

GLOBAL RESEARCH ALLIANCE FOR SUSTAINABLE
FINANCE AND INVESTMENT

GRASFI 2020 CONFERENCE

SEPTEMBER 8-11, 2020



GLOBAL RESEARCH ALLIANCE
FOR SUSTAINABLE FINANCE
AND INVESTMENT



Columbia Center
on Sustainable Investment

A JOINT CENTER OF COLUMBIA LAW SCHOOL
AND THE EARTH INSTITUTE, COLUMBIA UNIVERSITY



WELCOME TO THE GRASFI 2020 CONFERENCE

The economic reverberations of the COVID-19 crisis have laid bare many of the fundamental deficiencies of our existing economic and financial systems. Important questions that were asked at previous GRASFI conferences are being discussed with even greater intensity and urgency now. Globally, we face mass unemployment, financial destabilization, continuing health and climate crises, widening inequality, and a dire need to rebuild and reimagine the systems that failed us. Corporations, governments, investors and the financial community each play critical roles in shaping investment and financial flows; the challenges and opportunities for each actor in our financial system to catalyze and support solutions for a sustainable recovery, and to reduce existing inequalities and social and environmental impacts, are as critical as ever. The plenary sessions shine a spotlight on each of these actors, critically examining their purpose and roles with respect to advancing sustainable development. The final plenary takes stock of progress to finance the Energy Transition, five years since the adoption of the Paris Climate Agreement, including reflections on whether the vulnerabilities exposed by COVID have provoked new thinking on climate resilience and action. Over the course of the 3rd Annual GRASFI Conference, a diverse and interdisciplinary community of academics, policymakers, private sector practitioners, and others will convene to discuss and evaluate the opportunities, tools, successes and challenges for aligning our financial system with sustainable development. The program includes panel discussions among experts, engaging workshops on critical themes related to sustainable finance, and the presentation of cutting-edge, interdisciplinary research that will inform policies and practices in the years to come.



BNP PARIBAS
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CONFERENCE SCHEDULE

TUESDAY, September 8, 2020		
7:30am - 7:55am EDT	Welcome	
8:00am - 9:00am EDT	Plenary Discussion - Revisiting the Role of the Corporation	
9:30am - 10:30am EDT	Paper Presentation 1a: ESG: What Are We Talking About?	Paper Presentation 1b: Climate Change: Financial Implications of Physical Risks
11:00am - 12:00pm EDT	Paper Presentation 2a: ESG Performance and Financial Performance	Paper Presentation 2b: Actors and Approaches for Driving Change
12:15pm - 1:30pm EDT	Countdown to 2030: The role of the investment industry in the achievement of the Sustainable Development Goals	
9:00pm - 10:00pm EDT	Panel Session 1 replay & networking session	
WEDNESDAY, September 9, 2020		
7:00am - 8:00am EDT	ESG Research Brainstorm – What do we need to know to understand the financial impact of climate change and other ESG issues?	
8:00am - 9:00am EDT	Plenary Discussion - The Role of the State	
9:30am - 10:30am EDT	Paper Presentation 3a: Economic Ecosystems for Sustainability	Paper Presentation 3b: Where the Market Is Not Getting It Right
11:00am - 12:00pm EDT	Paper Presentation 4a: The Role of the Law: Climate Litigation, Disclosure Rules, and Corporate Governance	Paper Presentation 4b: ESG: What Lenders Want, Do, and Can Do
12:15pm - 1:15pm EDT	Ask the Academic: A conversation between practitioners and researchers on sustainable investing	
2:00pm - 3:00pm EDT	I Put a Spell on You: The Business Roundtable's Statement of Purpose	
8:00pm EDT	Online Workshop on Climate Finance in Asia and Australasia8pm EDT/ Thursday 10th (China Standard Time 8am)	
10:00pm - 11:00pm EDT	Panel Session 2 replay & networking session	

CONFERENCE SCHEDULE

THURSDAY, September 11 2020		
7:00am - 8:00am EDT	Finding a Sustainable Crisis Response for Central Banks and Supervisors	
7:00am - 8:00am EDT	Next Generation Skills for Sustainable Finance Education	
8:00am - 9:00am EDT	Plenary Discussion - Revisiting the Role and Responsibilities of the Investment Community	
9:30am - 10:30am EDT	Paper Presentation 5a: Shareholders: Drivers of ESG Change(?)	Paper Presentation 5b: A Financial Lens into the Crises of Our Times
11:00am - 12:00pm EDT	Paper Presentation 6a: Shareholders: Drivers of ESG Change(?) (continued from 5a)	Paper Presentation 6b: ESG: Does It Matter to Investors
12:15pm - 1:00pm EDT	The "S" in "ESG"	
9:00pm - 10:00pm EDT	Panel Session 3 replay and networking session	

FRIDAY, September 11, 2020		
7:00am - 8:00am EDT	Climate Action in the Time of Debt Distress 7-8am EDT / 12-1pm BST / 1-2pm CEST / 4-5pm PKT	
8:00am - 9:00am EDT	Plenary Discussion - Financing the Paris Agreement post-COVID-19	
9:15am - 11:00am EDT	Food Systems Dialogue (invite-only)	
10:00am - 12:00pm EDT	PhD Workshop	
10:00am - 12:00pm EDT	GRASFI Committee Meeting	
9:00pm - 10:00pm EDT	Panel Session 4 replay and networking session	

IN A CHANGING WORLD,
**YOU NEED TO KEEP AN EYE
ON THE RIGHT PATH.**



At BNP Paribas Asset Management, we manage assets with the world in mind, looking beyond financial metrics to ensure we manage all risks and invest in responsible businesses that perform over the long term. This is why we say: investing means the world to us.

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world

SIDE EVENTS

Tuesday, September 8, 2020

Countdown to 2030: The role of the investment industry in the achievement of the Sustainable Development Goals

The United Nations (UN) launched the Sustainable Development Goals (SDGs) in 2015 as a roadmap for governments, businesses and civil society to achieve a more sustainable and equitable society by 2030. The UN estimated that to meet these aspirational goals, it will require investments of about USD 3.5tr a year, both from public and private capital. It's been five years since this announcement, and estimates show an annual funding gap of about USD 2.5tr, in large part due to disappointing participation of private sector investors. In this practitioner-led panel discussion, we'll present the findings of a nine-month research study that sought to answer the question: What would it take for institutional investors to increase their level of commitment and participation to mobilize capital towards the SDGs? We'll discuss, from the perspective of both asset owners and asset managers, the role of the investment community in the achievement of the SDGs, why the SDGs are relevant to and important for the investment community, the obstacles that these investors are facing to integrate SDGs in their investment mandate, and, more importantly, how to ensure that investors and asset managers contribute to, and do not undermine, the achievement of the goals by 2030.

Moderators:

Luciana Aquino-Hagedorn, Senior Fellow CCSI

Mirtha Kastrapeli, Fellow CCSI, Founder of Beyond Alpha

Confirmed Speakers:

Scott Kalb, Founder and Director of the Responsible Asset Allocator Initiative at New America

Christopher Kualess, ESG Product Manager, ISS ESG

Rick Lacaille, Executive Vice President and Global CIO, State Street Global Advisors

Ellen Quigley, Advisor to the Chief Financial Officer (Responsible Investment) and Research Associate at the Centre for the Study of Existential Risk, University of Cambridge.

Wednesday September 9, 2020

ESG Research Brainstorm – What do we need to know to understand the financial impact of climate change and other ESG issues?

Understanding the financial impact of climate change issues is a complex task, but research is evolving rapidly to meet this challenge. This session, organized by Fitch Ratings, is intended to draw input from participants on what are the most important and pressing areas of research on the subject area. The session will be jointly moderated by Mervyn Tang, Global Head of ESG Research at Fitch Ratings, and Tracy Van Holt, Director of Academic Research at New York University's Center for Sustainable Business, who will discuss research ideas submitted. Audience participation is highly encouraged.

Co-moderators:

Mervyn Tang, Senior Director and Global Head of ESG Research, Fitch Ratings

Tracy Van Holt, Director of Academic Research, Center for Sustainable Business, Leonard N. Stern School of Business, NYU

Speakers

Emily Chasan, Sustainable Finance Journalist

Johannes Stroebe, David S. Loeb Professor of Finance, Leonard N. Stern School of Business, NYU

Ask the Academic: A conversation between practitioners and researchers on sustainable investing

This session, organized by BNP Paribas Asset Management, is meant to facilitate dialogue between practitioners and academics working on sustainable investing and ESG issues in order to promote better understanding between the diverse set of actors working in the field.

Moderators:

Jane Ambachtsheer, Global Head of Sustainability at BNP Paribas Asset Management

Lisa Sachs, Director of the Columbia Center on Sustainable Investment

Speakers:

Professor Dan Esty, director of the Yale Center for Environmental Law and Policy and co-director of the Yale Initiative on Sustainable Finance

Rob Bauer, Professor of Finance (chair: Institutional Investors) at Maastricht University School of Business and Economics in The Netherlands.

