Jacob Bor

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617.414.1444 (office) 617.429.6910 (cell) Boston University School of Public Health

801 Massachusetts Avenue, 3rd Floor Boston, MA 02118

Interests

Population health; economics; HIV/AIDS; quasi-experimental epidemiology; causal inference

EMPLOYMENT

Boston University Assistant Professor (September 2013 - present)

Peter T. Paul Career Development Professor (2014 - 2017) Department of Global Health, School of Public Health

 $Other\ affiliations$

University of Witwatersrand, South Africa Senior Researcher (March 2014 - present)

Health Economics and Epidemiology Research Office (HE²RO)

University of KwaZulu-Natal, South Africa Faculty Affiliate (May 2014 - present)

Africa Centre for Health and Population Studies (Africa Centre)

EDUCATION

Harvard University

S.D., Global Health and Population (Economics), Harvard School of Public Health, 2013

Thesis: Essays on the economics of HIV/AIDS in rural South Africa

S.M., Global Health and Population, Harvard School of Public Health, 2009

A.B., Social Studies, Harvard College, cum laude with high honors in Social Studies, 2005

Publications

Bor J*, Herbst AJ, Newell ML, Tanser F, Bärnighausen T. Unequal benefits of HIV treatment: a growing male disadvantage in adult life expectancy in rural South Africa. *PLOS Medicine*, in press. *Corresponding author.

Dorji G, DeJong W, **Bor J**, DeSilva MB, Sabin L, Feeley FR, Udon P, Wangchuk N, Wangdi U, Choden T, Gurung MS, Chogyel T, Wangchuk D, Kypros K. Increasing compliance with alcohol service laws in a developing country: Intervention trial in the Kingdom of Bhutan. *Addiction*, in press.

Rosenberg M, Pettifor A, Nguyen N, Westreich D, **Bor J**, Bärnighausen T, Mee P, Twine R, Tollman S, Kahn K. (2015). Relationship between receipt of a social protection grant for a child and second pregnancy rates among South African women: A cohort study. *PLOS ONE*, in press.

Bor J^* , Geldsetzer P, Venkataramani A, Bärnighausen T. (2015). Quasi-experiments to establish causal effects of HIV care and treatment and to improve the cascade of care. *Current Opinion in HIV/AIDS*, ePub ahead of print. *Corresponding author.

De Neve JW, Fink G, Subramanian S, Moyo S, **Bor J***. (2015). Length of schooling and risk of HIV infection in Botswana: a natural experiment. *The Lancet Global Health*, 3(8): e428?e429. *Corresponding author.

Chimbindi N, Bor J, Newell M-L, Tanser F, Baltusen R, Hontelez J, de Vlas S, Lurie M, Pillay

