



Climate change, natural disasters, and financial risks

How could central banks integrate environmental issues into their policies?

27 June 2023

9.30 - 18.00 (Paris time) | 16.30 - 1.00 (Tokyo time)

On-site at Banque de France: 31 rue Croix des Petits-Champs 75001 Paris

Or online for peoples outside Paris area | In English

Registration: <https://forms.gle/X78e7aLQ9QMpf1XL7>

Contact: events_ffj@ehess.fr

Climate change and its associated natural disasters pose significant financial risks to economies around the world. As a result, central banks are increasingly being called upon to integrate environmental issues into their policies. This event will explore the various ways that central banks can incorporate environmental risk into their decision-making, including the use of climate stress tests, the development of green financing initiatives, and the implementation of environmental disclosure requirements. Through expert speakers and panel discussions, participants will gain a better understanding of the complex relationship between climate change and financial risk, as well as the strategies and tools available to central banks to help mitigate these risks.

The workshop is organised by the FFJ/Banque de France lab with the support provided by the ANR under the Labex Louis Bachelier and the MSH Paris Nord.



Programme

(Paris time)

- MORNING SESSIONS -

9:30 - 13:00

9.30 | **Opening remarks**

Agnès BÉNASSY-QUÉRE (Deputy-Governor, Banque de France)

Makita SHIMOKAWA (Ambassador of Japan in France)

Session 1

IMPACTS OF NATURAL DISASTERS

9:40 - 11:10

Moderator: Sébastien LECHEVALIER (FFJ-EHESS)

Discussants: Maria-Sole PAGLIARI (Banque de France),

Camélia TURCU (Orleans University)

Paper 1 | **Disasters and Inflation in the Euro Area**

Ulrich VOLZ (SOAS)

Co-authors: John BEIRNE (ECB), Yannis DAFERMOS (SOAS), Alexander KRIWOLUZKY (Martin Luther University), Nuobu RENZHI (Asian Development Bank Institute), Jana WITTICH (DIW Berlin)

Paper 2 | Impact of Floods on Real Economy, Land Prices, and Financial Intermediation in Japan

Nao SUDO (Bank of Japan)

Co-authors: Takuro ASHIZAWA (BoJ), Kakuho FURUKAWA (BoJ), Ryuichiro HASHIMOTO (BoJ), Yoshiyasu KOIDE (BoJ), Tomomi NAKA (BoJ), Kenji NISHIZAKI (BoJ), Genichiro SUZUKI (BoJ)

Paper 3 | **Governance, Risk and Financial Impact of Mega Disasters: Lessons from Japan**

Franz WALDENBERGER (German Institute for Japanese Studies)

Co-editor of the book: Akiko KAMESAKA (Aoyama Gakuin University)

Q&A session | **Ask your questions**

Coffee break

Session 2

NATURAL DISASTERS: REGULATION, INSURANCE, AND WELFARE EVALUATION

11:30 - 13:00

Moderator: Marie BRIÈRE (Amundi)
Discussant: Nao SUDO (Bank of Japan)

Paper 4 | **Preferences, behaviour, and welfare outcomes against disasters:**
a review

Yasuyuki SAWADA (The University of Tokyo)

Paper 5 | Measuring exposure of people and assets to climate-related
hazards: results for OECD & G20 and application to the financial sector

Ivan HAŠČIČ (OECD), **Jolien NOELS** (OECD)

Paper 6 | Insurance and Natural Disasters in Pre-war Japan

Toshihiro OKUBO (Keio University)

Co-authors: Tetsuji OKAZAKI (The University of Tokyo), Eric STROBL (University of Bern)

Q&A session | **Ask your questions**

Lunch break

- AFTERNOON SESSIONS -

14:30 - 18:00

Session 3

MONETARY POLICY AND GHG EMISSIONS

14:30 - 16:00

Moderator: Sophie HAINCOURT (Banque de France)
Discussant: Urszula SZCZERBOWICZ (Banque de France)