I Put a Spell on You: The Business Roundtable's Statement of Purpose

Although a growing number of companies are now espousing their commitment to “purpose,” the fact remains that the gap between words and actions remains a large one. This gap will persist until a company's board of directors publishes a company-specific, stakeholder-inclusive “Statement of Purpose.” It is a necessary but not sufficient condition but is the basis for how the company's board and senior management can work with shareholders and other stakeholders to enact the purpose espoused in its board statement. To date, not a single one of the signatories to the Business Roundtable's “Statement on the Purpose of a Corporation” have produced a company-specific statement. There are only a handful of companies worldwide that have done so. This panel, moderated by Robert G. Eccles, will discuss why such a statement is important and how, far from being just about words, it relates to and affects real-world impact. This panel will also explore why companies have been slow to adopt this practice, the process by which the statement is produced, and what must be done to take this practice to scale. It will build on and go deeper into some of the points raised in the opening panel on the Role of the Corporation.

Online Workshop on Climate Finance in Asia and Australasia

Sustainable finance and managing climate risk are becoming two of the most important issues facing investors and financial regulators. The financial risks and opportunities associated with climate change are particularly acute in Asia and Australasia. The region is highly vulnerable to climate change related natural disasters. Further, in meeting the demand of growing populations and economic growth, governments in the region have tended to lag other part of the world.

WORKSHOP: The aim of the workshop is to encourage community building among researchers focused on climate finance in Asia and Australasia. We take a broad definition of climate finance-related topics (see list of topics below) and we welcome submission from a range of methodological approaches (empirical analyses, theoretical, macroeconomic/monetary-environment models, case studies, policy analyses etc.). Papers should have clear relevance to policy or investment practice and utilise Asian and Australasian data or context.

Thursday September 10, 2020

Finding a Sustainable Crisis Response for Central Banks and Supervisors

Central banks and financial supervisors are playing a crucial role in shaping the responses to the crisis brought about by the COVID-19 pandemic in both the immediate stabilisation phase and the subsequent recovery phase. To avoid lock-in to a high-carbon recovery and fulfil their mandates for financial stability, central banks and supervisors need to align their COVID-19 response measures with the Paris Agreement. Numerous instruments that are already being applied by central banks and financial supervisors in the crisis can be calibrated in ways that account for climate- and other sustainability-related financial risks and/or contribute to the achievement of climate and sustainability goals. Against the background of an INSPIRE Policy Brief produced by the LSE Grantham Research Institute on Climate Change and the Environment and the SOAS Centre for Sustainable Finance, this special INSPIRE session at the Annual GRASFI Conference 2020 will discuss options for central banks and financial supervisors to incorporate climate and sustainability factors into COVID-19 crisis response measures.

Chair:

Nick Robins, Professor in Practice for Sustainable Finance, Grantham Research Institute on Climate Change and the Environment.

Presentation of the INSPIRE Briefing Paper "A Toolbox for Sustainable Crisis Response Measures for Central Banks and Supervisors"

Simon Dikau, Research Officer, Grantham Research Institute on Climate Change and the Environment

Ulrich Volz, Director of the SOAS Centre for Sustainable Finance at SOAS, University of London

Discussion with opening statements by each panellist, followed by Q&A with:

Chris Faint, Head of Division & Head of the Bank's Climate Hub, Bank of England

Adele Morris, Joseph A. Pechman Senior Fellow & Economic Studies Policy Director, Climate and Energy Economics Project, Brookings Institution

Next Generation Skills for Sustainable Finance Education

Over the past decade, asset managers have faced increased pressure to account for sustainability when managing their portfolios. In the U.S., asset managers now consider ESG criteria across 11.6 trillion dollars in assets (USSIF, 2018). To integrate ESG considerations, finance professionals interact with companies within their portfolios to foster more sustainable practices. This explosion has led to variation in expertise among these asset managers, and innovations towards sustainable finance in interactions between finance professionals and the companies they manage. Many investors and capital asset managers receive little training on these topics in business schools. They are learning--on the job-- how to incorporate ESG into their work. In this session, we will first hear from an asset manager about the challenges that ESG investors face, and what are the next generation skills needed. We follow with a discussion from those that are changing business school education.

Co-Chairs:

Mette Morsing, UN PRME

Tracy Van Holt, NYU Stern, Center for Sustainable Business

Moderator:

Bob Eccles, Visiting Professor of Management Practice, University of Oxford Saïd Business School

Sustainable Business Education Discussants:

Dave Chen, Adjunct Professor of Finance, Kellogg School of Management, Northwestern University and CEO & Chairman, Equilibrium

Constanza Consolandi, Associate Professor of Finance, University of Siena

Tensie Whelan, Clinical Professor of Business and Society and Director of Center for Sustainable Business, New York University Stern Business School

The "S" in "ESG"

Environmental, social, and governance (ESG) research among institutional investors has historically focused mostly on the "E" and the "G," leaving social issues and social investment risks—especially risks related to racism and racial injustice—often taking a back seat. The evolution of the COVID-19 pandemic and the powerful reaction of society against police violence, however, have forced international attention on linkages in social and environmental justice that marginalized populations have long understood. These societal challenges are not new, and they are likely to grow in importance and materiality, underscoring the importance of assessing the "S" in concert with the "E" and the "G."

This session will explore the historical factors that may have led institutional investors to deemphasize social issues in their research, as well as why – in 2020 – social issues and indicators have become as important as effort. Panelists will then identify the challenges, opportunities and tools to identifying the "S" and integrating social issues into investment decisions.

Speakers:

Mamie Parker, Board of Directors, Sustainable Investing Advisory Board, Brown Advisory

Caroline Rees, President and Co-founder, Shift

Friday September 11, 2020

Climate Action in the Time of Debt Distress

A global debt crisis is looming. Even before COVID-19 swept the world, the International Monetary Fund deemed global public debt burdens a high risk for the majority of developing countries – noting that half of the lower-income countries were 'at high risk of or already in debt distress.' As the COVID crisis worsens, developing countries face steep output contractions, while the COVID relief and recovery effort demands a massive upscaling of expenditures. This new, systemic debt crisis emerges at a critical time when the global climate crisis demands the urgent mobilisation of huge efforts on mitigation and adaptation. Moreover, partly driven by policy, partly by technological disruption, fossil fuels are transitioning from being an asset to a liability, amounting to a third systemic crisis sweeping capital markets and the developing world. It is at the intersection of these three systemic crises that new and innovative answers need to be found, breaking through silos of international policy making. Against this backdrop, this special session at the 3rd Annual GRASFI Conference will discuss solutions for addressing the debt crisis in the Global South while enabling far-reaching action for climate adaptation and mitigation. In particular, it will examine the options for debt rescheduling that will allow for people-centered investments that address climate change and inequality by leaving fossil fuels in the ground, and investing in climate adaptation while expanding job and livelihood opportunities.

Keynote:

Alicia Bárcena, Executive Secretary of the UN Economic Commission for Latin America and the Caribbean

Panel Discussion:

Jean-Paul Adam, Director for Technology, Climate Change and Natural Resources Management in the United Nations Economic Commission for Africa

Shamshad Akhtar, Chair of the Board of Directors at Karandaaz Pakistan & Member of the of Global Advisory Board, SOAS Centre for Sustainable Finance at SOAS, University of London

Stephany Griffith Jones, Financial Markets Program Director at the Initiative for Policy Dialogue, Columbia University

Romina Picolotti, President of the Center for Human Rights and Environment & Climate Change Senior Advisor at the Institute for Governance and Sustainable Development

Ulrich Volz, Director of the Centre for Sustainable Finance at SOAS, University of London (chair).

Food Systems Dialogue (invite-only)

This will be a discussion among leaders from global food companies and investment firms on food systems policies and practices. The two-hour, invite-only online session will include topics on the coherence and rigor of SDG measurement and reporting, internalizing food system externalities, and investor use of disclosed information for portfolio management decisions. This session will have a specific focus on the EU and UK and will reflect on impacts of COVID-19 on the regional and global food system.

PANEL SPEAKERS' BIOGRAPHIES



Jane Ambachtsheer

Global Head of Sustainability, BNP Paribas Asset Management

Jane Ambachtsheer oversees the firm's ambitious approach to sustainable investment. This is empowered by the firm's Sustainability Centre, which undertakes innovative research and policy development, guides BNPP AM's investment stewardship and industry engagement activities, and supports investment teams in accessing, integrating and reporting on ESG factors. On the business side, Jane is responsible for BNPP AM's Corporate Social Responsibility ('CSR') approach, ensuring the firm's day-to-day activities reflect the high standards it expects from companies. Jane is a member of BNPP AM's Global Investment Committee and Business Management Committees, and reports to the Head of Investments, Rob Gambi.

