

# IRÈNE HU

Environmental Economist at the OECD

Ph.D. from the Paris School of Economics

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## RESEARCH INTERESTS

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<b>Primary fields</b>	Environmental Economics, Development Economics
<b>Secondary fields</b>	Migration Economics, Health Economics, Economics of Education

## WORK EXPERIENCE

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<b>OECD</b>	Since May 2024
<i>Environmental economist (Environment Directorate)</i>	<i>Paris, France</i>

- I provide economic, policy analysis and advice in research questions on environmental and economic policy integration to address the triple planetary crisis of climate change, biodiversity loss and pollution (recently published [Environmental Outlook](#) report).
- I work on quantitative and econometric methods to estimate the valuation of adverse health impacts of chemicals through WTP surveys ([SWACHE project](#)).

	Jan 2023 – May 2024
<i>Analyst, internal consultant (Education Directorate)</i>	<i>Paris, France</i>

- Data analysis and drafting of the [PISA 2022 Initial Report Volume II](#) on the resilience of education systems, schools and students during and after the Covid-19 pandemic, the [country note for France](#) and a PISA in Focus note entitled "[Managing screen time: How to protect and equip students against distraction](#)".
- Presented the PISA 2022 results for France to 50 journalists at the official embargoed media briefing

<b>World Bank</b>	Oct 2021 – Sep 2022
<i>Consultant (STC), Poverty and Equity Global Practice, Europe and Central Asia</i>	<i>Paris, France</i>

- Conducted statistical analyses of the [World Bank Pulse surveys](#) to measure the socio-economic and labour impact of Covid-19 in Bulgaria, Croatia, Poland and Romania
- Contributed to the [EU Regular Economic Report \(RER\) 8](#) and the [Romania Systematic Country Diagnostic \(SCD\) Update](#).

<b>World Health Organization</b>	Jun – Sep 2017
<i>Research assistant</i>	<i>Ulaanbaatar, Mongolia</i>

- Conducted an evaluation of the health and economic impacts of an excise tax on sugar-sweetened beverages in Mongolia

<b>World Bank Development Research Group (DECRG)</b>	Sep 2015 – Aug 2016
<i>Research assistant to <a href="#">Quy-Toan Do</a> and <a href="#">Hanan Jacoby</a></i>	<i>Washington D.C., USA</i>

- Data analysis and literature review for a randomized pricing experiment aimed at assessing the willingness-to-pay for piped water in Vietnam ([Optimal Pricing of a New Utility Service: The Case of Piped Water in Vietnam](#), accepted at the [Review of Economic Studies](#))

<b>Abdul Latif Jameel Poverty Action Lab (J-PAL Europe)</b>	Nov–Dec 2014
<i>Field investigator for Vincent Pons</i>	<i>Paris, France</i>

- Administered door-to-door questionnaires in the suburb of Courcouronnes for an impact evaluation on the access to health care among underprivileged households.

## United Nations Secretariat

Jul – Aug 2014

*Research intern to David Leblanc, Division for Sustainable Development (DESA) New York City, USA*

· Carried out a comparative analysis of integrated climate, land, energy and water policies in twenty countries.

## EDUCATION

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### Paris School of Economics

*Sept. 2018 - March 2023*

Ph.D. in Economics

Title: *Three Essays on the Industrial Exploitation of Natural Resources in Africa*

Supervisors: Fabrice Etilé (PSE, INRAE) and François Libois (PSE, INRAE)

Jury: Jérémy Laurent-Lucchetti (University of Geneva), Katrin Millock (PSE, CNRS), Céline Nauges (TSE, INRAE), Raphaël Soubeyran (INRAE, CEE-Montpellier)

### Paris School of Economics

*2016-2018*

Masters in Analysis and Policy in Economics

### ENSAE ParisTech (French National School of Statistics and Economics)

*2013-2017*

Engineering Masters' Degree in Data Science, Quantitative Economics and Sociology

### Lycée Henri IV, Paris

*2011-2013*

Classes Préparatoires aux Grandes Écoles, Economics and Business (ECS)

## PUBLICATIONS

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### Environmental Outlook on the Triple Planetary Crisis: Stakes, Evolution and Policy Linkages *OECD Publishing, Paris, 2025*

*led by Shardul Agrawala.*

### Managing screen time: How to protect and equip students against distraction, *PISA in Focus, No. 124, OECD Publishing, Paris, 2024*

*with Andreea Minea-Pic.*

### PISA 2022 results Volume II - Learning During – and From – Disruption, *PISA, OECD Publishing, Paris, 2023*

*led by Miyako Ikeda, with Hannah Ulferts and Alfonso Echazarra.*

### Programme International pour le suivi des acquis des élèves (PISA) : Principaux résultats pour la France du PISA 2022 *PISA, Éditions OCDE, Paris, 2023*

*with Éric Charbonnier.*

### Romania - Systematic Country Diagnostic Update, *World Bank, 2023*, Washington, D.C. : World Bank Group.

*led by Nga Thi Viet Nguyen and Emilija Timmis.*

### EU Regular Economic Report 8: Living Up to Potential in the Wake of Adverse Shocks - Part 1, *World Bank report on the European Union, 2022*

*with Mona Prasad, Emilija Timmis, Collette Mari Wheeler, Andrei Silviu Dospinescu, Kristina Vaughan, Samuel Freije-Rodriguez, Nga Thi Viet Nguyen, Reena Badiani-Magnusson, Leonardo Iacovone, Lukasz Marek Marc, Natasha Kapil and Matija Laco.*

### Prices, Patents and Access to Drugs: Views on Equity and Efficiency in the Global Pharmaceutical Industry, *Revue française des affaires sociales 2018/3*