Paper 7 | **Natural Disasters and Financial Stress: Can Macroprudential
Regulation Tame Green Swans?**

Pauline AVRIL (Orleans University), **Camélia TURCU** (Orleans University)

Co-author: Grégory LEVIEUGE (Orleans University, Banque de France)

Paper 8 | Firms' greenhouse emissions and monetary policy

Pedram POURABBASVAFA (Paris 1 University)

Co-author: Olena HAVRYLCHYK (Paris 1 University)

Paper 9 | Credit default swaps and corporate carbon emissions in Japan

Tatsuyoshi OKIMOTO (Keio University)

Co-author: Sumiko TAKAOKA (Seikei University)

Q&A session | **Ask your questions**

Coffee break

Roundtable

CLIMATE CHANGE, NATURAL DISASTER AND FINANCIAL RISK

BEYOND THE CENTRAL BANKS PERSPECTIVE, INVOLVING OTHER STAKEHOLDERS

16:15 - 17:45

Moderator: Sébastien LECHEVALIER (FFJ-EHESS)

Panelists

Tristan HUON DE KERMADEC - AXA

Kei KATO - Tokio Marine

Alice LEGRIX DE LA SALLE - AXA Climate

Emmanuel ROCHER - ACPR

Leigh WOLFROM - OECD

Q&A session | **Ask your questions**

17.45 | **Closing remarks**

Bruno CABRILLAC (Banque de France)

Sébastien LECHEVALIER (FFJ-EHESS)

Introductions and chairs

(alphabetical order)



Agnès **BÉNASSY-QUÉRÉ** (Banque de France)

Agnès Bénassy-Quéré is Deputy-Governor at Banque de France, on leave from University of Paris 1 Panthéon-Sorbonne and Paris School of Economics where she is a professor of economics. Prior to joining the Banque de France, she was Chief economist at the French Treasury (2020-2023). From 2012 until 2017, she chaired the French Council of Economic Analysis. Prior positions include Director of CEPII, the French research institute in international economics (2006-2012), and academic positions at the Universities of Paris-Nanterre, Lille and Cergy-Pontoise, as well as at École Polytechnique. She was also a member of the French macro-prudential authority, the tax advisory council, the productivity council, the Franco-German council of economic experts, and the Banque of France general board. She was in charge of

the CEPR European Economic Architecture Research and Policy Network, and was a non-resident fellow at Bruegel. Her research interests focus on the international monetary system and European macroeconomic policy.



Marie **BRIÈRE** (Amundi)

Marie Brière, PhD, is Head of the Investor Intelligence and Academic Partnership at Amundi Institute. She is a senior associate researcher at Paris Dauphine University and Université Libre de Bruxelles. She conducts research on portfolio choice, with a recent focus on sustainable finance, robo advice and pension, to advise the strategic decisions of institutional investors and the design of investment solutions for individual investors. She is the Chairman of Inquire Europe, chairman of the Scientific Committee of the European Savings Observatory and a member of the expert group advising the ESMA Standing Committee on Financial Innovation and a member of several scientific councils, such as that of the European Capital Market Institute of CEPS. Her scientific

articles have been published in academic journals and her work has been featured in several news outlets including the *Financial Times* and the *Wall Street Journal*. She received the Markowitz award for her article with Zvi Bodie on "Sovereign Wealth and Risk Management: A Framework for Optimal Asset Allocation of Sovereign Wealth", published in the *Journal of Investment Management*. She holds a PhD in economics from the University Paris 10 and graduated from ENSAE.



Bruno **CABRILLAC** (Banque de France)

Bruno Cabrillac entered the Banque de France (Bank of France, Central Bank) in 1984 as an economist in the Foreign Relation Department, then in the Research and Forecast Department. He was seconded to the Ministry of Finance as Financial Counsellor in Cairo (1989-1992) and Tokyo (1994-1996) after spending eighteen months as a foreign exchange and bond trader. In 1997, he was appointed Head of the African Department (Zone Franc) of the Banque de France. In April 2001, he was seconded to the Ministry of Finance to become Trade Commissioner and Banque de France representative in Hong Kong and Macau. In July 2005, he was appointed Financial Counsellor for Africa at the French Ministry of Finance (Treasury and Economic Policy Directorate General). In October 2008, he was appointed Director of

economics and international European relations at the Banque de France and since last October he is Deputy Director General Economics and International.



