

Hanna Mühlrad
PhD Candidate

Home Address:

Storgatan 5B
411 24 Göteborg
Sweden
Cell Phone: +46735018817

Office:

Department of Economics
University of Gothenburg
Vasagatan 1, Box 640
SE 405 30 Gothenburg

E-mail: hanna.muhlrad@economics.gu.se

Web page: <https://sites.google.com/site/hannamuhlrad/home>

Citizenship: Swedish

Research Fields:

Health Economics
Development Economics
Labor Economics

Desired Teaching:

Health Economics
Development Economics
Applied micro econometrics
Labor Economics

Dissertation Title: *Fertility, Health and Labor: Evidence from Reproductive Technology Policy Changes*

Expected Completion Date: January 25, 2018

Graduate Studies:

University of Gothenburg, 2012 - to present. Department of Economics
Supervisors: Associate Professor Andreea Mitrut and Professor Randi Hjalmarsson

Stockholm University, 2014 - to present. Visiting PhD at Institute for Social Research (SOFI)

University of Oxford, 2013. Visiting DPhil Student at Department of Economics
Supervisor: Associate Professor James Fenske
Affiliations: Center for the Study of African Economies (CSAE)

Undergraduate Studies:

Lic. Phil., 2016, Department of Economics, University of Gothenburg, Sweden.
[Discussant: Hans Grönqvist, Associate Professor at Department of Economics, Uppsala University]
MSc courses, 2010-2012, Department of Economics, Stockholm University
BSc. Economics, 2007-2009, Department of Economics, Stockholm University

Fellowships, Honors and Awards:

FoU Karolinska Institute and Danderys Sjukhus (co-investigator), 2017, 100,000 SEK
Donationsnämndens stipendier, University of Gothenburg, 2015-2017, 60,000 SEK

Hedeliusstipendier, Jan Wallanders and Tom Hedelius Research Foundation 2014, 60,000 SEK
Sahlgrenska, Travel grants, University of Gothenburg, 2014, 10,000 SEK

Research Experience:

The Riksbank (Sweden's Central Bank), Unit for Macroeconomic and Financial Analysis, summer internship, 2013
The Swedish Retail Institute (HUI Research), Research assistant, 2011
Institute for International Economic Studies (IIES), Stockholm University, Research assistant to Professor Harry Flam, 2010

Teaching Experience:

Lecturer, Governing health and illness in a global perspective, MSc level, 2017, University of Gothenburg and Sahlgrenska Academy
Teaching assistant, Applied Economics and Trade, Bachelors level, 2017, University of Gothenburg
Teaching assistant, Macroeconomics, Bachelors level, 2016, University of Gothenburg
Teaching assistant, Microeconomics, Bachelors level, 2010, Stockholm University
Supervision, Bachelors theses (6 theses) – Development Economics/ Labor Economics and health Economics, 2014-2017, University of Gothenburg
Supervision, MSc thesis (1 thesis) – Applied econometrics/Environmental Economics, 2015/2016, University of Gothenburg

Papers:

“Delivery Mode for High-Risk Births: Short and Long Term Consequences for Breech Births”
[job market paper]

“IVF, Multiple Births and Birth Quality: Analysis of an IVF Reform in Sweden”
with Sonia Bhalotra, Damian Clarke and Mårten Palme

“The Impact of Abortion Legalization on Fertility and Female Empowerment: New Evidence from Mexico” with Damian Clarke

Work in Progress:

“Marginal Returns to Early Health Care Interventions: Evidence from Sweden”
with Mårten Palme and Julia Boguslaw

“Medical and socio-economic aspects of early pain exposure and development of pain disorders and mental illness later in life- Evidence from the Swedish registry data”
with Nina Bohm Starke and Philip Haraldson

Conference, Workshop and Seminar Presentations:

The European Association of Labour Economists conference, 2017 (upcoming)
Institute for Social and Economic Research, University of Essex, 2017
Workshop on Parental Beliefs, Information and Investments, Institute for Social and Economic Research, university of Essex, 2017
Workshop on Sustainable Development, Columbia University, 2017
Workshop on Development in Comparative Perspective, Department of Economics, Delhi School of Economics, 2017
Karolinska Institute, Department of Obstetrics and Gynecology, 2016
The Swedish Institute for Social Research, Stockholm University, 2016

International Pregnancy Advisory Services (IPAS) Mexico City & Instituto Nacional de Salud Pública, 2016
 Karolinska Institute, Department of Women's and Children's Health, 2016
 Essen Health Conference, 2016
 Centre for the Study of African Economies Conference, University of Oxford, 2016
 Microwave, Department of Economics, Stockholm University, 2016

Peer Reviewing

Journal of African Economies

Languages:

Swedish (native), English (fluent), Hebrew (currently studying)

Extracurricular:

Volunteering work for Zikaron, Holocaust lectures (Third generation testimony) for high-school pupils
 Swedish Women's Voluntary Defense Organization (Svenska Lottakåren),

References:

Professor Randi Hjalmarsson
 University of Gothenburg
 Department of Economics
 Box 640,
 405 30 Gothenburg, Sweden
 Email: randi.hjalmarsson@economics.gu.se

Associate Professor Andreea Mitrut
 University of Gothenburg
 Department of Economics
 Box 640,
 405 30 Gothenburg, Sweden
 Email: andreea.mitrut@economics.gu.se

Professor Sonia Bhalotra
 University of Essex
 Department of economics & Institute for
 Social and Economic Research (ISER)
 Wivenhoe Park, Colchester, C04 3SQ
 Email: srbhal@essex.ac.uk