- D, Bärnighausen T. (2015). Time and money: the true costs of health care utilization for patients receiving "free" HIV/TB care and treatment in rural KwaZulu-Natal. *JAIDS*, 2015 Jun 18, ePub ahead of print.
- **Bor J***, Moscoe E, Bärnighausen T. (2015). Three approaches to causal inference in regression discontinuity designs (Letter). *Epidemiology*, 26(2):e28-e30. *Corresponding author.
- Moscoe E, **Bor J**, Bärnighausen T. (2015). Regression discontinuity designs are underutilized in medicine, epidemiology, and public health: a review of current and best practice. *Journal of Clinical Epidemiology*, 68(2):122-133.
- **Bor J***, Moscoe E, Bärnighausen T. (2014). The "natural experiment" in regression discontinuity designs: randomization without controlled trials (Letter). *British Medical Journal*, 349: g5293, http://www.bmj.com/content/349/bmj.g5293/rr/764146. *Corresponding author.
- **Bor J***, Moscoe E, Mutevedzi P, Newell M-L, Bärnighausen T. (2014). Regression discontinuity designs in epidemiology: causal inference without randomized trials. *Epidemiology*, 25(5): 729-737. *Corresponding author.
- Harhay MO, **Bor J**, Basu S, McKee M, Mindell JS, Shelton NJ, Stuckler D. (2013). Differential impact of the economic recession on alcohol use among white British adults, 2004-2010. *European Journal of Public Health*, 24(3): 410-5.
- **Bor J***, Herbst AJ, Newell M-L, Bärnighausen T. (2013). Increases in adult life expectancy in rural South Africa: valuing the scale-up of HIV treatment. *Science*, 339: 961-965. *Corresponding author.
- **Bor J***, Basu S, Coutts A, McKee M, Stuckler D. (2013). Alcohol use during the Great Recession of 2008-2009. *Alcohol and Alcoholism*, doi: 10.1093/alcalc/agt002. *Corresponding author.
- **Bor J***, Tanser F, Newell M-L, Bärnighausen T. (2012). In a study of a population cohort in South Africa, HIV patients on antiretrovirals had nearly full recovery of employment. *Health Affairs*, 31(7): 1459-1469. *Corresponding author.
- Bor J, Bärnighausen T, Newell C, Tanser F, Newell M-L. (2011). Social exposure to an antiretroviral treatment program in rural KwaZulu-Natal. *Tropical Medicine & International Health*, 16: 988994.
- Bärnighausen T, **Bor J**, Wandira-Kazibwe S, Canning D. (2011). Interviewer identity as exclusion restriction in epidemiology (Letter). *Epidemiology*, 22(3): 446.
- Bärnighausen T, **Bor J**, Wandira-Kazibwe S, Canning D. (2011). Correcting HIV prevalence estimates for survey non-participation using Heckman-type selection models. *Epidemiology*, 22(1): 27-35.
- **Bor, J***. (2007). The political economy of AIDS leadership in developing countries: an exploratory analysis. *Social Science & Medicine*, 64(8): 1585-1599. *Corresponding author.

CONFERENCE
PAPERS AND
WORKING PAPERS

Bor J, De Neve JW. A social vaccine? HIV, fertility, and the non-pecuniary returns to secondary schooling in Botswana. Presented at the PopPov Conference, Addis Ababa, Ethiopia, June 2015, awarded "Best Paper Overall". Poster at Population Association of America Annual Meeting, San Diego CA, May 2015, awarded "Top poster". Poster at Northeast Universities Development Consortium Conference, Boston MA, Nov 2014. sites.bu.edu/neudc/files/2014/10/paper_211.pdf

Bor J, Bärnighausen T. High stakes testing: chronic disease management in low resource settings. Presented at the 6th Annual Empirical Health Law Conference, 25 April 2015, Georgetown University, DC. Previous version: Bor J, Bärnighausen T. When to start ART: quasi-experimental evidence from South Africa. Presented at PAA 2015 San Diego; BU/Harvard/MIT Health Economics Seminar 2015; NEUDC 2014, Boston University, USA. http://paa2015.princeton.edu/uploads/151012

Bor J, McLaren Z, Tanser F, Bärnighausen T. ART as economic stimulus: community spillover effects of HIV treatment in rural South Africa. Presented at the Population Association of America Annual Meeting, 2 May 2015, San Diego, CA. Accepted for PopPov Conference, June 2015, Addis Ababa. Presented at International Health Economics Association Annual Meeting, July 2015, Milan. http://paa2015.princeton.edu/uploads/151126

Bor J. Cash transfers and teen pregnancy in South Africa: evidence from a natural experiment. Poster at Northeast Universities Development Consortium Conference (NEUDC), Nov 2013, Harvard University, USA. Dissertation chapter: Bor J. Essays on the Economics of HIV/AIDS in Rural South Africa. Harvard University, School of Public Health, 2013, dissertation.

https://editorialexpress.com/cgi-bin/conference/download.cgi?db_name=NEUDC2013&paper_id=214

Bor J, Tanser F, Newell M-L, Bärnighausen T. Antiretroviral therapy as social protection: economic impacts of HIV treatment on South African households. Previous version presented as: Economic spillover effects of HIV treatment on households and communities, International AIDS and Economics Network Pre-Meeting, 21 July 2012, Washington DC.