Sophie HAINCOURT (**Banque de France**)

Sophie Haincourt is the head of the International Macroeconomic Division of the Banque de France. Educated at Paris 1 Panthéon Sorbonne and Cardiff University, her topics of interest are international macro. Prior to joining the Banque de France, she was Head of Economic studies at EXPERIAN and Senior economist at Oxford Economics.



Sébastien LECHEVALIER (FFJ-EHESS)

Sébastien Lechevalier is an economist and a professor at EHESS (School of Advanced Studies in the Social Sciences, Paris), specialised in Japanese economy and Asian Capitalisms. He is also founder and president of the Fondation France-Japon de l'EHESS (FFJ). Trained as a labor economist, he has extensively published on various dimensions of the Japanese economy, in comparative perspective, including: *Lessons from the Japanese experience. Towards an alternative economic policy?* (ENS Editions 2016), and *The Great Transformation of Japanese Capitalism* (Routledge, 2014). Other research interests include innovation (*Innovation beyond technology*, Springer, 2019), industrial policies, and inequalities. He has been a visiting researcher and a professor in several institutions, including: The University of

Tokyo, Kyoto University, Hitotsubashi University, Waseda University, Doshisha University, Canon Institute for Global Studies.



Makita SHIMOKAWA (**Ambassador of Japan in France**)

Makita Shimokawa is the current Ambassador Extraordinary and Plenipotentiary of Japan in France. He has an extensive diplomatic career spanning over three decades. Shimokawa joined the Ministry of Foreign Affairs in 1984 and has held various positions of increasing responsibility. He served as Director of Economic Integration Division and National Security Policy Division, and as Deputy Director-General of Asian and Oceanian Affairs Bureau. He has also served as Deputy Minister and held ambassadorial posts in Indonesia, Belgium, and NATO. Shimokawa is a graduate of the University of Tokyo, Faculty of Law. With his expertise and dedication, he strives to enhance bilateral relations between Japan and France.



Urszula SZCZERBOWICZ (**Banque de France**)

Urszula Szczerbowicz is a research economist in the International Macroeconomics Division at the Banque de France. Her research focuses on issues in monetary and financial economics. She worked previously in CEPII and was a visiting scholar at Hitotsubashi University and at the Research Institute of Economy, Trade and Industry (RIETI). She holds a PhD in economics from LUISS Guido Carli and Sciences Po. Her thesis on unconventional monetary policies won the Pirou/Aguirre Basualdo prize in 2013.

Speakers

(alphabetical order)



Pauline AVRIL (Orleans University)

Pauline Avril is currently a fourth year of PhD in the "International Economics and Sustainable Development" Research Team at LEO (Laboratoire d'Economie d'Orléans). Before starting her PhD she had carried on a Master/Magistère in Development Economics at the University of Clermont-Auvergne. Her thesis "Natural disasters and financial stability" is under the direction of Camélia Turcu and Grégory Leveuge. Her different works aim at analysing the impacts of natural disasters shocks on the financial sphere at different level. The main objective of these works is to understand how physical risk is acting on our financial systems to improve their resilience. During her PhD she had present her works in numerous international conference. Moreover, she is currently completing a visiting at the Banque de France working on the problematic of the role of monetary policy in the climate transition.

Paper: Natural Disasters and Financial Stress: Can Macprudential Regulation Tame Green Swans?

