NICKLAS NORDFORS

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Swedish citizen

Current Appointments

Researcher, 2024 –

Department of Economics, University of Gothenburg

Education

Ph.D. in Economics, Stockholm University, Sweden, September 2024

Visiting scholar: University of California, Berkeley, US, 2022

M.A. in Economics, Stockholm University, Sweden, 2017

B.A. in Statistics, University of Gothenburg, Sweden, 2016

B.A. in Economics, University of Gothenburg, Sweden, 2015

Exchange student, HEC Montréal, Canada, Spring 2013

French language studies, Université Lumière Lyon II, France, 2011

Working Papers

Droughts and the growth of cities

Some researchers and policymakers posit that climate change should increase city growth and urbanization as rising temperatures make rural livelihoods precarious, while others argue that climate change might trap rural households who cannot afford to migrate because of increasing poverty. Existing empirical evidence on the link between climate and urbanization is inconclusive. This paper exploits novel data mapping city growth for 7,000 cities in 108 low to middle income countries across 23 years to provide new evidence on the relationship between drought and urbanization. Cities experience large and persistent declines in growth rates after major drought events: after 11 years, cities are 0.7 percent smaller compared to a drought-free counterfactual. I show that fully accounting for dynamic effects is essential to correctly understand the relationship between drought and city growth and that a positive correlation between drought and contemporaneous city growth is misleading. Consistent with models that envision a drought-migration poverty trap, the negative effects on urbanization are more pronounced for the poorest, and most agricultural countries.

Trade and pollution - Evidence from India joint with Malin Niemi and Anna Tompsett

What happens to pollution when developing countries open their borders to trade? Trade might increase production and thus pollution (the scale effect), increase incomes and thus demand for cleaner production (the technique effect), or shift production towards more or less clean industries (the composition effect). Empirical evidence on the environmental effects of trade liberalization in developing countries remains limited. We study the effects of the 1991 Indian trade liberalization reform on water pollution. We find that water pollution increased by 0.13 standard deviations per one standard deviation reduction in district-level tariff exposure.

Research in progress

60 years of global environmental change 1939-1999: digitization of 1.6 million historical aerial photographs joint with Hannah Druckenmiller, Solomon Hsiang, Trinetta Chong, Shruti Jain, Andreas Madestam, Luna Yue Huang, Simon Greenhill, Joel Ferguson, Hikari Murayama, Sherrie Wang and Anna Tompsett

Satellite imagery has transformed our understanding of both the natural world and human well-being, but the instrumental record only begins in 1972. We develop an approach to extend these data backwards in time an additional 30 years. We digitize the archive of 1.6 million aerial photographs collected during the processes of mapping what was then British colonies. This archive surveys more than 60 former colonies, where granular data from other sources is notoriously sparse, from the 1940s to the 1990s. We develop a machine learning approach to assemble these photographs into mosaics comparable to modern satellite observations. We then generate large-scale, gridded datasets that provide measures of population density, land use, and infrastructure.

Rapid population growth and city shape

What are the consequences of rapid population growth for cities in Sub-Saharan Africa? Policymakers and researchers have suggested that rapid urbanization has had negative consequences for cities, but the evidence remains scant. I use new and high resolution data to explore the implications of population growth on city outcomes. I document that cities experiencing higher population growth have more informal settlements, lower buildings, as well as smaller buildings. They are less densely built, indicating sprawl, while also becoming more exposed to flood risk. Together, these results suggest that urbanization in Sub-Saharan Africa is characterized by patterns of growth that may be less conducive to economic growth.

Other professional experience

Research Institute of Industrial Economics, Stockholm

Research Assistant, 2017–2018.

Stockholm University, Department of Economics

Research Assistant, 2017; Teaching Assistant, 2016–2017.

University of Gothenburg, Department of Economics

Lecturer, Research Assistant, 2014-2015

Teaching experience

Stockholm University Econometrics I (Master): Fall 2019, Teaching Assistant for Prof. Diego Battiston

University of Gothenburg Courses in Microeconomics, Statistics, Econometrics and Macroeconomics: Fall 2014, Spring 2015; Introductory Statistics (Bachelor): Fall 2013, Spring 2014, Teaching Assistant

Presentations

2024 University of Gothenburg, Stockholm University

2023 IGC-World Bank Young Economist Workshop, Nordic Conference in Development Economics, Aarhus University, Beijer Institute of Ecological Economics, ASWEDE

2022 IPWSD Columbia University; Global Policy Lab, UC Berkeley; 13th Annual Giannini Foundation of Agricultural and Resource Economics Student Conference; UC Berkeley Development Lunch

Scholarships

2023 Siamon Foundation (Travel grant); 2022 Siamon Foundation (Travel grant); 2020 Ax:son Johnson Foundation, Siamon Foundation (Travel grant); 2019 Jan Wallander and Tom Hedelius Foundation (Scholarship for visit to UC Berkeley)

Service

President of the Economics Graduate Student Council, 2019-2020.

Organizing committee of MicroWave Stockholm (Applied microeconomics seminar), 2019-2020

Miscellaneous

Languages: English (Proficient), French (Proficient), Swedish (Native)

Programming Languages: Python, R, Stata, LaTeX

Software: QGIS, ArcGIS