their findings on sex differentials reinforce Salkever's call to include estimates for both males and females. However, that analysis did not report coefficients on IQ for regressions in which achievement test scores were not included; more work is needed. Furthermore, earnings were assessed at one point in time rather than as an age-earnings profile.

The most detailed age-earnings profiles in relation to IQ scores come from Falch and Massih (2012), who analyzed earnings data from the Malmö Longitudinal Data-set for a cohort of Swedish 3th graders in 1938 who were followed up every 5 years from age 20 to age 65 in relation to cognitive ability at age 10 (IQ scores combined with teacher ratings and grade point average). The correlation of IQ at age 10 with the compound early cognitive ability variable was 0.805. For males, the rate of return for a 1 SD increment in early cognitive ability (at age 10) unconditional on schooling was about 7% at ages 20-25 and peaked at 25% at age 40 before falling to about 15% by age 60. Conversely, for females, the apparent return to early ability was higher than for males from ages 20 to 30 but subsequently was below that of males. It suggests that the returns to cognitive ability for females relative to males may change across the lifespan.

A final methodological issue important to the application of estimates of the effect of IQ on earnings to the economic impact of environmental exposures is variability in IQ as children age and the phenomenon of regression to the mean. IQ scores in childhood, e.g., ages 5-7 years, are the outcome measure generally used in

epidemiologic studies of cognitive effects of lead exposure, for example (Lanphear et al. 2005). Variability in IQ scores partly reflects the fact that intelligence is an unobserved latent variable whereas IQ test scores are subject to the influence of both random measurement error and test motivation (Duckworth et al. 2011). In addition, IQ test scores can change systematically as children age in relation to individual differences in human capital investment, e.g., years of schooling (Falch and Massih 2012). The Malmö Longitudinal Data-set in Sweden includes IQ scores at age 20 for male subjects for military reasons. The correlation between IQ scores at age 10 and age 20 was 0.740 (Falch and Massih 2012). IQ scores predict IQ test scores at age 20, but not one-to-one; the coefficient on IQ at age 10 was 0.80 (Falch and Massih 2011). In other words, a 10-point IQ difference at age 10 in that study was equivalent to an 8-point IQ difference at age 20. The Malmö study found that the estimated return to cognitive ability over the working lifespan was 75% greater for males when IQ scores at age 20 were used rather than IQ scores at age 10 (Falch and Massih 2012). Use of IQ-earnings regression coefficients based on IQ scores measured at age 18 or 20 are therefore likely to overstate the true impact of decrements in childhood IQ on adult earnings.

In conclusion, we lack adequate empirical estimates that allow us to reliably estimate the economic impact of cognitive deficits in children on adult earnings. We know that there is a high return to cognitive ability, but it is difficult to disentangle and reliably estimate causal pathways. There is a lack of consensus on which background variables should be included in earnings regressions to minimize potential confounding. Existing estimates may either overstate or understate the impact of general intelligence on labor market earnings. Insufficient attention has been paid to this question by labor economists, whose primary interests tend to focus on other questions, such as the returns to schooling. Health, resource, and labor economists need to come together to address these issues in a rigorous manner.

References

- Altonji, Joseph G., and Charles Pierret. 2001. "Employer learning and statistical discrimination." *Quarterly Journal of Economics* 116:313–350.
- Arcidiacono, Peter, Patrick Bayer, and Aurel Hizmo. 2008. *Beyond signaling and human capital: Education and the revelation of ability*. No. w13951. National Bureau of Economic Research.
- Borghans, Lex, Angela Lee Duckworth, James J. Heckman, and Bas ter Weel. 2008. "The economics and psychology of personality traits." *Journal of Human Resources* 43, 972-1059.
- Borghans, Lex, Bart H. H. Golsteyn, James Heckman, and John Eric Humphries. 2011. "Identification problems in personality psychology." *Personality and Individual Difference* 51, 315–320.
- Büchner, Charlotte, Wendy Smits, and Rolf van der Velden. 2012. *Education, cognitive skills and earnings of males and females*. ROA, Maastricht University School of Business and Economics.
- Card, David. 1999. "The causal effect of education on earnings." *Handbook of Labor Economics* 3, 1801-1863.
- Cunha, Flavio, and Heckman, James J. 2010. *Investing in our young people* (No. w16201). National Bureau of Economic Research.
- Duckworth, Angela Lee, Patrick D. Quinn, Donald R. Lynam, Rolf Loeber, and Magda Stouthamer-Loeber. 2011. "Role of test motivation in intelligence testing." *Proceedings of the National Academy of Sciences* 108, 7716-7720.
- Falch, Torberg, and Sofia Sandgren Massih. 2011. "The effect of education on cognitive ability." *Economic Inquiry* 49, 838-856.
- Falch, Torberg, and Sofia Sandgren Massih. 2012. "The effect of early cognitive ability on earnings over the life-cycle." *Labour* 26, 287-312.
- Grosse, Scott. 2007. "How much does IQ raise earnings? Implications for regulatory impact analyses." *Association of Environmental and Resource Economists Newsletter* 17, 17-20.
- Hanushek, Eric A., and Ludger Woessmann. 2008. "The role of cognitive skills in economic development." *Journal of Economic Literature* 46, 607-668.