Co-speaker: Camelia TURCU (Orleans University)

We empirically investigate the impact of natural disasters on the external finance premium (EFP), conditional on the stringency of macroprudential regulation. The intensity of natural disasters is measured through an original set of geophysical indicators for a sample of 88 countries over the period 1996-2016. Using local projections, we show that, following storms, the EFP significantly rises (drops) when macroprudential regulation is lax (stringent). This suggests that regulated financial systems could foster favourable financing conditions to replace destroyed capital with more productive capital. Macroprudential stringency seems less crucial in the case of floods, which are more predictable and thus may prompt self-discipline.



Ivan HAŠČIČ (OECD)

Ivan Haščič is a senior economist at the OECD Environment Directorate. He leads OECD's work on environmental data, statistics and indicators, including tracking environmental policy instruments, measuring climate actions and policies, and supporting the mainstreaming of environmental considerations in economic policy analysis (e.g. measuring environmentally adjusted multi-factor productivity growth, patenting in environmentally related technologies, revenue from environmentally related taxes), and developing methods to monitor air quality, climate hazards, land cover and the ocean using new sources of data (e.g. earth observation, geospatial, administrative). Previously, he worked on empirical analyses of the effects of public policy on environmental innovation and international technology transfer. He also contributed to the OECD's work on the implications of behavioural economics for

environmental policy design. He holds a PhD. in environmental and natural resource economics from Oregon State University, and Master's degree in environmental and development economics from the University of Oslo and in finance and banking from the University of Economics in Bratislava.

Paper: Measuring exposure of people and assets to climate-related hazards: results for OECD & G20 and application to the financial sector

Co-speaker: Jolien NOELS (OECD)

Understanding exposure to climate-related natural hazards can help implement stronger mitigation measures and accelerate adaptation efforts in countries. It can also inform financial sector adaptation efforts. OECD work on assessing the exposure of people and assets to climate-related hazards (extreme temperature, extreme precipitation, drought, wildfire, wind threats, river flooding, coastal flooding, sea level rise) will be presented. Indicator methodology (for observed and forward-looking hazards), selected results for OECD and G20 countries, and initial results of case studies for European manufacturing and the global steel sector will be discussed.



Tristan HUON DE KERMADEC (AXA)

Tristan Huon de Kermadec is Group Head of Short Tail Underwriting at AXA. Experienced Property Specialist with a demonstrated history of working in the insurance industry. Skilled in Portfolio Management, Financial Risk, Risk Management and Property & Casualty Insurance. Contribute to P&C Underwriting and Business strategy for Climate and Sustainability at AXA Group. Strong Commercial Lines professional graduated from Centre d'Etudes Actuarielles.



Kei KATO (Tokio Marine)

Kei Kato joined Tokio Marine in 1993 and his 30 year career at Tokio Marine spans various areas of the insurance business such as marine insurance claims, loss prevention consulting, specialty risks underwriting and management of overseas subsidiaries. He has also been involved in the strategic business planning of Tokio Marine's international business at Tokio Marine's holding company. Since 2015, he has been engaged in government and external relations, monitoring global regulatory developments representing the views of Tokio Marine and the broader Japanese non-life market towards regulators and external industry organizations. Since 2018, he has been posted in London monitoring topics such as UK/European regulations, insurance markets, geopolitical trends, climate & sustainability as well as involvement in external organizations such as the Geneva Association, an insurance industry think tank. He

graduated from the University of Tokyo with a BA in Law in 1993, and subsequently obtained an LL.M. degree from Boston University School of Law in 2004. He is registered as an attorney for the state of New York in the United States of America (currently not practicing).



Alice LEGRIX DE LA SALLE (AXA Climate)

Alice is leading AXA Climate's consulting activity to financial players, as well as the Financing activity aiming at co-creating investment funds to support companies and projects with regenerative purpose. After gaining experience in digital & innovation consulting, Alice joined AXA Climate at the company's creation to manage the Finance, Strategy and Marketing functions. She then contributed to launching the company's consulting activity in the agriculture and food sector, before giving impetus to the Financing business, with the creation of the Regenerative Agriculture fund (impact PE fund, art 9) co-created with Tikehau Capital and Unilever. Alice graduated from Ecole des Mines de Paris.