Previously, Jane spent 18 years with global investment consultancy Mercer, where she was Partner and Founder of the firm's Responsible Investment business. Jane regularly researches, writes and speaks on topics addressing the intersection of sustainability and climate with finance and investment. She is an Adjunct Professor at the University of Toronto and a Research Affiliate at the University Oxford Smith School of Enterprise and the Environment, and holds a Master of Social Science from the University of Amsterdam and a Bachelor of Economics and English Literature with honours from York University.



Sharan Burrow

General Secretary, International Trade Union Confederation

Sharan Burrow is General Secretary of the International Trade Union Confederation, representing 200 million workers in 163 countries and territories with 332 national affiliates. Previously President of the Australian Council of Trade Unions (ACTU) from 2000 – 2010, Sharan is a passionate advocate and campaigner for social justice, women's rights, the environment and labour law reforms, and has led union negotiations on major economic reforms and labour rights campaigns in her home country of Australia and globally.



Per Bolund

Minister for Financial Markets and Housing, Deputy Minister for Finance, Government of Sweden

Per Bolund has served as Minister for Financial Markets and Housing and Deputy Minister of Finance in the Government of Sweden since 2019. Being devoted to Climate Change and ecological issues, Bolund was elected to the Swedish Riksdag in 2006, representing the Green Party. He serves as the Greens' spokesperson for finance policy, and is a member of the party's board of directors.



Barbara Buchner

Global Managing Director , Climate Policy Initiative

Dr. Barbara Buchner is Global Managing Director of Climate Policy Initiative, and Executive Director of its widely renowned Climate Finance program. Named one of the 20 most influential women in climate change, Barbara advises leaders on climate, energy, and land use investments around the world. Barbara directs the Global Innovation Lab for Climate Finance, (the Lab) and its sister programs in Brazil and India. The Lab's public-private approach solicits, shapes, and tests cutting edge climate finance instruments that resolve financing barriers hindering alternative energy, adaptation, and land use projects. Instruments from the Lab have mobilized over 2 billion US dollars for sustainable development in developing countries in just five years. She is also the lead author on CPI's Global Landscape of Climate Finance, which has set the benchmark for climate finance tracking. She is on the Advisory Board of the BCFN Foundation, the Evaluation Board of the World Economic Forum's Sustainable Energy Innovation Fund, and a member of the One Planet Lab.



Patricia Espinosa

Executive Secretary, United Nations Framework Convention on Climate Change

Ms. Espinosa took office as Executive Secretary of the United Nations Framework Convention on Climate Change on 18 July 2016. Ambassador of Mexico to Germany since 2012 and from 2001 to 2002, Ms. Espinosa was Minister of Foreign Affairs of Mexico from 2006 to 2012, bringing more than 30 years of experience at highest levels in international relations, specialized in climate change, global governance, sustainable development, gender equality and protection of human rights.

As Mexico's representative on multilateral bodies and international organizations in Vienna, Geneva and New York, Ms. Espinosa has been engaged as leader in the global challenge to address climate change and its consequences, notably as Chair of the 16th Conference of the Parties to the UNFCCC leading to the adoption of the Cancun Agreements.

Named by the UN Secretary-General to the High-Level Panel of Eminent Persons on the Post 2015 Development Agenda, she is a tireless supporter of multilateralism as a way to improve conditions for development in all regions of the world, understanding the inextricable link between the aims of the Paris Climate Agreement and the Sustainable Development Goals. Elected Chair of the Third Committee of the UN General Assembly (1996) she played a key role in the process leading to the adoption of the Beijing Platform for Action at the 4th World Conference on Women. Previous Ambassador of Mexico to Austria, Slovakia, Slovenia and UN Organisations in Vienna (2002-2006), she was Chief of Staff to the Undersecretary of Foreign Affairs, Ministry of Foreign Affairs (1989-1991) and responsible for economic issues at the Permanent Mission of Mexico to the UN in Geneva (1982-1988). She has postgraduate studies in International Law from the Institut Universitaire de Hautes Etudes Internationales in Geneva and is holder of a Degree in International Relations from El Colegio de Mexico.



Martín Guzmán

Minister of Economy for Argentina

Martín Guzmán graduated as a Doctor in Economics (PhD. in Economics) from Brown University, United States. Prior to his doctoral studies, he obtained a Bachelor's degree in Economics and a Master's degree in Economics, both from Universidad Nacional de La Plata (National University of La Plata), Argentina. He is a researcher at the Columbia University School of Business, and Director of the Public Debt Restructuring Program of the Policy Dialogue Initiative of the same School. Together with Nobel laureate Joseph Stiglitz, he has conducted the academic training program of the Columbia University Initiative for Policy Dialogue. He is an associate professor at Facultad de Ciencias Económicas de la Universidad de Buenos Aires (Faculty of Economic Sciences of the University of Buenos Aires). As of December 2019, he is a tenured lecturer at Facultad de Ciencias Económicas de la Universidad de La Plata (School of Economic Sciences of the National University of La Plata). He is editor in chief of the Journal of Globalization and Development and has published numerous academic articles in specialized journals and books.



Ro Khanna

U.S Representative for California's 17th Congressional District

Congressman Ro Khanna represents California's 17th Congressional District, located in the heart of Silicon Valley, and is serving in his second term. Rep. Khanna sits on the House Budget, Armed Services, and Oversight and Reform committees and is first vice chair of the Congressional Progressive Caucus. He also serves as an Assistant Whip for the Democratic Caucus. Rep. Khanna is committed to representing the people and ideas rooted in Silicon Valley to the nation and throughout the world. For each job created in the high-tech industry, another four jobs are created. The tech multiplier is even larger than the multiplier for U.S. manufacturing. Rep. Khanna will work to ensure the technology sector is at the forefront of U.S. economic policy and strive to provide opportunities to those our changing economy and technological revolution has left behind. To do so, the U.S. must implement policies that will not only create tech jobs in Silicon Valley but across America. This includes job training programs, economic development initiatives, re-wiring the U.S. labor market, and debt-free college to help working families prepare for the future.

A dedicated political reformer, Rep. Khanna is one of just six elected officials to refuse contributions from PACs and lobbyists. He also supports a 12-year term limit for Members of Congress and a constitutional amendment to overturn Citizens United. Rep. Khanna was born in Philadelphia, PA, during America's bicentennial, to a middle-class family. Both of his parents immigrated to the United States in the 1970s from India in search of opportunity and a better life for their children. His father is a chemical engineer and his mother is a substitute school teacher. Rep. Khanna's commitment to public service was inspired by his grandfather who was active in Gandhi's independence movement, worked with Lala Lajpat Rai in India, and spent several years in jail for promoting human rights.

Prior to serving in Congress, Rep. Khanna taught economics at Stanford University, law at Santa Clara University, and American Jurisprudence at San Francisco State University. He wrote the book *Entrepreneurial Nation: Why Manufacturing is Still Key to America's Future* and worked as a lawyer specializing in intellectual property law. Rep. Khanna served in President Barack Obama's administration as Deputy Assistant Secretary at the U.S. Department of Commerce. In 2012, California Governor Jerry Brown appointed him to the California Workforce Investment Board. He has also provided pro bono legal counsel to Hurricane Katrina victims with the Mississippi Center for Justice, and co-authored an amicus brief on the fair housing U.S. Supreme Court case, *Mount Holly v. Mt. Holly Gardens Citizens in Action, Inc.* Rep. Khanna graduated Phi Beta Kappa with a B.A. in Economics from the University of Chicago and received a law degree from Yale University. As a student at the University of Chicago, he walked precincts during Barack Obama's first campaign for the Illinois Senate in 1996. In his free time, Rep. Khanna enjoys cheering for the Golden State Warriors, watching movies, and traveling. He and his wife Ritu call Fremont, CA, home.



Bill McKibben

Author, environmentalist, and activist. Co-Founder, 350.org

Bill McKibben is an author and environmentalist who in 2014 was awarded the Right Livelihood Prize, sometimes called the 'alternative Nobel.' His 1989 book *The End of Nature* is regarded as the first book for a general audience about climate change, and has appeared in 24 languages; he's gone on to write a dozen more books. He is a founder of 350.org, the first planet-wide, grassroots climate change movement, which has organized twenty thousand rallies around the world in every country save North Korea, spearheaded the resistance to the Keystone Pipeline, and launched the fast-growing fossil fuel divestment movement. The Schumann Distinguished Scholar in Environmental Studies at Middlebury College and a fellow of the American Academy of Arts and Sciences, he was the 2013 winner of the Gandhi Prize and the Thomas Merton Prize, and holds honorary degrees from 18 colleges and universities. Foreign Policy named him to their inaugural list of the world's 100 most important global thinkers, and the Boston Globe said he was "probably America's most important environmentalist". A former staff writer for the New Yorker, he writes frequently for a wide variety of publications around the world, including the New York Review of Books, National Geographic, and Rolling Stone. He lives in the mountains above Lake Champlain with his wife, the writer Sue Halpern, where he spends as much time as possible outdoors. In 2014, biologists honored him by naming a new species of woodland gnat— *Megophthalmidia mckibbeni*—in his honor.



