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Doctoral studies

Technical University of Berlin, 2017 to 05/2021 (expected)
Ph.D. Candidate in Economics (Dr. rer. oec.)

UC Louvain, 10/2020 - 03/2021
Guest Researcher, visiting Prof. Eric Lambin and Prof. Patrick Meyfroidt

References:

Professor **Ottmar Edenhofer**
Potsdam Institute on Climate Impact Research
Mercator Research Institute on
Global Commons and Climate Change

Professor **Robert Heilmayr**
Bren School of Environmental Science and Management
UC Santa Barbara

Professor **Sabine Fuss**
Humboldt University of Berlin
Mercator Research Institute on
Global Commons and Climate Change

Employment and consulting

05/2017 - present	**Mercator Research Institute on Global Commons and Climate Change**	Berlin
09/2016 - 04/2017	**GIZ**	Berlin/Rabat/Tunis	*Berater (senior staff)*, before: external consultant
11/2015 - 08/2016	**Federal Chancellery**	Berlin| *Referent Stab Politische Planung*
06/2015 - 07/2015	**SPDA**	Lima	*Consultant*
05/2015 - 10/2015	**IIASA**	Laxenburg	*Consultant*
10/2013 - 10/2014	**Journalism++**	Berlin	*Staff data scientist*
06/2011 - 12/2011	**Open Society Foundations**	Brussels	*Short-term consultant*
06/2010 - 10/2010	**European Council on Foreign Relations**	Paris	*Intern*

Education

2012 - 2013	**London School of Economics**	MSc International Political Economy
2011 - 2012	**Sciences Po Paris**	Master International Economic Policy
2008 - 2010	**Sciences Po Paris**, campus Nancy	Bachelor Public Policy
2009 - 2010	**University of Oxford**, Keble College	Exchange year Philosophy, Politics and Economics

Honors, Scholarships, and Fellowships:

2012 - 2013	German National Academic Foundation | Scholarship
10/2012	Sciences Po Alumni UK | Roger Seydoux Award
2008 - 2010	Sciences Po Paris | Prix de l'Engagement for NGO Asylos
2009 - 2010	Sciences Po Paris | Prix de la vie étudiante
2010 - 2012	Stiftung der Deutschen Wirtschaft | Scholarship

Academic work

Research papers

Spillovers to manufacturing plants from multi-million dollar plantations: evidence from the Indonesian palm oil boom. *Job Market Paper*. with Robert Heilmayr and Nicolas Koch

We estimate spillover effects to local manufacturing plants in the Indonesian palm oil boom using a stacked difference-in-differences approach. We use new data on the establishment dates and ownership of palm oil mills to identify clean shocks from investments in new plantations. Local plantation booms caused increased sales and productivity of manufacturing plants, despite rising blue-collar wages. Using confidential input-output data, we rule out that this effect is driven by supply chain linkages. We also find shifts in plants' product portfolios. They increased their share of tradable goods, but produced fewer relationship-specific goods. This is consistent with local road improvements. Our results are robust in a sample of large corporate groups that assign treatment more independently from changes in local conditions.

Effect of pop-up bike lanes on cycling in European cities. *Revise and Resubmit at PNAS*. *ArXiv*. with Nicolas Koch

The bicycle is a low-cost means of transport linked to low risk of COVID-19 transmission. Governments have incentivized cycling by redistributing street space as part of their post-lockdown strategies. Here, we evaluate the impact of provisional bicycle infrastructure on cycling traffic in European cities. We scrape daily bicycle counts spanning over a decade from 736 bicycle counters in 106 European cities. We combine this with data on announced and completed pop-up bike lane road work projects. On average 11.5 kilometers of provisional pop-up bike lanes have been built per city. Each kilometer has increased cycling in a city by 0.6%. We calculate that the new infrastructure will generate $2.3 billion in health benefits per year, if cycling habits are sticky.

Effects of thermal inversion induced air pollution on COVID. *ArXiv* with Hannah Klauber and Nicolas Koch

Air pollution is a threat to human health, in particular since it aggravates respiratory diseases. Early COVID-19 outbreaks in Wuhan, China and Lombardy, Italy coincided with high levels of air pollution drawing attention to a potential role of particulate matter and other pollutants in infections and more severe outcomes of the new lung disease. Both air pollution and COVID-19 outcomes are driven by human mobility and economic activity leading to spurious correlations in regression estimates. We use district-level panel data from Belgium, Brazil, Germany, Italy, the UK, and the US to estimate the impact of daily variation in air pollution levels on COVID-19 infections and deaths. Using random variation in air pollution generated by thermal inversions, we rule out that changes in mobility and economic activity are driving the results. We find that a 1%-increase in air pollution levels over the three preceding weeks leads to a 1.5% increase in weekly cases. A 1%-increase in air pollution over four weeks leads to 5.1% more COVID-19 deaths. These results indicate that short-term measures to reduce air pollution can help mitigate the health damages of the virus.

Work in Progress

No deforestation reductions from roll-out of community land titling in Indonesia yet. with Jacqueline Liu, Nicolas Koch, and Sabine Fuss

In Indonesia, 60 million people live within 1 kilometer of state forest. The government of Indonesia plans to grant formal land titles for 12.7 million hectares of land to communities living in and around forests. These titles allow for using non-timber forest products, practicing agro-forestry, operating tourism businesses, and harvesting timber in designated production zones. Here,

we estimate the early effects of the program's roll-out. We use data on the delineation and introduction date of community forest titles on 2.4 million hectares of land across the country. We find that contrary to the objective of the program, community titles in protected areas did not decrease deforestation; if anything, they tended to lead to small increases in forest loss. In contrast, community titles in zones aimed at timber production decreased deforestation, albeit from higher baseline forest loss rates.

Price responsiveness of primary forest conversion in Indonesia: Evidence from a panel of palm oil mills. with Valentin Guye

We estimate heterogeneous price elasticities of land use change from forest to oil palm plantations (LUCFP) in Indonesia. This is the first study to relate LUCFP to observations of the actual values paid at palm oil mill gates for fresh fruit bunches and crude palm oil. Mills are pivotal in the sustainable governance of the palm oil supply chain. We have merged the Indonesian manufacturing census and the Universal mill list in a novel, spatially explicit, 1998-2015 panel data set of palm oil mills with many micro-economic dimensions. Grounding on the plantation-mill proximity constraint, we approximate fine grain economic incentives at 3x3km parcels using inverse-distance weights. The causal identification relies on high resolution fixed-effects. We provide estimates of short and medium run LUCFP-price elasticities for Sumatra and for Kalimantan, for industrial plantations and for smallholders. We investigate the heterogeneity in the price responsiveness of LUCFP across ownership, competition, remoteness, forest types, legality, and transitional dynamics. Our results are relevant to designing effective, efficient and equitable market-based conservation schemes.

Presentations

TECLIM/ELIC seminars, **UC Louvain**, 2020
Conference of the Association of Environmental and Resource Economists (**AERE**), Nevada, 2019
Environment and Resource Economics student seminar series, **UC Santa Barbara**, 2019

Supervision

Master's thesis, Mhabeni Bona and Jacqueline Liu, Hertie School of Governance, 2018-2019

Master's project (École Normale Supérieure), Valentin Guye, INRAE-AgroParisTech, 2018-2019

Last updated: November 27, 2020
`https://smkraus.github.io/files/cv.pdf`