Jolien NOELS (OECD)

Jolien Noels is a policy analyst at the OECD Environment Directorate. She works on finance for climate action, exploring data, methods and metrics to assess the alignment of the financial sector with the Paris Agreement. For this, she studies both real-economy investments and financial instruments, adaptation and mitigation, corporate climate action and data and climate change scenarios and policies. Prior, she was a researcher at the Grantham Research Institute. Jolien holds a MSc in Environmental Economics from the London School of Economics and a MA in Applied Economics from the University of Antwerp.

Paper: Measuring exposure of people and assets to climate-related hazards: results for OECD & G20 and application to the financial sector

Co-speaker: Ivan Haščič (OECD)

Understanding exposure to climate-related natural hazards can help implement stronger mitigation measures and accelerate adaptation efforts in countries. It can also inform financial sector adaptation efforts. OECD work on assessing the exposure of people and assets to climate-related hazards (extreme temperature, extreme

precipitation, drought, wildfire, wind threats, river flooding, coastal flooding, sea level rise) will be presented. Indicator methodology (for observed and forward-looking hazards), selected results for OECD and G20 countries, and initial results of case studies for European manufacturing and the global steel sector will be discussed.



Tatsuyoshi OKIMOTO (Keio University)

Tatsuyoshi Okimoto is Professor of Economics and Finance at the Faculty of Economics, Keio University, a principal at Economics Design Inc., a research associate at Research Institute of Economy, Trade and Industry. He received PhD from the University of California, San Diego in 2005. He worked for Australian National University, Hitotsubashi University, and Yokohama National University before joining Keio University in 2022. His research has focused on Financial Econometrics and Macroeconometrics. He has been awarded the 1st GPIF Finance Awards (2017), 2015 Junko Maru Prize, and 2014 Securities Analysts Journal Prize.

Paper: Credit default swaps and corporate carbon emissions in Japan

We examine the relationship between carbon emissions and the market perception of firms' default risk measured by corporate credit default swap (CDS) spreads in Japan. While corporate revenue size is the most significant factor of carbon emissions, pressure from investors has a significant decreasing effect on carbon emissions, which is greater for investment-grade companies. We find that carbon emissions have time-varying effects on corporate CDS spreads, which supports the "investor awareness" hypothesis across sectors and credit quality. The sectoral impacts indicate that carbon emissions are priced prominently in the CDS spreads of firms in sectors where the transition to carbon-free energy sources appears relatively less complicated and less expensive. Finally, we report the impacts of carbon emissions on the CDS spread curve, where they are priced in both short- and long-term CDS spreads, and high carbon emissions steepen the CDS spread curve.



Toshihiro OKUBO (Keio University)

Toshihiro Okubo is Professor of International Economics at the Faculty of Economics, Keio University. His areas of expertise encompass international trade, regional economy, quantitative economic history, and economic geography. His current research topics are globalization, digitalization, natural disasters, trade and geography, and regional economy of Japan. With over 80 international journal articles to his credit, he has contributed articles to renowned international journals such as the *Journal of International Economics*, *Journal of Economic History*, *European Economic Review*, *Journal of Money, Credit, and Banking*, and *Journal of Environmental Economics and Management*. In addition to his academic pursuits, he is involved in policy consulting and serves as a member of several government committees

Paper: Insurance and Natural Disasters in Pre-war Japan

This study explores the impact of natural disasters on the insurance market and individual behavior in pre-war Japan. Using unique panel prefectural level datasets from 1910 to 1940, including data on natural disasters (big fires), fire insurance market (claims, new policies, and active policies), and small unintentional fires, we found that after big fires, people tended to buy fire insurance as a precautionary measure. We observed a significant increase in the number of claims and new policies following big fires (natural disasters). This, in turn, led to an increase in small unintentional fires. Despite the prevalence of natural disasters and insurance, the primitive insurance market in pre-war Japan resulted in moral hazard and adverse selection.