Hiro Mizuno

Former Executive Management Director and CIO of Government Pension Investment Fund of Japan

Hiromichi (Hiro) Mizuno is a Japanese financial executive and former Executive Management Director and CIO of GPIF (Government Pension Investment Fund of Japan with AUM \$1.5 trillion) between Jan 2015 and March 2020. Prior to joining GPIF, he was a partner of Collier Capital, a London-based private equity firm. He previously worked for Sumitomo Trust & Banking Co., Ltd. in Japan, Silicon Valley and New York.

Mizuno works in the following capacities to promote long term investment and ESG: Member of the board of PRI (Principles for Responsible Investment) Association; External Board Member Tesla, Inc.; Danone S.A. Mission Committee Member; World Economic Forum (WEF) Global Future Council member; Special Adviser of Milken Institute's; CFA Institute Future of Finance Advisory Council member One Planet Lab TCFD Work Stream Co-chair; The B Team Leader; Member of Global Business Coalition for Education Advisory board; Guardian of the Coalition for Inclusive Capitalism at Vatican.

Mizuno advises Japanese governments in the following capacity: Special Advisor to Ministry of Economy, Trade and Industry (METI); Green Innovation & Finance Advisor TCFD Summit Ambassador; Executive adviser to Japanese Cabinet on Healthcare and Medical Growth Strategy; Member of Japanese Government Strategic Funds Integrated Advisory Board; Member for Ministry of Education, Culture, Sports, Science and Technology-Japan National Universities Evaluation Committee.

Mizuno's involvement in academics includes: Advisor of Office of the President of the University of Tokyo; Guest professor of Osaka University Graduate School of Medicine; Executive in Residence and Global Leadership Council member of Said Business School, Oxford University; Executive Fellow of Harvard Business School, Harvard University; Visiting Fellow of Cambridge Judge Business School, University of Cambridge; Senior Fellow of Tel Aviv University Graduate School of Management; Member of the International Executive Committee for the Einstein Legacy Project at Hebrew University.



Jorge Moreira da Silva

Director, Development Co-operation Directorate, OECD

Mr. Moreira da Silva is since 1st November 2016 the Director of the Development Co-operation Directorate (DCD) at OECD. From 2013 to 2015, he was Portugal's Minister of Environment, Energy and Spatial Planning. Prior to this Ministerial position, Mr. Moreira da Silva served as Senior Environmental Finance Advisor and Programme Manager on Climate Change Innovative Finance at UNDP's Bureau for Development Policy (2009-2012); Senior Advisor to the President of Portugal (2006-2009); Secretary of State for Science and Higher Education (2003-2004); Secretary of State for Environment and Spatial Planning (2004-2005); Member of the Portuguese Parliament (1995-99; 2005-2006; 2015-16); and Member of the European Parliament (1999-2003). As Member of the European Parliament, he was the Standing Draftsman on climate change and he authored the Report and the political agreement on the EU GHG Emissions Trading Directive in 2003.

He has served as Visiting Full Professor at the Lisbon University and Founder and Chairman, since 2011, of the Lisbon-based think-tank Platform for a Sustainable Growth. He also served as First Vice-President of the Executive Board of Partido Social Democrata, PSD (2010-2016). Mr. Moreira da Silva graduated from the University of Porto with a degree in Electrical and Computer Engineering and holds a postgraduate degree in Senior Management from the AESE-IESE Business School, Navarra University, Spain. As Director of the Development Co-operation Directorate (DCD), Mr. Moreira da Silva plays a key role in positioning the OECD's work on development co-operation at the leading edge. He supports the work of the Development Assistance Committee (DAC) and collaborates closely with other components of the OECD's Development Cluster to strengthen the Organisation's contribution to the international governance architecture, as well as to OECD-wide initiatives such as NAEC, Inclusive Growth, and work in support of the Sustainable Development Goals (SDGs).



Sanda Ojiambo

Executive Director, United Nations Global Compact

Sanda Ojiambo is the Executive Director of the United Nations Global Compact. Launched in July 2000, the United Nations Global Compact is the Secretary-General's strategic policy and advocacy initiative calling for the alignment of business operations and strategies with 10 universal principles in the areas of human rights, labour, environment and anti-corruption. It also motivates companies to integrate the SDGs into their core business strategies and operations. With more than 10,000 corporate participants and other stakeholders from over 160 countries engaged through 68 country networks, the Compact is the largest voluntary corporate sustainability initiative in the world. Endorsed by chief executive officers, it is a practical framework for the development, implementation and disclosure of sustainability policies and practices, committing businesses to sustainability and shared responsibility for achieving a better world. Ms. Ojiambo, brings 20 years of experience to lead the UN Global Compact. She has served as Head of Sustainable Business and Social Impact, Safaricom Plc, Kenya since 2010. Ms. Ojiambo was also the Senior Manager of Safaricom and MPESA Foundations, Kenya from 2008 to 2010, during which she led the implementation of several public-private partnership initiatives between Safaricom and UN organizations. Throughout her career, she has cultivated and managed relationships with key business entities and civil society organizations, including her capacity development work in Somalia with UNDP and CARE International. Ms. Ojiambo holds a Master of Arts in Public Policy from the University of Minnesota, USA, and a Bachelor of Arts in Economics and International Development from McGill University, Canada.



Femi Oke (panel moderator)

Broadcaster, journalist, and writer

Femi Oke is an international broadcaster, journalist and writer. She's currently based in Washington D.C. where she hosts the interactive current affairs show "The Stream" for Al Jazeera English. Femi's work has been recognised by The Economic Community of West African States (ECOWAS), the African Communications Agency and InterAction. Since the 1980's she has worked for BBC television and radio, Sky TV, all the UK terrestrial television networks, CNN and U.S. public radio



Carmen M. Reinhart

Vice President and Chief Economist, The World Bank

Carmen M. Reinhart is the Vice President and Chief Economist of the World Bank Group. Assuming this role on June 15, 2020, Reinhart provides thought leadership for the institution at an unprecedented time of crisis. She also manages the Bank's Development Economics Department. Reinhart's areas of expertise are in international finance, and macroeconomics. Her work has helped to inform the understanding of financial crises in both advanced economies and emerging markets. She has published extensively on capital flows, exchange rate policy, banking and sovereign debt crises, and contagion. She comes to this position on public service leave from Harvard Kennedy School where she is the Minos A. Zombanakis Professor of the International Financial System. Previously, she was the Dennis Weatherstone Senior Fellow at the Peterson Institute for International Economics and Professor of Economics and Director of the Center for International Economics at the University of Maryland. During her career, Reinhart has worked in numerous roles to address policy challenges including most recently, the coronavirus pandemic and its economic impact. She serves in the Advisory Panels of the Federal Reserve Bank of New York and the International Monetary Fund. Earlier, she was the Senior Policy Advisor and Deputy Director of the Research Department at the International Monetary Fund and held positions as Chief Economist and Vice President at the investment bank Bear Stearns. Ranked among the top Economists worldwide based on publications and scholarly citations, Reinhart has been listed among Bloomberg Markets Most Influential 50 in Finance, Foreign Policy's Top 100 Global Thinkers, and Thomson Reuters' The World's Most Influential Scientific Minds. In 2018 she was awarded the King Juan Carlos Prize in Economics and NABE's Adam Smith Award, among others. Her book (with Kenneth S. Rogoff) entitled *This Time is Different: Eight Centuries of Financial Folly* has been translated to over 20 languages and won the Paul A. Samuelson Award. She holds a Ph.D. from Columbia University.