http://www.iaen.org/library/Presentation_4_Till_Barnighausen.pdf

Bor J. HIV treatment and labor supply in rural South Africa. Presented at: Northeast Universities Development Consortium Conference (NEUDC), Nov 2012, Dartmouth College, USA. https://www.dartmouth.edu/~neudc2012/docs/paper_330.pdf

Maughan-Brown B, Lloyd N, Bor J, Venkataramani A. (2015). Increasing access to HIV testing: Impacts on equity of coverage and uptake from a national campaign in South Africa. SALDRU Working Paper Series, Number 145. Southern Africa Labour and Development Research Unit, University of Cape Town, South Africa. https://ideas.repec.org/p/ldr/wpaper/145.html

INVITED PRESENTATIONS

University of Belfast (UK), Department of Economics; scheduled: April 2016.

Oxford University (UK), Department of Sociology; scheduled: April 2016.

McGill University (Canada), Center on Population Dynamics; scheduled: October 2015.

GrassrootSoccer Monitoring, Evaluation, and Research Group, August 2015.

Georgetown University, 6th Annual Empirical Health Law Conference, April 2015.

Boston University School of Public Health, Department of Epidemiology, March 2015.

BU-Harvard-MIT Health Economics Seminar, February 2015.

University of North Carolina - Chapel Hill Gillings School of Global Public Health. Causal Inference Research Group (CIRG), January 2015.

Harvard University. Causal Inference Seminar, Epidemiology, Harvard SPH, December 2014.

Boston University School of Public Health, Department of Health Policy and Management, October

Boston University School of Public Health, Department of Biostatistics, October 2014.

University of Cape Town (South Africa). Regression Discontinuity Designs for Clinical and Population Health Research, 2-day workshop, Center for Infectious Disease Epidemiology Research (CIDER), August 18-20, 2014.

GrassrootSoccer Monitoring, Evaluation, and Research Group, October 2013.

Cambridge Health Alliance, Department of Medicine Grand Rounds, March 2013.

Partners In Health, Research Lunch, Boston, MA, November 2012.

Boston University School of Public Health, Center for Global Health and Development, October 2012.

Harvard University, Harvard-MIT Economic Development Seminar, October 2012.

Harvard Center for Population and Development Studies Seminar, November 2005.

The Clingendael Institute (Netherlands). Expert Seminar on AIDS, Security and Democracy. May 2005.

Conference Presentations

Bor J, McLaren Z, Tanser F, Bärnighausen T. ART as economic stimulus: community spillover effects of HIV treatment in rural South Africa. Presented at the International Health Economics Association Annual Meeting, Milan, Italy, July 2015.

Bor J, McLaren Z, Tanser F, Bärnighausen T. ART as economic stimulus: community spillover effects of HIV treatment in rural South Africa. Presented at PopPov Conference, Addis Ababa, June 2015.

Bor J, De Neve JW. A social vaccine? HIV, fertility, and the non-pecuniary returns to secondary schooling in Botswana. Presented at the PopPov Conference, Addis Ababa, Ethiopia, June 2015, awarded "Best Paper Overall".

Bor J, Fox M, Rosen S, Tanser F, Pillay D, Bärnighausen. When to start? Without delay: the real world consequences of deferred HIV treatment eligibility for retention in care: a regression discontinuity study in rural South Africa. Poster at the Society for Epidemiologic Research Conference, Denver, July 2015.

Brennan AT, Fox P, Davies M-A, Stinson K, Wood R, Prozesky H, Tanser F, Fatti G, Bärnighausen T, Wandeler G, Boulle A, Sikazwe I, Zanolini A, Bor J. The effect of initiating Tenofovir on HIV treatment outcomes in adults in southern Africa: a regression discontinuity analysis. Poster at Society for Epidemiologic Research, Denver, June 2015.

Bor J, Bärnighausen T. When to start ART: evidence from a regression discontinuity study in South Africa. Presented at Population Association of America Annual Meeting, San Diego, CA, May 2015.

Bor J, McLaren Z, Tanser F, Bärnighausen T. ART as economic stimulus: community spillover effects of HIV treatment in rural South Africa. Presented at the Population Association of America Annual Meeting, San Diego, CA. May 2015.