Maria-Sole PAGLIARI (Banque de France)

Maria Sole Pagliari is Research Economist in the Monetary Policy Section inside the Direction of Monetary and Financial Studies at Banque de France. She holds a PhD in Economics from Rutgers University. Her research interests include monetary policy, international finance, macroeconometrics and economics of climate change.

Paper: The CO₂ content of ECB's TLTROIII and its greening

Central Bank operational choices in designing asset purchase programmes and setting collateral frameworks have been shown to disproportionately benefit carbon-

intensive sectors of the economy. To date, refinancing operations have received less attention. In this paper, we investigate the emissions content of the ECB's Targeted Longer-Term Refinancing Operations (TLTRO) III. We use confidential data on loans granted by EU institutions from the AnaCredit dataset as well as information about TLTRO III participation. This information is then combined with sectoral emission intensity to study the TLTRO programme's carbon bias. Using a theoretical model, we then investigate a central bank's interest-setting policy conditional on the share of loans to polluting firms in banks' portfolios and on the likelihood of the transition to a low-carbon economy. Finally, we discuss the legal and practical feasibility of a "green" TLTRO programme.



Pedram **POURABBASVafa** (Paris 1 University)

Pedram Pourabbasvafa is a doctoral candidate at Paris 1 University Panthéon-Sorbonne. He has received a M.Sc. in Financial Economics and a M.Sc. in Finance Technology Data from Paris 1 University Panthéon-Sorbonne. His research concerns monetary policy and financial economics.

Paper: Firms' greenhouse emissions and monetary policy

This paper uses an event-study methodology to explore the impact of unanticipated monetary policy changes on the stock prices of firms with different greenhouse emission intensities. We show that the stock returns of brown firms react more aggressively to monetary policy changes compared to green firms. This finding is explained by fundamental differences between green and brown firms. Firstly, green firms own more intangible assets while brown firms hold more tangible assets. Since tangible assets have stronger collateral value, this results in a stronger credit channel of monetary policy for brown firms. Secondly, brown firms operate more in industries that are more sensitive to changes in monetary policy. Controlling for asset tangibility and industries' reactivity to monetary policy, we find no difference between green and brown firms' reactions to monetary policy. Our results are robust across different measures of monetary shocks and different measures of firm environmental footprint. Our findings contribute to the discussions about the market neutrality principle practiced by central banks and the greening of the monetary policy.



Emmanuel ROCHER (ACPR, Banque de France)

Emmanuel Rocher joined the French Authority in charge of the supervision and resolution of banks and insurance companies in 2019. He was appointed Director for international Affairs in 2021, after various positions at Banque de France and ACPR. In particular, he served as Chief of staff of Governor Villeroy de Galhau from 2015 to 2019. His current department is involved in the negotiations of the standards being discussed at international and European levels, for both the banking and insurance sectors. He represents the ACPR in the Policy and Standards Group (PSG) of the Basel Committee on Banking Supervision.



Yasuyuki SAWADA (The University of Tokyo)

Yasuyuki Sawada is Professor at the Faculty of Economics, of the University of Tokyo. From March 2017 until August 2021, he was Chief Economist of Asian Development Bank (ADB) and Director General of its Economic Research and Regional Cooperation Department (ERCD). His key research areas are development economics, empirical microeconomics, economics of disasters, field surveys and experiments, and Asian economies. He has worked with research and policy organizations, among them JICA, RIETI, ERIA, IDE-JETRO, Pakistan Institute of Development Economics (PIDE), Bangladesh Institute of Development Studies (BIDS), International Rice Research Institute (IRRI), International Water Management Institute (IWMI), BRAC Bangladesh, and World Bank. He obtained Ph.D. in Economics from Stanford University.