Professor Jeffrey D. Sachs

University Professor, Columbia University

Professor Sachs is a world-renowned economics professor, bestselling author, innovative educator, and global leader in sustainable development. He is widely recognized for bold and effective strategies to address complex challenges including debt crises, hyperinflations, the transition from central planning to market economies, the control of AIDS, malaria, and other diseases, the escape from extreme poverty, and the battle against human-induced climate change. Professor Sachs serves as the Director of the Center for Sustainable Development at Columbia University, where he holds the rank of University Professor, the university's highest academic rank. Professor Sachs held the position of Director of the Earth Institute at Columbia University from 2002 to 2016. He is Director of the UN Sustainable Development Solutions Network, a commissioner of the UN Broadband Commission for Development, and an SDG Advocate for UN Secretary General Antonio Guterres. From 2001-18, Professor Sachs served as Special Advisor to the UN Secretary General, for Kofi Annan (2001-7), Ban Ki-moon (2008-16), and Antonio Guterres (2017-18). Professor Sachs has authored and edited numerous books, including three New York Times bestsellers: *The End of Poverty* (2005), *Common Wealth: Economics for a Crowded Planet* (2008), and *The Price of Civilization* (2011). Other books include *To Move the World: JFK's Quest for Peace* (2013), *The Age of Sustainable Development* (2015), *Building the New American Economy: Smart, Fair & Sustainable* (2017), *A New Foreign Policy: Beyond American Exceptionalism* (2018), and most recently, *The Ages of Globalization: Geography, Technology, and Institutions* (2020). Sachs was the co-recipient of the 2015 Blue Planet Prize, the leading global prize for environmental leadership. He was twice named among Time magazine's 100 most influential world leaders and has received 28 honorary degrees. The New York Times called Sachs "probably the most important economist in the world," and Time magazine called Sachs "the world's best-known economist." A survey by The Economist ranked Sachs as among the three most influential living economists. Prior to joining Columbia, Sachs spent over twenty years as a professor at Harvard University, most recently as the Galen L. Stone Professor of International Trade. A native of Detroit, Michigan, Sachs received his B.A., M.A., and Ph.D. degrees at Harvard.



Anne Simpson

Managing Investment Director, Board Governance & Sustainability, CalPERS

Anne Simpson joined CalPERS in 2009 and was named interim managing investment director for Board Governance & Sustainability in June 2020. She is responsible for strategic initiatives across the Fund. These include Climate Action 100+ (a global investor alliance of \$40 trillion driving business action on climate change), the Net Zero Asset Owner Alliance, and the UN Secretary General's Global Investors for Sustainable Development. Specific programs within investments include the Emerging Manager Program and the sustainable investment strategic plan. In 2019 she was named by Time Magazine as one of the 15 women leading the global fight on climate change and in 2020 one of the 100 Most Influential Women in US Finance by Barron's (Dow Jones). For 10 consecutive years from 2010-20 Anne has been ranked by the National Association of Corporate Directors as one of the year's 100 most influential people in the boardroom.

She serves on the U.S. Securities and Exchange Commission's Investor Advisory Committee, as well as the Senior Advisory Board at the Center for Responsible Business at Haas, University of California at Berkeley. She also serves on the Leadership Council of the Robert F. Kennedy Center for Justice and Human Rights. Anne is an editorial board member of the journal "Directors & Boards." Anne has published several books in the field of Board Governance and Sustainability including "The Financial Ecosystem: The Role of Finance in Achieving Sustainability" with Satyajit Bose and Dong Guo of Columbia University; "Fair Shares: the Future of Shareholder Power and Responsibility" with Jonathan Charkham; and "The Greening of Global Investment: How the Environment, Ethics and Politics Are Reshaping Strategies". Previous roles included senior faculty fellow and lecturer at the Yale School of Management, head of the Global Corporate Governance Forum at the World Bank, executive director of the International Corporate Governance Network, and joint managing director of Pensions & Investment Research Consultants Ltd. Anne graduated from Oxford University in the United Kingdom, where she read philosophy, politics and economics and was awarded bachelor's and master's degrees. She was a Slater Fellow at Wellesley College, Massachusetts.



Mervyn Tang

Senior Director and Global Head of ESG Research, Fitch Ratings

Mervyn Tang is a Senior Director and Global Head of ESG Research in Fitch Ratings' Sustainable Finance division, based in Hong Kong. Mervyn oversees a global research team of 5 which primarily focus on thematic and cross sector ESG research. Mervyn re-joined Fitch Ratings in March 2019 from MSCI Inc., where he was Head of Fixed Income in their ESG Research department, based in Hong Kong. Mervyn has worked with fixed income investors globally supporting them on integrating ESG into their investment process. Prior to joining MSCI in 2017, Mervyn was a Director in Fitch's Sovereign Group, with the Asia-Pacific team. Mervyn has also worked as an international economist at the Bank of England in London, a diplomat at the British Embassy in Washington DC, and an equities analyst at Citigroup. Mervyn earned an MSc in Economics with distinction from Birkbeck College, University of London, and a BA in Economics and Management from Oxford University. He is a CFA Charterholder.



Adam Zurofsky

Founding Executive Director, Rewiring America

Adam Zurofsky currently serves as Founding Executive Director of Rewiring America, a non-profit dedicated to advancing ambitious policy frameworks for electrifying America's economy to spur economic growth and combat climate change (www.rewiringamerica.org). As Executive Director, Adam is responsible for all aspects of RA's work, from setting its strategic direction, to managing its policy development and communications activities, to expanding and building the organization and its network of partners. Until mid-2019, Adam was the Director of State Policy and Agency Management for the State of New York.

In that capacity, Adam led the development and implementation of all major policy initiatives for Governor Cuomo and was responsible for strategic management of the State's executive agencies and authorities and their more than 150,000 employees. Prior to that, Adam served as Deputy Secretary for Energy and Finance for the State of New York where he directly oversaw all policy and regulatory aspects of New York State's energy, climate, and finance portfolios as well as the following State agencies and authorities: the Department of Public Service (DPS), the New York Power Authority (NYPA), the Long Island Power Authority (LIPA), the New York State Energy Research and Development Authority (NYSERDA), including its New York Green Bank, the Department of Financial Services (DFS), including its Banking, Insurance and Consumer Protection divisions, the Department of Taxation and Finance, and the New York State Insurance Fund. Among other things, Adam was responsible for leading implementation of Governor Cuomo's climate agenda, including establishing the U.S. Climate Alliance of 25 states and territories committed to upholding the Paris Climate Accords and the decarbonization of the over \$200 billion New York Common Retirement Fund. Before joining the Cuomo administration, Adam was a partner in the New York law firm of Cahill Gordon and Reindel, LLP, where he advised leading companies, financial institutions and their boards in a wide variety of regulatory, litigation and corporate governance matters. During his almost 18 years with Cahill, Adam also chaired the Firm's associate development and training programs and was recognized earlier in his career as one of the Top 10 Securities Lawyers under 40 in the nation. Adam currently teaches climate policy at Columbia University's School of International and Public Affairs. He previously co-founded Fordham Law School's Corporate Sustainability Initiative and has served as a member of Fordham's Adjunct Faculty, teaching on issues such as corporate social responsibility and impact/ESG investing. He is a published author and a regular speaker at conferences on topics ranging from climate policy to clean energy finance to corporate social responsibility. Adam holds an A.B. with honors in Political Science from Stanford University, where he was elected to Phi Beta Kappa, and a J.D. cum laude from Harvard Law School. Adam was previously a member of The Brookings Institution's Leadership Council for Governance Studies as well as the Board of Directors of the Roundabout Theatre Company and has served on the Board of Directors of Civics Unplugged, a civics education organization, as well as The Constitution Works. Adam lives in New York City with his wife and their three children.



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PAPER SESSIONS

Outlines and Abstracts

Tuesday, September 8, 2020

Session 1a: ESG: What Are We Talking About?

Title: *Aggregate Confusion: The Divergence of ESG Ratings*

Authors: Florian Berg, [Julian Koelbel](#) and Roberto Rigobon

This paper investigates the divergence of environmental, social, and governance (ESG) ratings. Based on data from six prominent rating agencies - namely, KLD (MSCI Stats), Sustainalytics, Vigeo Eiris (Moody's), RobecoSAM (SP Global), Asset4 (Refinitiv), and MSCI IVA- we decompose the divergence into three sources: different scope of categories, different measurement of categories, and different weights of categories. We find that scope and measurement divergence are the main drivers, while weights divergence is less important. In addition, we detect a rater effect where a rater's overall view of a firm influences the assessment of specific categories.

Title: *Responsible Institutional Investing Around the World*

Authors: Pedro Matos, Rajna Gibson Brandon, [Simon Glossner](#), Philipp Krueger and Tom Steffen.

We explore a novel survey on responsible investing by institutional investors around the world and match it to archival data on their equity portfolio holdings. We document that institutions that publicly commit to responsible investing exhibit better environmental, social, and governance (ESG) portfolio-level scores ('footprints') but this is not the case for US-domiciled institutions. We observe considerable heterogeneity among responsible investors but when we examine whether specific ESG implementation strategies (e.g., screening, integration, engagement) affect portfolio-level ESG footprints we find limited evidence. Finally, we document that responsible investing does not enhance portfolio returns but acts as a risk mitigation tool.