Professor Mårten Palme
 Stockholm University
 Department of Economics
 SE-106 91 Stockholm Sweden
 Email: marten.palme@ne.su.se

Dissertation abstract

Reproductive and birth technologies, including innovations in modern contraception, abortion, IVF and Caesarean section, have advanced rapidly since the beginning of the Twentieth century. Reproductive technologies assist women in controlling fertility and thus in obtaining a desired family size as well as improving the health of mothers and children worldwide. According to the World Bank, there has been a rapid drop in fertility from 5 children per women in 1960 to 2.5 children in 2015. While access to birth and reproductive technologies varies to a large extent, it is possible that they could eliminate existing disparities in health. Despite the rapid progress in the development of reproductive and birth technologies multiple questions regarding the impact of this technological advancement, as well as questions on how improved access can reduce gaps in health, remain unanswered. My research aims at contributing knowledge in this field, particularly by focusing on the causal and long run impacts including both health indicators and labor market outcomes. The common themes to my papers are the topics of fertility, women's and children's health, empowerment and labor market outcomes with a strong focus on causal effects from policy changes using administrative data in both developed and developing countries. I use quasi-experimental methods to estimate the causal impact for the policy in question. My dissertation contains three empirical papers. In the first chapter, I examine the causal and long term impact of an increase in planned C-section among high risk births on multiple socio-economic outcomes including health, future fertility and labor responses. In my second chapter, the impact of an

IVF reform mandating single embryo transfer as default procedure providing a negative fertility shock is analyzed. Finally, in the third chapter, I examine the effect from abortion legalization in Mexico City on fertility and female empowerment.

In Chapter One, **Delivery Mode for High-Risk Births: Short and Long Term Consequences for Breech Births** (my job market paper), I study how the use of Cesarean section (C-section) as the preferred delivery mode among high risk births affects child health and maternal health, fertility and labor market outcomes. I exploit exogenous variation in the rate of planned C-sections among term breech births in Sweden that results from the dissemination of new scientific evidence in 2000 to obstetricians and gynecologists on the benefits of C-sections for breech births. The contribution of the study is twofold: first, I address the issue of endogeneity estimating the causal impact of an increase in C-section. Second, compared to previous work, I emphasize the long run impact focusing on a broad set of outcomes including maternal labor market outcomes and subsequent fertility outcomes. Using Swedish administrative data in a pre-post analysis, I show that the rate of planned C-sections among singleton term breech births increased by 20% following the information shock. No significant impact on change in delivery mode was found among singleton term births with normal fetal position (cephalic). By estimating the impact of the dissemination of new evidence on planned C-sections by subgroup, I find a strong significant increase for all mothers below age 35, across all educational levels, for women with normal and overweight and for both first and second time mothers. These findings suggest that the increase in planned C-section was found among a broad group of women with breech births, compared to only some specific group. As a result, child health significantly improved, both at birth (as indicated by a higher APGAR score) and in the long run (as indicated by fewer nights hospitalized during ages 1-7), closing the gap in child health between cephalic and breech births by 88%. While the rise in planned C-sections did not cause any strong significant changes in maternal health or labor market outcomes, I find some evidence that it caused a reduction in future fertility. These results are robust to alternative specifications as well as a difference-in-difference design (using singleton term cephalic births as a control group).

In Chapter Two, **Multiple Births, Birth Quality and Maternal Labor Supply: Analysis of IVF Reform in Sweden**, together with Sonia Bhalotra, Damian Clarke, and Mårten Palme, we examine the impact of an in vitro fertilization (IVF) reform in Sweden. The share of births facilitated by IVF has increased rapidly, exceeding 3% in several industrialized countries. Although IVF addresses involuntary infertility and allows fertile women to postpone childbearing, it is associated with worse neonatal and maternal health. A major contributor to this is that IVF typically involves the transfer of multiple embryos, as a result of which IVF births are 10 to 15 times more likely to be multiple births. Following publication of medical evidence that pregnancy success rates could be maintained using single embryo transfers (SET), in 2003, Sweden mandated that SET be the default IVF procedure. Using Swedish register data for 1998-2007, we find that the SET reform was associated with a precipitous drop in multiple births of 64%, a 54% narrowing of the gap in child health between IVF and non-IVF births and an 86% narrowing of the gap in labor market outcomes for mothers three years after birth. Alongside we find no significant change in maternal health for the full sample but a significant improvement for first time mothers narrowing the gap in maternal health by 30%. These results are robust to adjusting for trends and for changes in the composition of mothers undertaking IVF. They imply that adoption of SET could lead to massive gains, reducing hospitalization costs, the foregone income of mothers and the long run socio-economic outcomes of IVF children.

In Chapter Three, **The Impact of Abortion Legalization on Fertility and Female Empowerment: New Evidence from Mexico**, together with Damian Clarke, we examine the effect of a large-scale, free, elective abortion program implemented in Mexico City in 2007. This reform resulted in a sharp increase in the request and use of early term elective abortions. We document, firstly, that this localized reform resulted in a legislative backlash in 18 other Mexican states which constitutionally altered penal codes to increase sanctions on abortions. We take advantage of this dual policy environment to estimate the effect

of progressive and regressive abortion reform on fertility and women's empowerment. Using administrative birth data we find that progressive abortion laws reduce rates of child-bearing, particularly among young women. Additionally, the reform is found to increase women's role in household decision making---an empowerment result in line with economic theory and empirical results from a developed-country setting. We however find little evidence to suggest that the resulting regressive changes to penal codes have had an inverse result over the time-period studied. In turning to mechanisms, evidence from a panel of women suggests that results are directly driven by increased access to abortion, rather than changes in sexual behavior, contraceptive use or contraceptive knowledge.