- Bor J. Discussant: Education Issues in Africa. Population Association of America Annual Meeting, San Diego, CA, May 2015.
- Bor J, De Neve JW. A social vaccine? HIV, fertility, and the non-pecuniary returns to secondary schooling in Botswana. Poster at Population Association of America Annual Meeting, San Diego CA, May 2015, awarded "Top poster".
- Haber N, Tanser F, Bor J, Naidu K, Mutevedzi T, Herbst K, Pillay D, Brnighausen T. The HIV care and treatment cascade in rural South Africa: a longitudinal assessment beginning with infection. Population Association of America Annual Meeting, San Diego CA, May 2015.
- Dickman S, Woolhandler S, Bor J, McCormick D, Bor D, Himmelstein D. Fifty years of health spending by poor, middle-class, and wealthy Americans. Presented at SGIM, Toronto, April 2015.
- Bor J, Bärnighausen T. High stakes testing: chronic disease management in low resource settings. Presented at the 6th Annual Empirical Health Law Conference, Georgetown University, DC, 25 April 2015.
- Brennan AT, Bor J, Davies M-A, Stinson K, Wood R, Prozesky H, Tanser F, Fatti G, Bärnighausen T, Wandeler G, Boulle A, Sikazwe I, Zanolini A, Fox M. The effect of initiating Tenofovir on HIV treatment outcomes in adults in southern Africa: a regression discontinuity analysis. Poster at International Workshop on HIV/AIDS Observational Databases, Sicily, March 2015.
- Bor J, Moscoe E, Chimbindi N, Herbst K, Naidu K, Tanser F, Pillay D, Bärnighausen T. The cost-effectiveness of early ART initiation in South Africa: a quasi-experiment. Presented at the Conference on Retroviruses and Infections (CROI), Seattle, WA, February 2015.
- Bor J, De Neve JW. A social vaccine? HIV, fertility, and the non-pecuniary returns to secondary schooling in Botswana. Poster at Northeast Universities Development Consortium Conference, Boston MA, November 2014.
- Bor J, Bärnighausen T. When to start ART: quasi-experimental evidence from South Africa. Northeast Universities Development Consortium (NEUDC) Conference, Boston MA, November 2014.
- Bor J, Bärnighausen T. Regression-discontinuity designs for survival analysis. Poster at the Atlantic Causal Inference Conference, Brown University, Providence RI, May 2014.
- Bor J, Moscoe E, Mutevedzi P, Newell M-L, Bärnighausen T. The causal effect of delayed ART eligibility on survival and immune health: quasi-experimental evidence from rural South Africa. Poster at International Workshop on HIV/AIDS Observational Databases, Sitges, Spain, March 2014.
- Bärnighausen T, Herbst AJ, Newell ML, Tanser F, Bor J. Unequal benefits of HIV treatment: a growing male disadvantage in adult life expectancy in rural South Africa. Presented at the Conference on Retroviruses and Opportunistic Infections, March 2014, Boston MA.
- Bor J. Cash transfers and teen pregnancy in South Africa: evidence from a natural experiment. Poster at Northeast Universities Development Consortium Conference (NEUDC), Harvard University, Cambridge MA, November 2013.
- Bor J. Cash transfers and teen pregnancy in South Africa: evidence from a natural experiment. Presented at American Public Health Association Annual Meeting, Boston MA, November 2013.
- Bor J, T. Bärnighausen. Cash grants and HIV risk: evidence from South Africa's Old Age Pension.

Presented at American Public Health Association Annual Meeting, New Orleans LA, May 2013.

Bor J, Herbst K, Newell M-L, Bärnighausen T. Large gains in adult life expectancy in rural KwaZulu-Natal and the scale-up of HIV treatment. Presented at American Public Health Association Annual Meeting, New Orleans LA, May 2013.

Bor J. HIV treatment and labor supply in rural South Africa. Presented at: Northeast Universities Development Consortium Conference (NEUDC), Nov 2012, Dartmouth College, USA.