Title: *Navigating impact measurement: The case of South African impact investors*

Authors: [Erin Bennett](#) and Xolisa Dhlamini

Over the past decade impact investing has emerged as an important approach to investments with the intention to achieve positive social and environmental impact alongside financial gains. The lack of global consensus regarding best practice in impact

measurement presents an opportunity for academic enquiry into the approaches and techniques employed. Our enquiry adopts the Logic Model lens to explore how impact investors approach impact measurement in South Africa. The inductive case-study analyses data gathered through semi-structured interviews with over 20 impact investing organisations, along with secondary text data. It provides empirical insight into endogenous and exogenous factors which influence how South African impact investors select and implement impact measurement approaches. Our findings also highlight the following themes: 1) Herding towards developmental frameworks, 2) Making impact lemonade, 3) Dancing to multiple tunes, and the 4) Governance of impact. These themes are responses to challenges such as limitations in data access and processing, limited conceptualisation and application of investment theories of change as well as difficulties in managing the impact measurement process.

Title: A typology of global sustainable finance codes and standards - a crucial explanation of their evolution, differences, and today's application

Authors: *Christoph Nedopil Wang* and Yao Wang

Governments, non-governmental organizations, and financial institutions are contributing to sustainable finance not only through investments, but also through the development, publication and application of sustainable finance codes and standards. Until January 2020, more than 390 green finance measures have already been issued by governments alone .

In order to make sense of these standards, most academic and regulatory discussions a) look at the history of sustainable finance regulation , b) revolve around efforts to integrate, standardize or harmonize global sustainable finance standards (as many of the standards are developed in a 'fragmented way'), or c) analyze the impacts of the codes on financial sector practices . An analysis of the underlying institutional factors that drive and necessitate the divergence of such sustainable finance codes is currently, however, lacking. As a consequence, a misunderstanding of the application and relevance for different stakeholders is missing. This paper aims to close that gap and contributes to the literature and practice in two major ways: first it provides an analysis of the three major evolutions and applications of sustainable finance standards in the Western countries, China, and with the multilateral development banks (MDBs) based on institutional theory, and (re-)establish that Western models are driven by the market (e.g. intermediaries, banks) and Chinese model is based on government agents. Second, based on the differences we find between Western, Chinese and MDB sustainable finance standard environments, we develop a new typology of sustainable finance codes: output-based, input-based and process standards. Outcome-based taxonomies are more concerned with ensuring sustainable-aligned measurement and outcomes of financial activities. This is in contrast to input-based standards, where the investment in the right project types suffices for being considered sustainable-aligned (mostly environmentally aligned). The third typology is concerned with ensuring a sound process to deal often with short-comings in local oversight capacity.

Session 1b: Climate Change: Financial Implications of Physical Risks

Title: The Economic Costs of Climate Change

Authors: Emilia Garcia-Appendini, Claudia Custodio, Miguel Ferreira and Adrian Lam.

We estimate the economic costs of climate change using supply-chain networks. Specifically, we estimate the impact from changes in local temperature by comparing sales of intermediate goods across suppliers located in different counties that trade with the same client. We find that a one standard deviation increase in average daily temperature (1C) in supplier counties leads to a reduction in sales of about 2%. In addition, episodes of extremely hot and cold weather lead to strong reductions in sales. The effects are more pronounced among suppliers in heat-sensitive, labor-intensive, and standardized goods industries, which is consistent with a labor productivity channel. We also show that changes in temperature affect corporate investment. Our results suggest that the economic costs of climate change are large.

Title: Shelter from the storm: Which safe asset for climate disasters ?

Authors: Abraham Lioui, Mathew Lanfear and Mark Siebert.

Hurricanes give rise to flight-to-safety episodes during which High Tech stocks consistently behave differently from stocks in other industries. We isolate a safety premium of 3.75% which peaks at 16% annualized for periods of 20 days after landfall. The safety premium is greater than the short term interest rate and thus greater than any safety premium embedded in government bonds. It has strengthened since the Global Financial Crisis. The flight-to-safety is not associated with a flight-to-liquidity episode, nor with changing risk aversion, but is a flight-to-quality. Accounting for higher moments of abnormal returns turns decisive for identifying safe assets.

Title: How does VIX response to Nature Disasters: A Cross-country Perspective

Authors: [Ping Wei](#), Xiaodan Mao, Yunfeng Zhao and Xiaohong Chen..

VIX index, as a market determined volatility forecast, can reflect incremental information pertaining to future jump activity and brings a forward-looking perspective into the research about the impacts of natural disasters on market volatility. Using a sample of 1240 natural disasters from 13 advanced and emerging countries, this paper analyses sensitivities of VIX to natural disaster interacted with national geographical and institutional characteristics. We find that the VIX increases after natural disaster shocks and the effect of natural disasters are asymmetric. More precisely, VIX decreases after geophysical and meteorological disasters most significantly. In addition, VIX in those countries with less frequent disasters and more developed financial markets is more sensitive to the occurrence of natural disasters. Finally, the impact of natural disasters on VIX shows a short-term effect, but does not have long-term implications. This issue has not been examined previously and provides insights for multinational equity investment in coping with environmental physical risk.

Title: Labor Market Frictions and Adaptation to Climate Change

Authors: Jisung Park, [Nora Pankratz](#) and Patrick Behrer.

Understanding the welfare impacts of environmental externalities on labor outcomes is complicated by adaptation investments by workers and firms. In this paper, we model extreme temperature as a workplace disamenity and explore its effect on realized injury risk, as a lens through which we might better understand the role of labor market frictions in investments to adapt to climate change. We do so using administrative data on 11 million California workers compensation claims combined with high-frequency weather variation over the period 2000-2018. Consistent with temperature affecting not only heat-illness but also cognition and attention, we find evidence for elevated accident risk on hot (above 85F) days - even for injuries that are not recorded as heat-related. We verify that similar relationships hold across the U.S. using data from OSHA, and estimate that official statistics may understate heat-related injury burdens by a factor of 5. Leveraging spatial, temporal, and industry-level variation in the roll out of a mandatory workplace heat standard, we assess the impact of policies aimed at mitigating such workplace risks. We present evidence consistent with targeted adaptation policy significantly reducing heat-related injury risk.

Session 2a: ESG Performance and Financial Performance

Title: Do low-carbon investments in emerging economies pay off? Evidence from the Brazilian stock market

Authors: [Felipe A. F. De S. Cunha](#), [Erick M. De Oliveira](#), Marcelo C. Klotzle, Renato J. Orsato and André F. P. Lucena

Climate change has created both challenges and opportunities for investors worldwide. Investing in carbon-efficient assets, for instance, may reduce investors' climate risks while contributing to global efforts for climate change mitigation. Investors need updated and robust information on the financial performance of low-carbon investments, especially in emerging markets, where climate finance initiatives are still scattered. In this work, we provide a first insight into the financial performance of a portfolio of shares from Brazilian carbon-efficient companies. To that end, we use as reference the Carbon Efficient Index (ICO2) and assess its financial performance from 2010 to 2019 through the lens of several classic and modern portfolio metrics. We find that the index outperformed both the Brazilian market benchmark and the country's broad sustainability index, and provided competitive risk-adjusted returns compared with other sectorial indices. The results thus indicate that investing in carbon-efficient companies in Brazil has so far positively contributed to portfolio performance while offering investors an opportunity to reduce climate risk exposure in stock markets.

Title: *A Sustainable Capital Asset Pricing Model (S-CAPM): Evidence from green investing and sin stock exclusion*

Authors: Olivier David Zerbib.

This paper shows how sustainable investing, through the joint practice of Environmental, Social and Governance (ESG) integration and exclusionary screening, affects asset returns. The effect of these two practices translates into two taste premia and two exclusion premia that induce cross effects between excluded and non-excluded assets. By using the holdings of 453 green funds investing in U.S. stocks between 2007 and 2019 to proxy for sustainable investors' tastes, I estimate the model applied to green investing and sin stock exclusion. The annual taste effect ranges from -1.12% to +0.14% for the different industries and the average exclusion effect is 1.43%.

Title: *Better Fewer, But Better: Stock Returns and the Financial Relevance and Financial Intensity of Materiality*

Authors: Costanza Consolandi, Robert G. Eccles and Giampaolo Gabbi.

This paper investigates the role of the intensity and relevance of ESG materiality in equity returns. Adopting the classifications of materiality provided by the Sustainability Accounting Standards Board (SASB), the paper introduces the concept of the financial relevance and financial intensity of ESG materiality in order to estimate how it explains equity returns. The results of the analysis, based on a large sample of U.S. companies included in the Russell 3000 from January 2008 to July 2019 show that not only do ESG rating change (ESG momentum) have a consistent impact on equity performance, but also that the market seems to reward more those companies operating in industries with a high level of ESG materiality concentration. The implication is that the equity premium of listed companies is better explained by the concentration of material issues than by the ESG momentum.

Title: *Enhancing Profits and Reducing Losses by Managing Material Environmental, Social and Governance (ESG) Factors*

Authors: James McGlinch and Witold Henisz.