- Heckman, James J., and Tim Kautz. 2012. "Hard evidence on soft skills." *Labour Economics* 19, 451-464.
- Heckman, James J., and Tim Kautz. 2014. "Achievement tests and the role of character in American life." In Heckman, J. J., Humphries, J. E., and Kautz, T. (eds.). *The Myth of Achievement Tests: The GED and the Role of Character in American Life*. University of Chicago Press.
- Heckman, James J., Jora Stixrud, and Sergio Urzua. 2006. "The effects of cognitive and noncognitive abilities on labor market outcomes and social behavior." *Journal of Labor Economics* 24, 411-482.
- Herrnstein, Richard J., and Charles Murray. 1994. *The Bell Curve: Intelligence and Class Structure in American Life*. New York: The Free Press.
- Johnson, William R., and Derek A. Neal. 1998. "Basic skills and the black-white earnings gap." In Jencks C. and M. Phillips (eds.), *The Black-White Test Score Gap*. Brookings Institution Press, Washington DC.
- Jones, Garrett, and W. Joel Schneider. 2010. "IQ in the production function: Evidence from immigrant earnings." *Economic Inquiry* 48, 743-755.
- Kosteas, Vasilios D. 2012. "The effect of exercise on earnings: Evidence from the NLSY." *Journal of Labor Research* 33, 225-250.
- Lanphear, Bruce P., Richard Hornung, Jane Khoury, et al. 2005. "Low-level environmental lead exposure and children's intellectual function: an international pooled analysis." *Environmental Health Perspectives* 113, 894-899.
- Mulligan, Casey B. 1999. "Galton versus the human capital approach to inheritance." *Journal of Political Economy* 107, S184-S224.
- Neal, Derek A., and William R. Johnson. 1996. "The role of premarket factors in black-white wage Differences." *Journal of Political Economy* 104, 869-895.
- Salkever, David S. 1995. "Updated estimates of earnings benefits from reduced exposure of children to environmental lead." *Environmental Research* 70, 1-6.
- Salkever, David S. 2014. "Assessing the IQ-earnings link in environmental lead impacts on children: have hazard effects been overstated?" *Environmental Research* 131, 219-230.
- Schwartz, Joel. 1994. "Societal Benefits of Reducing Lead Exposure." *Environmental Research*. 66, 105-124.
- Webber, Douglas A. 2014. "The lifetime earnings premia of different majors: Correcting for selection based on cognitive, noncognitive, and unobserved factors." *Labour Economics* 28, 14-23.
- Zax, Jeffrey S., and Daniel I. Rees. 2002. "IQ, academic performance, environment, and earnings." *Review of Economics and Statistics* 84, 600-616.

BULLETIN BOARD

MESSAGE RE: THE PACE SURVEY

To the AERE Community:

I'm part of a group of researchers trying to demonstrate support for a resumption of the Census Bureau's Pollution Abatement Costs and Expenditures (PACE) survey. The PACE survey was run annually from 1973 to 1994, before falling victim to budget problems, being collected again only in 1999 and 2005. The PACE survey is the most comprehensive source of data on expenditures related to environmental protection for the United States manufacturing sector. It collects facility-level data on pollution abatement capital expenditures and operating costs associated with compliance to local, state, and federal regulations and voluntary or market-driven pollution abatement activities. The facility-level responses are then aggregated in various ways to provide industry level, state level, and national estimates of pollution abatement costs. The Census Bureau's Center for Economic Studies has enhanced their research value by merging the PACE data with data from the Census of Manufacturers and Annual Survey of Manufacturers.