Paper: Preferences, behaviour, and welfare outcomes against disasters: a review

This paper reviews the existing studies on the link between natural disasters, poverty, and economic

development. It emphasizes that both developed and developing countries remain vulnerable to different types of disasters, including COVID-19. Yet, disasters have a greater impact on developing economies, affecting disadvantaged groups. This paper describes the disaster-poverty nexus, the impact of disaster exposure on preferences and behaviors, disaster insurance mechanisms, welfare consequences, and the case of the Great East Japan Earthquake. In summary, the paper emphasizes the need for comprehensive approaches to address the social, economic, and behavioral aspects of disaster risk reduction and recovery, particularly in the context of poverty reduction and sustainable development.



Nao SUDO (Bank of Japan)

Nao Sudo is the Head of Economic and Financial Studies Division, Institute for Monetary and Economic Studies, Bank of Japan. His Division is responsible for research on broad issues of economics and finance. Prior to his current role, he was the head of Financial System Research Division at Financial System and Bank Examination Department. Nao Sudo was born in 1977. He studied economics in Kyoto and Boston and holds a PhD by Boston University.

Paper: Impact of Floods on Real Economy, Land Prices, and Financial Intermediation in Japan

Japan has historically been plagued by floods. In recent years, a series of large-scale floods have also caused direct damage of over JPY 1 trillion to tangible fixed assets nationwide. We combine the granular data on flood damage and land prices with macroeconomic variables to quantitatively assess the indirect impacts, i.e., secondary impacts of the direct effects, of floods on economic activity, land prices and financial intermediation. We also present tentative projections on how floods will affect economic activity in the future, using climate change estimates from an external organization.



Camélia TURCU (Orleans University)

Camélia Turcu is Professor of Economics at the University of Orléans and a research fellow at the Laboratoire d'Economie d'Orléans (LEO). She is co-director of the LEO research team "International Economics and Sustainable Development", and the MSH Val de Loire Deputy Director. Her research areas include international (macro) economics, and environmental and resource economics. She has extensive academic experience, including serving as an expert scientist for the European Commission. Camélia holds a Doctorate and a Habilitation in Economics, her research has earned her accolades, including the TIMTED Young Researcher Prize. She is strongly involved in regional (APR IA CriseReactGlobal), national (Labex Voltaire), and international (H2020 Untangled) research grants. She is also the scientific coordinator

of the Institut Louis Bachelier *Research Initiative* "Energy transition and the changes in economic modeling", launched by LEO and CA CL.

Paper: Natural Disasters and Financial Stress: Can Macroprudential Regulation Tame Green Swans?

Co-speaker: Pauline AVRIL (Orleans University)

We empirically investigate the impact of natural disasters on the external finance premium (EFP), conditional on the stringency of macroprudential regulation. The intensity of natural disasters is measured through an original set of geophysical indicators for a sample of 88 countries over the period 1996-2016. Using local projections, we show that, following storms, the EFP significantly rises (drops) when macroprudential regulation is lax (stringent). This suggests that regulated financial systems could foster favourable financing conditions to replace destroyed capital with more productive capital. Macroprudential stringency seems less crucial in the case of floods, which are more predictable and thus may prompt self-discipline.



Ulrich VOLZ (SOAS)

Ulrich Volz is Professor of Economics and Director of the Centre for Sustainable Finance at SOAS, University of London. He is also a Senior Research Fellow at the German Institute of Development and Sustainability (IDOS), Visiting Professor at the London School of Economics and Political Science, and Honorary Professor of Economics at the University of Leipzig. Ulrich is co-founder and chair of the Japan Economy Network, academic director of the University Network for Strengthening Macroeconomic Resilience to Climate and Environmental Change, a director of the Global Research Alliance for Sustainable Finance and Investment, and a member of the CEPR Sustainable Finance Research and Policy Network. He serves on the Sustainable Finance Advisory Committee of the German Federal Government and