We extend the debate on the materiality of corporate social performance from the question of whether a relationship exists between corporate social performance and corporate financial performance to how and where the relationship obtains. By drawing on the recent shift characterizing corporate social performance as a firm's response to environmental, social, and governance (ESG) issues deemed material to a firm, we show four value protection, capture, and appropriation strategies through which the strategic management of these issues can enhance reported profits and reduce losses. Our results suggest firms which better manage these issues are more likely to report increases in revenue, reductions in costs, fewer legal interventions, and better employee productivity, with stronger results where the relative bargaining power of the implicated stakeholder is higher.

Session 2b: Actors and Approaches for Driving Change

Title: *Sustainable Finance and Transmission Mechanisms to the Real Economy*

Authors: Elizabeth Harnett, Ben Caldecott, [Alex Clark](#) and [Krister Koskelo](#).

The rapid growth in sustainable finance is in large part driven by the motivation of different types of capital allocators at different scales, all the way from retail investors to large asset owners and banks, who want to make a positive contribution towards the realisation of environmental sustainability. The discourse has so far largely assumed that holding assets that are defined as environmentally sustainable is sufficient to be environmentally sustainable from a financing or investing perspective. This view is fundamental to the recently published EU High Level Sustainable Finance Action Plan and to growth in the green bond market. In this paper we argue that simply holding assets defined as environmentally sustainable is insufficient for a capital allocator, such as an asset owner, asset manager, bank, insurer, or retail investor, to be environmentally sustainable themselves or to take the credit for the environmental benefits of their holdings. While we see contributing to sustainable economic activities, and/or discouraging unsustainable ones, as a necessary criterion, we argue that sustainable finance should ultimately be evaluated on whether it actually affects the real economy through a number of transmission mechanisms, such as: the cost of capital, liquidity, risk management, influence over corporate practices, and/or wider spill-over effects. Though well established in economics literature, these have not received much attention in the context of sustainable finance. For each of these transmission channels, we start with a brief review of the economics and finance literature on the channel's effects, and then analyse the evidence and examples related specifically to sustainable finance. We then assess the potential impact of each transmission mechanism for specific major asset classes, including fixed income (bonds and loans), equities (active and passive), and real assets. We also consider hedge funds. Our findings suggest that loans present the greatest opportunity for impact, and passive public equity strategies, the least. We then present possible 'ideal types' for each asset class to help guide a high-impact strategy. Finally, we suggest how this analysis might be applied to strategic asset allocation by investors with multi-asset portfolios.

Title: *Does Green Finance Reduce Pollution? Evidence from a Government Pilot Program.*

Authors: Zhiyao Deng, Dragon Tang and [Yupu Zhang](#).

This paper documents the spillover effects of a place-based green finance program. Exploiting the unique setting of the world's first green finance pilot program in China, we adopt difference-in-difference design and find that the launch of pilot zones led to better environmental performances. While the pilot places do improve their environmental performance, we find even greater improvement from other regions. The spillover effect is mainly driven by the environmental tournament effects among local officials when assessing their political achievements. Specifically, non-pilot zone areas with younger local government leaders and higher state ownership improve more. Overall, we find that place-based green finance policies not only create direct positive impacts but also impose positive incentive externalities to other regions.

Title: *Universal Ownership in Practice: A practical positive investment framework for asset owners*

Authors: Ellen Quigley.

Universal owners such as pension funds, insurance companies, university endowments, and sovereign wealth funds have an interest in the long-term health of the financial system as a whole (Hawley and Williams 2000; Dimson et al. 2013; Quigley 2019). These asset owners cannot diversify away from systemic risks such as climate change, inequality, and pandemics, and can only mitigate whole-system threats by effecting change in the real economy. Conversely, traditional socially responsible investment (SRI), responsible investment (RI), or environmental, social, and governance (ESG) frameworks tend to adopt a climate or social risk lens, with a focus on risks to the portfolio from the real economy. These (S)RI or ESG frameworks therefore typically apply wholly or largely to public equity portfolios (Hill 2020a), from which returns and dividends to the portfolio disproportionately flow but which have little to no impact on the real economy from an asset allocation perspective. For universal owners whose goal is to mitigate systemic risks, the focus must instead be on positive investment: the impact of asset owners' investment decisions on the real economy, not the real economy's environmental and social risks to these asset owners' portfolios. A positive investment approach, then, eschews stock-picking in the public markets in favour of a focus on primary market asset allocation - flows of new capital to the companies they own - and forceful stewardship within the secondary market. In essence, (S)RI and ESG aim to protect individual portfolios from systemic risks; universal owners aim to mitigate systemic risks in the real world, which has the effect of internalising externalities and protecting the long-term health of the system as a whole.

An (S)RI or ESG framework, then, is not fit for universal owners' purpose. A new framework is necessary - one that replaces the lens of climate risk with the lens of universal ownership: real-world, real-economy social and environmental impact. The universal ownership framework proposed in this paper includes the following: a more urgent and tactical version of active ownership within public equity (and even within corporate bond holdings); asset allocation within the primary market; a particular focus on assets that make the transition from the primary to the secondary market; 'ungameable' metrics linked to real-world effects; strategic engagement with public policy and standard-setting regimes; and forward signalling to reduce wastage and accelerate decarbonisation timelines. Together these elements of the framework have the potential to change the rules of the game, alter company behaviour and fundamental strategy, reallocate capital, and bend the emissions curve permanently downwards - precisely what is required of universal owners in this last crucial decade of climate action.

Title: *Do Health Hazards Reshape Firm Boundaries?*

Authors: Adrian Lam.

This paper studies whether health hazards reshape firm boundaries. Asset acquirers are more likely to purchase potentially hazardous assets from targets when the acquirer (i) has diversified cash flows, and (ii) uses more carcinogens, has lower total assets, has a lower cash-to-asset ratio and is less levered than the target. Announcement returns from these transactions are positive for both acquirers and sellers. Using new additions to federally recognized carcinogens as a shock that increases awareness of health hazards, I find that while treated firms reduce in size on average, treated firms with diversified cash flows and treated firms that use previously listed carcinogens increase in size. Individually, firms reduce the use of newly listed carcinogens and are more likely to carry out chemical-specific abatement activities. However, there is no change in the aggregate amount and an increase in concentration in carcinogens usage. Additional tests suggest that the increased threat of litigation drives the results. Together, these findings suggest that market forces provide economic incentives for individual firms to mitigate pollution, lead to more efficient allocation of capital across firms but are not effective in deterring aggregate pollution levels.

Wednesday, September 9, 2020

Session 3a: Economic Ecosystems for Sustainability

Title: *Central Bank Mandates, Sustainability Objectives and the Promotion of Green Finance*

Authors: [Simon Dikau](#) and [Ulrich Volz](#).

This paper examines the extent to which addressing climate-related risks and supporting sustainable finance fit into the current set of central bank mandates and objectives. To this end, we conduct a detailed analysis of central bank mandates and objectives, using the IMF's Central Bank Legislation Database, and compare these to current arrangements and sustainability-related policies central banks have adopted in practice. To scrutinise the alignment of mandates with climate-related policies, we differentiate between the impact of environmental factors on the conventional core objectives of central banking and a potential supportive role of central banks with regard to green finance and sustainability. Of the 135 central banks in our sample, only 12% have explicit sustainability mandates, while another 40% are mandated to support the government's policy priorities, which in most cases include sustainability goals. However, given that climate risks can directly affect central banks' traditional core responsibilities, most notably monetary and financial stability, even central banks without explicit or implicit sustainability objectives ought to incorporate climate-related physical and transition risks into their core policy implementation frameworks in order to efficiently and successfully safeguard macro-financial stability.

Title: *Bank Green Lending and Credit Risk, An Empirical Analysis of China's Green Credit Policy*

Authors: [Xiaoyan Zhou](#), Ben Caldecott, Andreas Hoepner and Yao Wang.

This study empirically investigates the relationship between Chinese banks' green lending and their credit risk, and how China's green finance regulations contribute to the solvency of individual banks and the resilience of the financial system as a whole. Using a sample of 41 Chinese banks for the period 2007-2018, we find that the association between a bank's (relative) green lending as a proportion of its overall loan portfolio and its credit risk depends critically on the size and structure of state ownership. While the implementation of China's Green Credit Policy reduces credit risk for the major state-controlled banks, it increases credit risk for city and regional commercial banks. This performance difference is largely due to information and expertise asymmetries, with city and regional commercial banks having less access to information and expertise necessary to evaluate the credit risk of green lending. Understanding this phenomenon can help policymakers tailor green finance policies according to banks' characteristics. It also suggests that mechanisms and platforms for city/regional commercial banks to learn from major state-controlled banks could be beneficial.

Title: *Capital stranding cascades: The impact of decarbonisation on productive asset utilisation*

Authors: [Emanuele Campiglio](#), Eric Kemp-Benedict, Antoine Godin and Louison Cahen-Fourot.