Bor J, Tanser F, Newell M-L, Bärnighausen T. Economic spillover effects of HIV treatment on households. Poster at AIDS 2012, Washington DC, July 2012.

Bor J, Tanser F, Newell M-L, Bärnighausen T. Nearly full recovery of employment among HIV patients on ART: evidence from a population cohort in rural South Africa, AIDS 2012, Washington DC, July 2012.

Bor J, Herbst K, Newell M-L, Bärnighausen T. Dramatic increases in population life expectancy and the economic value of ART in rural South Africa. Late breaking presentation at AIDS 2012, Washington DC, July 2012.

Bor J, Tanser F, Newell M-L, Bärnighausen T. Economic spillover effects of HIV treatment on households and communities, International AIDS and Economics Network Pre-Meeting, Washington DC, July 2012.

Bor J, Tanser F, Newell M-L, Bärnighausen T. Nearly full recovery of employment among HIV patients on ART: evidence from a population cohort in rural South Africa, International AIDS and Economics Network Pre-Meeting, Washington DC, July 2012.

Bor J. HIV treatment and labor supply in rural South Africa. Presented at: Northeast Universities Development Consortium Conference (NEUDC), Dartmouth College, Hanover NH, November 2012.

RESEARCH AND PROFESSIONAL EXPERIENCE National Bureau of Economic Research (Jun 2010 - Aug 2013), research assistant for David Cutler on area education and health.

World Bank (Nov 2012 - June 2013), short term consultant on HIV prevention impact evaluation. UNAIDS (Aug 2012 - Dec 2012), short term consultantcy on returns to investment in HIV.

Africa Centre for Health and Population Studies, South Africa (Aug 2010, Jan 2011, Jun – Aug 2011), visiting researcher.

Innovations for Poverty Action, Kenya (Jun – Aug 2008) evaluations coordinator for Pascaline Dupas and Jon Robinson.

GrassrootSoccer, Botswana, Lesotho, and South Africa (Dec 2005 – Dec 2006) programs coordinator for HIV prevention program.

AWARDS AND FELLOWSHIPS

Peter Paul Career Development Professorship, 2014-2017

Best Paper, PopPov Conference, 2015

Best Poster, Population Association of America Annual Meeting, 2015

1st Prize, Boston University SPH Research Day Junior Faculty Poster Session, 2013

1st Prize, GHP50 Symposium Poster Session, 2013

Harvard Committee on African Studies Summer Research Grant, 2012

Harvard Center for Population and Development Studies Dillon Family Fellowship, 2012

Harvard Global Health Institute, International Travel Fellowship in Support of Global Infectious Diseases Research, 2011-2012

Weatherhead Center Graduate Student Associate and Pre-Dissertation Grant, 2010-2011 Institute for Quantitative Social Science Research Grant, 2010-2011 Institute for Quantitative Social Science Graduate Student Associate, 2009-2011 Thomas J. Hoopes Prize for outstanding scholarly research, for Harvard College Thesis, 2005 Benjamin A. Trustman Fellowship for post-graduate travel, 2005

COMPLETED RESEARCH SUPPORT

AID674-A-12-00029 Long/Rosen (PI) Role: Co-I 2013-2017 USAID/South Africa

INROADS: Innovations Research on HIV/AIDS. Cooperative agreement between Boston University and the University of Witwatersrand to conduct applied epidemiologic and economic research to evaluate South Africa's national HIV and TB care and treatment programs.

AID674-A-12-00020 RTC/MacLeod (PI) Role: Co-I 2013-2014 USAID/South Africa Monitoring and Evaluation of the Effectiveness of the Comprehensive Care, Management, and Treatment (CCMT) program for HIV/AIDS in South Africa using National Health Laboratory Service (NHLS) Data. Cooperative agreement between Right to Care (RTC) and Boston University to use NHLS data to monitor and evaluate South Africa's national HIV treatment and care program.

Bor/Bärnighausen (PI) Role: Co-PI 2012-2013 The Rush Foundation

Economic Spillover Effects of ART in Rural South Africa: Evidence from a Population Cohort. This grant supported research on economic spillover effects of HIV treatment using data from the Africa Centre for Health and Population Studies.