*with Quentin Cavalan, Maud Hazan and Roxane Zighed.*

## **Benefits of Fiscal Policies on Sugar-Sweetened Beverages, *Central Asian Journal of Medical Sciences*, 2017**

*with Undram Mandakh, Erdenechimeg Erdenebayar, Khorolmaa Bold, Tseden Purevdorj and Chimedsuren Ochir.*

## **WORKING PAPERS**

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### **MiningLeaks: Water Pollution and Child Mortality in Africa, *with Mélanie Gittard***

*[Submitted]*

In the midst of Africa's mining boom, communities downstream from industrial mines face increased exposure to toxic waste. Yet, the effects of induced water pollution on the local population's health have not been quantified at the continental scale of Africa, due to data limitation and non-random exposure. This paper investigates this question using a quasi-experimental design and a novel dataset detailing the location and opening dates of all known industrial mines, obtained through intensive manual data collection. We combine geo-coded information on 2,016 industrial mines with health outcomes from the Demographic Health Survey (DHS) from 1986 to 2018 in 26 African countries. Through a staggered difference-in-difference strategy, we compare villages downstream and upstream of mines before and after opening and find a 25% increase in 24-month mortality rates downstream. The effect is mainly observed among children who were no longer breastfed, confirming that water pollution drives the results. Our analysis rules out other mechanisms like fertility changes, access to facilities, in-migration, conflicts and income effects. The impact intensifies during mine operation and high international mineral prices, especially in densely mined regions, and fades out with distance.

### **Man Overboard! Industrial Fishing as a Driver of Migration Out of Africa, *with François Libois***

The adoption of a capital intensive technology to extract natural resource, competing directly with a more traditional and labour intensive use, can trigger migration in developing countries. This article focuses on the effect of fish stock depletion on migration in Africa and uses a novel dataset on industrial fishing intensity (Kroodsmma et al., 2018). Based on a panel of the 37 African countries with access to the sea over the period 2012-2018, we show that within country variation in industrial fishing intensity increases migration to OECD countries. We find strong evidence that the competition created by industrial fishing vessels overfishing African seas and depleting fish stocks, increase the number of migrants to OECD countries. We then show that findings at the macro level are consistent in terms of mechanisms with micro level estimates using household level demographic data.

### **Raw Materials Diplomacy, Official Development Finance and the Industrial Exploitation of Natural Resources in Africa**

*(draft available upon request)*

This paper investigates how official development finance from traditional and emerging donors influences the industrial exploitation of natural resources in Africa. Willingly or not, loans contribute to the local influence a donor country can have in a recipient country, and its companies can benefit from easier access to extract the recipient's natural resources. Using development finance flows panel data from the OECD countries, China, India and the Gulf countries on the one side, and novel data on industrial extraction of natural resources on the other side. Through an extended descriptive analysis, I find that official development flows from DAC and non-DAC countries are positively correlated with their capacity to conclude large-scale land acquisitions in Africa, over 2000-2014.

## **GRANTS AND AWARDS**

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Full doctoral scholarship, Université Paris 1 - Panthéon Sorbonne  
Research grant, CEPREMAP (5k)

2018-2022  
2022

Research grant, EUR-PGSE (2.5k)	2022
Best PhD project, IOEA	2019
Research grant, EUR-PGSE (4.5k)	2019
International mobility grant, Université Paris-Saclay (1.9k)	2017

## ADDITIONAL ACTIVITIES

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**Teaching** Teaching Assistant in Development Economics for Golvine de Rochambeau, Fall 2020  
Master 1 (Paris School of International Affairs) and Master 2 (School of Public Affairs)

**Refereeing** Environment and Development Economics Journal, World Development

## SKILLS

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**Programming and software** Stata, R, QGIS, Python

**Languages** French (native)  
English (fluent)  
Mandarin Chinese (fluent, HSK level 5)  
German (intermediate)

## SEMINARS AND CONFERENCES

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**2023** 13<sup>th</sup> Annual Conference on Immigration in OECD Countries  
European Economics Association (EEA-ESEM) Annual Conference

**2022** European Health Economics Association (EuHEA) Seminar Series  
European Association of Environmental and Resource Economists (EAERE) Annual Conference  
Journées doctorales du développement (JDD, Centre d'Économie de la Sorbonne)  
Casual Friday Development Seminar (CFDS, PSE)

**2021** Center for the Studies of African Economies (CSAE) Annual Conference  
69<sup>th</sup> Congress of the French Economic Association (AFSE)  
19<sup>th</sup> Nordic Conference in Development Economics (NCDE)  
International Development Economics Conference (ICDE)  
14<sup>th</sup> Int. Conference on Migration and Development (LISER, U. of Luxembourg, AFD, World Bank)  
Development Finance and Public Policies (DeFiPP) Workshop (University of Namur)  
Casual Friday Development Seminar (CFDS, PSE)

**2020** EAERE-ETH European Winter School  
Center for the Studies of African Economies (CSAE) Annual Conference  
7<sup>th</sup> French Association of Environmental and Resource Economics (FAERE) Annual Conference  
Applied Economics Lunch Seminar (PSE)  
Casual Friday Development Seminar (CFDS, PSE)  
2<sup>nd</sup> International Conference on Environmental Economics, A Focus on Natural Resources (EENR)

**2019** Institutional and Organizational Economics Academy (IOEA), 18th Edition Spring School  
Conférence Internationale de Statistique et d'Economie Appliquée (CISEA, ENSEA Abidjan)  
Casual Friday Development Seminar (CFDS, PSE)

## REFERENCES

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### **Quy-Toan DO**

Lead Economist  
Development Research Group (DECRG)  
Co-Director for the 2023 World Development Report  
The World Bank  
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### **Olof BYSTROM**

Senior Economist  
Policy Evaluation, Social and  
Distributional Outcomes (ENV/EEI)  
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