It looks as though there is now some chance that the PACE Survey may be resumed. Demonstrating a substantial amount of support by researchers would be very helpful in moving the process forward.

Follow [this link](#) to a Petition where you can indicate your support for resuming the PACE Survey:

Thanks for your help with this, and please let me know if you have any questions or suggestions.

Wayne Gray
Professor of Economics
Clark University and Executive Director
Boston Census Research Data Center
wgray@clarku.edu

NEW PROFESSIONAL MASTER'S PROGRAM IN *RESOURCE AND ENERGY* *DEMAND ANALYSIS* AT UNIVERSITY OF WISCONSIN – MADISON

The Department of Agricultural and Applied Economics at the University of Wisconsin-Madison announces the start of a new, 10-month professional Master's program in *Resource and Energy Demand Analysis* (REDA), to begin in August 2015. The world economy is experiencing a boom in energy and resource conservation programs, and strategies that use next-generation smart technologies to reduce energy demand are a major part of this. REDA is designed to train analytically-capable professionals for careers in this industry. The program includes:

- Statistics and econometrics courses focused on resource and energy demand analysis
- Courses in environmental economics, resource economics, and energy economics
- A seminar course drawing on Madison's extensive community of energy professionals
- A capstone practicum featuring real-world analysis scenarios that provide training on the range of responsibilities required of resource/energy analysts.

Graduates will find employment with consulting firms, utilities, public utility commissions and other government agencies, and private firms engaged in the development of resource and energy conservation programs. For more information, visit the program web site at <http://reda.aae.wisc.edu/> or contact Bill Provencher (rwproven@wisc.edu) or Dan Phaneuf (dphaneuf@wisc.edu)



Please join us for the
5TH ANNUAL RECEPTION FOR OUR FRIENDS

at the
2015 ALLIED SOCIAL SCIENCE ASSOCIATIONS ANNUAL MEETING

SUNDAY
JANUARY 4, 2015 | 6:00 PM – 8:00 PM

SHERATON BOSTON HOTEL
BACK BAY BALLROOM B
39 DALTON STREET, BOSTON, MA 02199

light hors d'oeuvres and refreshments will be served

JOB POSTINGS

ACADEMIC

University of California, Berkeley, 2015-2016 S.V. Ciriacy-Wantrup Postdoctoral Fellowships in Natural Resource Economics and Political Economy [[posted October 26, 2014](#)]

University of California, Davis, College of Agricultural and Environmental Sciences, Department of Agricultural and Resource Economics, Lecturer with Potential for Security of Employment [[posted October 10, 2014](#)]

University of Idaho, College of Natural Resources, Conservation Social Sciences, Assistant/Associate Professor of Natural Resource Economics, Tenure-track [[posted October 9, 2014](#)]

Iowa State University, Department of Economics, Assistant Professor in Environmental and Resource Economics, Tenure-track [[posted October 9, 2014](#)]

University of Washington Bothell, The School of Interdisciplinary Arts and Sciences, Applied Economics - Assistant Professor, Tenure-Track [[posted October 2, 2014](#)]

University of California, Davis, Department of Agricultural and Resource Economics, Assistant Professor (Tenure Track) [[posted October 1, 2014](#)]

Emory University, The Department of Environmental Sciences in Emory College, Environmental or Ecological Economist, Associate Professor or Full Professor level [[posted September 24, 2014](#)]

University of Minnesota, Department of Applied Economics, Assistant Professor, Environmental and Natural Resource Economics, tenure-track [[posted September 9, 2014](#)]

University of Delaware, Department of Applied Economics and Statistics, Assistant Professor - tenure-track [[posted September 8, 2014](#)]

University of Massachusetts Amherst, College of Social and Behavioral Sciences, Department of Resource Economics, Environmental and Natural Resource Economics Assistant Professor - tenure-track [[posted August 27, 2014](#)]

Colorado College, Interdisciplinary Environmental Program, Assistant Professor of Environmental Social Science [[posted August 19, 2014](#)]

NON-ACADEMIC

NEEA, Senior Economist [[posted October 15, 2014](#)]

The American Association for the Advancement of Science (AAAS), 2015-16 AAAS Science & Technology Policy Fellowships. Application deadline: 1 November 2014 [[posted September 5, 2014](#)]

* * * * *

Career Information for Environmental Economists from the Department of Agricultural Economics, **Michigan State University**.