Bärnighausen (PI) Role: Co-I 2012-2013 Harvard Center for Population and Development Studies

Seed Grant: ART Knowledge and Subjective Life Expectancy. Preliminary qualitative research to field test a survey instrument on subjective expectations and investigate young adults' life plans in the age of ART. Research conducted at the Africa Centre for Health and Population Studies.

ONGOING RESEARCH SUPPORT

K01MH105320-01A1 Bor (PI) Role: PI 2015-2019 NIH

Economic, Health and Behavioral Dimensions of HIV Treatment Scale-Up. NIH K01 Career Development Award to train in advanced methods for causal inference and mixed methods study designs, and to evaluate the spillover effects of HIV treatment scale-up on economic, health, and behavioral outcomes.

R01 AI115979-01 Fox/Maskew (PI) Role: Co-I 2015-2020 NIH

Analysis of National Lab Database to evaluate the HIV treatment rollout in South Africa. R01 to develop the capabilities of the South African National Labs data to be analyzed as a national patient cohort and to assess HIV care and treatment outcomes in this dataset.

${\bf R01}$ Awarded, grant number pending Bärnighausen/Tansesr (PI) Role: Co-I 2015-2020 NIH

Causal Pathways to Population Health Impact of HIV Antiretroviral Treatment. R01 to assess the pathways to population survival and prevention benefits of HIV treatment in rural South Africa, where we have previously demonstrated large impacts on both longevity and infection rates. The grant will investigate gaps in the cascade of care that contribute to the lingering mortality burden, and behavioral and biological responses to treatment that influence onward transmission.

MacLeod (PI) Role: Co-I 2015 World Bank

Secondary Analysis of South African Viral Load, CD4 count and other HIV Care Cascade Data. Analysis of national labs data in support of a World Bank study on adherence interventions.

TEACHING EXPERIENCE

Boston University

Faculty Instructor, PH 843, Introduction to Quantitative Analysis for Health Services and Public Health Research, Fall 2015

Course development, Health Services Research Doctoral Methods Course, Spring 2015

Guest lecturer, PH 854 Program and Policy Evaluation, Spring 2015

Faculty Instructor, PH 854 Program and Policy Evaluation, Spring 2014

Guest lecturer, Epi 854, Spring 2014

Harvard University

TA, GHP 525, Econometrics for Health Policy (Günther Fink), Spring 2011, Spring 2012.

TA and curriculum development, GHP 272, Foundations in Global Health and Population (Barry Bloom & Till Bärnighausen), Fall 2011.

TA, GHP 526, Research in Global Health and Population (David Canning), Fall 2009.

TA, GHP 291, Microeconomics & Applications to Public Health (Ajay Mahal) Spring 2009.

TF, Anthro 1825, Global Health Case Studies (Paul Farmer, Jim Kim, Arthur Kleinman), Fall 2008. Derek Bok Center Award for Distinction in Teaching, 2008

SERVICE AND CITIZENSHIP

Committees at Boston University

Director, Global Health Research Core, Fall 2015 – present

Member, Health Law, Policy, and Management Department Chair Search Committee, Fall 2015 – present

Member, BUSPH Strategic Thinking Inquiry Group: Foci of Research Excellence, Fall 2015 – present Representative At Large, Faculty Senate, Spring 2015 – present

Chair, Center for Global Health and Development Strategic Vision Committee, Spring 2015 Member, Zambia Data Integrity Committee, Fall 2014

Member, Committee to Develop Advanced Monitoring and Evaluation Syllabus, Spring 2014 Participant, Academy for Faculty Advancement, Fall 2014 - Spring 2015

Memberships

American Economics Association, Population Association of America

Peer review

Journal of Development Economics, Economics and Human Biology, Epidemiology, International Journal of Epidemiology, JAIDS, AIDS, Journal of the International AIDS Society, Health Affairs, Health Services Research, PLOS One, Scandinavian Journal of Statistics, International Journal of Health Services, Social Science and Medicine.