the advisory panel of the Glasgow Financial Alliance for Net Zero (GFANZ). Ulrich was FFJ/Banque de France Fellow at EHESS in Paris, and taught at Peking University, Kobe University, Hertie School of Governance, Freie Universität Berlin, Central University of Finance and Economics, and the Institute of Developing Economies (IDE-JETRO). He spent stints working at the ECB and EBRD and held visiting positions at the University of Oxford, University of Birmingham, Aoyama Gakuin University, ECB, Bank Indonesia, Bank Negara Malaysia and the Asian Development Bank Institute, where he previously served on the Advisory Council. Ulrich was part of the UN Inquiry into the Design of a Sustainable Financial System and a member of the NGFS-INSPIRE Study Group on Biodiversity and Financial Stability. He has acted as an advisor to several governments, central banks, international organisations and development agencies on matters of macroeconomic policy, sustainable finance and development.

Paper: Disasters and Inflation in the Euro Area for which we recently got an R&R from the Journal of Banking and Finance

This paper investigates the impact of disasters on inflation in the euro area. We estimate panel and country-specific structural vector autoregression models by combining estimated damages of disaster events with monthly data for the Harmonised Index of Consumer Prices for all euro area countries over the period 1996-2021. Besides estimating the effect on overall headline inflation, we examine the effects on its 12 main sub-indices and further sub-categories of food price inflation. We find significant positive effects of disasters on overall headline inflation, with diverging results at the sub-index level. We also find heterogeneous inflation effects across different countries.



Franz **WALDENBERGER** (German Institute for Japanese Studies)

Franz Waldenberger has been Director of the German Institute for Japanese Studies (DIJ) in Tokyo since October 2014. He is on leave from Munich University where he holds a professorship for Japanese Economy. His research focuses on the Japanese Economy, Corporate Governance and International Management. He is editor in chief of the international peer reviewed journal *Contemporary Japan*. His recent publications include *The Future of Financial Systems in the Digital Age* (2022, co-edited with M. Heckel). As member of the Japanese German Forum and the board of the Japanese German Business Association, he has for many years been working for the betterment of German Japanese relations.

Book: Governance, Risk and Financial Impact of Mega Disasters: Lessons from Japan

This book addresses researchers, practitioners, and policy makers interested in understanding the financial implications of mega-disaster risks as well as in seeking possible solutions with regard to governance, the allocation of financial risk, and resilience. The first part of this book takes the example of Japan and studies the impact of mega earthquakes on government finance, debt positions of private household and businesses, capital markets, and investor behavior by way of economic modeling as well as case studies from recent major disasters. In Japan, the probability of a mega earthquake hitting dense agglomerations is very high. Like other large-scale natural disasters, such events carry systemic risks, i.e., they can trigger disruptions endangering the stability of the social, economic, and political order. The second part looks at the experience of the Japanese government as a provider of disaster-risk finance and an active partner in international collaboration. It concludes with an analysis of the general characteristics of systemic risk and approaches to improve resilience.



Leigh WOLFROM (OECD)

Leigh Wolfrom is a policy analyst in the OECD's Directorate for Financial and Enterprise Affairs where he leads the directorate's work on the financial management of catastrophe risk. In this role, he has provided analysis and reports to the OECD Insurance and Private Pensions on a variety of disaster risk financing issues, including the financial management of flood risk, the contribution of reinsurance markets to managing catastrophe risks, the role of catastrophe risk insurance programmes in enhancing insurance availability and affordability and enhancing the insurance sector contribution to climate adaptation. He led the development of the OECD guidance on establishing disaster risk financing strategies to address the financial impacts of natural and human-made catastrophes. He has also developed a number of reports

on emerging catastrophe perils, such as cyber risks and infectious disease outbreaks, including a report on responding to the pandemic protection gap and an examination of insurance coverage for cyber-terrorism. Prior to joining the OECD, Leigh Wolfrom worked in the Financial Sector Policy Branch at the Canadian Department of Finance and at Global Affairs Canada on international financing issues. He has an M.A. in International Affairs from Norman Paterson School of International Affairs (Carleton University) and a B.A. in Economics from the University of British Columbia.