LINK TO JOBS

www.aere.org/jobs/

**ASSOCIATION OF ENVIRONMENTAL AND RESOURCE ECONOMISTS (AERE)
2014 OFFICERS AND BOARD OF DIRECTORS**

OFFICERS

President:

Dr. Alan J. Krupnick
(1/1/13 - 12/31/14)
Resources for the Future
1616 P Street, N.W.
Washington, DC 20036
E-mail: krupnick@rff.org
Telephone: 202-328-5107

President-Elect:

Dr. W.L. (Vic) Adamowicz
(1/1 - 12/31/14)
University of Alberta
Dept. of Resource Economics and Environmental
Sociology
515 General Services Building
Edmonton, Alberta, Canada T6G 2H1
E-mail: vic.adamowicz@ualberta.ca
Telephone: 780-492-4603

Vice President:

Dr. Richard G. Newell
(1/1/14 - 12/31/15)
Duke University
Nicholas School of the Environment
Box 90227
Durham, NC 27708
E-mail: richard.newell@duke.edu
Telephone: 919-681-8663

Secretary:

Dr. Sarah E. West
(1/1/14– Present)
Macalester College
Department of Economics
1600 Grand Avenue
Saint Paul, MN 55105
E-mail: wests@macalester.edu
Telephone: 651-696-6482

Treasurer:

Dr. Dallas Burtraw
(1/1/14 - Present)
Resources for the Future
1616 P Street, N.W.
Washington, DC 20036
E-mail: burtraw@rff.org
Telephone: 202-328-5087

BOARD OF DIRECTORS

Dr. Amy W. Ando

(1/1/12 – 12/31/14)
University of Illinois at Urbana-Champaign
Department of Agricultural & Consumer Economics
1301 W. Gregory Drive
326 Mumford Hall
Urbana, IL 61801
E-mail: amyando@illinois.edu
Telephone: 217-533-5130

Dr. Maximilian Auffhammer

(1/1/13 – 12/31/15)
University of California, Berkeley
207 Giannini Hall
Berkeley, CA 94720-3310
E-mail: auffhammer@berkeley.edu
Telephone: 510-643-5472

Dr. Nicholas Flores

(1/1/13 – 12/31/15)
University of Colorado
Chair, Department of Economics
UCB 256
Boulder, CO 80309
E-mail: nicholas.flores@colorado.edu
Telephone: 303-492-8145

Dr. Gilbert E. Metcalf

(1/1/14 – 12/31/16)
Tufts University
Department of Economics
Braker Hall
Medford, MA 02155
E-mail: gilbert.metcalf@tufts.edu
Telephone: 617-627-3685

Dr. Sheila Olmstead

(1/1/12 – 12/31/14)
LBJ School of Public Affairs
The University of Texas at Austin
2300 Red River Street, Stop E2700
Sid Richardson Hall, #3.255
Austin, TX 78712
E-mail: sheila.olmstead@austin.utexas.edu
Telephone: 512-471-2064

Dr. Wolfram Schlenker

(1/1/14-12/31/16)
Columbia University
School of International and Public Affairs
420 West 118th St, Room 1430A
New York, NY 10027
Email: wolfram.schlenker@columbia.edu
Telephone: 212-854-1806

EX-OFFICIO BOARD MEMBERS

JAERE Editor-in-Chief

Dr. Daniel J. Phaneuf
Department of Agricultural and
Applied Economics
University of Wisconsin-Madison
Taylor Hall
Madison, WI 53706-1503
E-mail: dphaneuf@wisc.edu
Telephone: 608-262-4908

AERE Executive Director

Marilyn M. Voigt
AERE Business Office
1616 P Street NW, Suite 600
Washington, DC 20036
E-mail: voigt@rff.org
Telephone: 202-328-5125

Editor of *REEP*

Dr. Charles D. Kolstad
Department of Economics
University of California, Santa Barbara
2127 North Hall
Santa Barbara, CA 93106
E-mail: kolstad@bren.ucsb.edu
Telephone: 805-893-2108