Reducing global greenhouse gas emissions in line with the Paris Agreement will require a substantial reduction in the extraction and consumption of fossil fuels. However, decarbonising the international economic system is likely to generate transition costs in the form of stranding of existing capital stocks. In this article we develop a novel methodological approach to quantify and trace physical asset stranding as it propagates throughout the global production network. We identify the productive sectors and countries most likely to cause stranding, as well as the sectors and countries most exposed to stranding risks. This approach also allows to investigate the distributional aspects of mitigation efforts and costs. Applying different distributions of a global supply shock in fossil fuels, we assess their impact on stranding outcomes and identify preferable allocations of a shared global mitigation effort.

Title: *Heterogeneous Actors and Relationships in the Global Solar Finance Market: A Complex Systems Approach*

Authors: [Sumit Kothari](#) and Nadia Ameli.

Decarbonisation of the global energy system and the achievement of the Paris Agreement targets to limit global warming to well below 2C requires large-scale deployment of renewable energy technologies and the corresponding mobilisation of financial resources to achieve these targets globally. Existing economic thinking and contemporary policy instruments attempt to incorporate environmental externalities and correct market failure aiming to restore efficiency in market functioning that is then expected to drive capital allocation to low-carbon technologies. Experience has revealed the existence of multiple barriers to investments and a financial gap in pursuing decarbonisation pathways. Incorporating the complexity of the financial system in an adaptive markets framework with heterogeneous actors, interactions and co-evolutionary processes can assist in designing a policy mix that can mitigate these barriers and provide effective incentives to spur the growth of renewable energy. Applying the methods of complex systems analysis to solar finance, this study constructs empirical networks of global investment in solar energy where investors are linked to solar projects by virtue of individual investment transactions and thus by extension investors are interconnected as a result of their co-investment relationships. Spatial and temporal analysis of such investment networks delivers insight into the structure of the global solar investment network, role of individual actors in the investment system, the nature of relationships between groups of actors, the structure of networks in different country environments and the evolution of the structures over time.

Session 3b: Where the Market Is Not Getting It Right

Title: *End of life decommissioning and recycling of solar panels in the United States. A real options analysis.*

Authors: [Carlos Vargas](#) and Marc Chesney.

Hundreds of thousands of tons of solar panel waste are estimated to be produced yearly in the United States from the year 2035 on, most of which could be recycled. This paper estimates the amount of scrap material to be produced from solar panels decommissioning and determines the optimal date and location to establish either centralized or regional recycling centers to better deal with this issue from the perspective of the U.S. government as potential investor. Solar panel recycling could become a multi-billion USD industry, however, the main challenge today is to keep its overall costs down while allowing for the majority of panels to be recycled. Real Options Analysis is deployed to assess the optimal solution to face this challenge. Determining the optimal location of those facilities is a novel approach. Further applications of the model proposed in this work could scale up this analysis at an international level.

Title: *Is Africa leapfrogging to renewables or heading for carbon lock-in? A machine-learning-based approach to predicting success of power-generation projects*

Authors: [Galina Alova](#), Philipp Trotter and Alex Money.

Title: *The birds won't pay: unlocking finance for mainstreaming urban nature-based solutions*

Authors: [Helen Toxopeus](#), Laura Tozer and Harriet Bulkeley.

While the benefits of urban nature are generally recognized, the availability and access to (both public and private) finance for urban nature-based solutions (NBS) remains one of the most critical barriers for renaturing our cities. This paper provides the first (European) cross-country empirical analysis of conditions, barriers and opportunities that constitute financial system conditions for uptake, implementation and mainstreaming of urban NBS. Based on this analysis, we formulate seven transition pathways to finance the mainstreaming of urban nature-based solutions in Europe, requiring engagement of public institutions in Europe and European/global financial actors (including the insurance sector).

Title: *Climate-related financial policy in a world of radical uncertainty: Towards a precautionary approach.*

Authors: [Hugues Chenet](#), Josh Ryan-Collins and Frank van Lerven.

Climate-related financial risks (CRFR) are now recognised by central banks and supervisors as material to their financial stability mandates. But while CRFR are considered to have some unique characteristics, the emerging policy agenda for dealing with them has largely focused on conventional market-based solutions. Current policy emphasises information gaps that prevent the accurate assessment of market risk. The assumption is that these gaps can be remedied via disclosure, transparency, scenario analysis and stress testing, which will enable markets to self-correct. We argue this approach is misguided as CRFR are characterised by radical uncertainty and hence 'efficient' price discovery is not possible. Instead, a 'precautionary' policy approach is proposed. Since climate change poses a severe and potentially irreversible threat, lack of scientific certainty as to its exact nature or timing should not prevent regulatory action to mitigate its impact. Such an approach justifies fully integrating CRFR into financial policy, including both prudential and monetary policy frameworks. Central banks and financial supervisors can and should actively steer market actors in a clear direction - towards a managed transition - to ensure a scenario that minimises harm to the financial system and the wider economy in the future.

Session 4a: The Role of the Law: Climate Litigation, Disclosure Rules, and Corporate Governance

Title: *From Bushfires to Misfires: New Developments in Climate Litigation Over Financial Risk*

Authors: [Esmeralda Colombo](#).

The start of 2020 has proved a clarion call for our global society. It is undoubted that we are increasingly experiencing unpredictable events, so-called black swans, spanning from pandemics to financial meltdowns. One of the black swans that experts have cautioned against consists of the financial crises that climate change is able to cause. Climate-related financial risk has risen as a discrete field of study and practice only recently. But the urgency of climate change has already furthered the application of the initial instruments on climate risk, which belong to transnational law, not only through voluntary practice but also in courts of law. In Australia, the judicial case *McVeigh v Retail Employees Superannuation Trust* tests climate risk and the fiduciary duties of retail (public) pension funds for the first time, which will have important ramifications. By elucidating not only the 'business case' but also the 'cultural case' about climate-related financial risk, this paper argues that a discussion on pension fund fiduciary duties shall include not only disclosures, but also due diligence. A disclosure-based approach contradicts socio-legal findings on market inefficiency, bias in investment decision making, and the cultural normalization of dangers in organizations. Similarly, legal findings show that regulatory detail matters and pension funds can be defined in ways that are most constructive for society and the economy. This paper concludes that regulation--either by courts or legislation--can be responsive, and charts some possible ways to respond to climate-related financial risk in pension funds.

Title: *Under Pressure: The Link between Mandatory Climate Reporting and Firms' Carbon Performance*

Authors: [Tobias Bauckloh](#), Christian Klein, Thomas Pioch and Frank Schiemann.

We examine whether mandatory climate reporting leads to changes in firms' carbon performance. Using propensity score matching and a difference-in-differences design, we assess the effects of the Greenhouse Gas Reporting Program (GHGRP), introduced by the Environmental Protection Agency (EPA) in 2010, on the carbon performance of affected firms. Institutional and legitimacy theory serve as theoretical underpinnings. We find that affected firms improve their carbon performance significantly more than unaffected firms after the introduction of the GHGRP. Specifically, we show that both - the introduction of the GHGRP as well as the first-time disclosure of the reported data - were followed by significant improvements in firms' carbon performance. The results are robust to changes in the difference-in-differences design and the matching sample. Overall, our study provides insights into the link between mandatory climate reporting and firms' carbon performance and assesses its suitability as a political measure to limit climate change.

Title: *The cost of climate change litigation for financial institutions*

Authors: [Javier Solana](#).

Climate change litigation has been increasing rapidly and steadily for the past ten years, yet our understanding of the costs associated with this litigation are still very poor: policy frameworks are too shallow, estimations of these costs in the private sector are scarce and simplistic, and the academic literature is silent on this issue. This essay provides a theoretical framework to classify the different types of costs that can arise from climate change litigation. Financial institutions provide an ideal focal point for this analysis because their role as enablers of some of the activities that contribute to aggravate the climate emergency make their exposure to the risk of climate change litigation unique and complex: they can be directly exposed to the risk of litigation as potential defendants in a case, but they can also be exposed indirectly, through litigation that targets their counterparties, especially their clients. This level of complexity enriches the typology of costs presented in Section II. This typology, as well as the exploration of several methodological challenges, can support the incipient efforts to estimate the costs of climate change litigation for financial institutions that we observe among financial supervisors, credit rating agencies, and financial institutions themselves. It can also help guide attempts to estimate these costs in other industries that are particularly vulnerable to climate change litigation.

Title: *Legal Origins and Institutional Investors' Support for Corporate Social Responsibility*

Authors: [Colin Tissen](#), Rob Bauer and Jeroen Derwall.

We show that institutional investors from civil law countries use their voting power on environmental and social shareholder proposals to influence the CSR of common law firms. A one percentage point increase in civil (common) law institutional ownership increases the percentage of votes in favor of U.S. environmental and social proposals by 0.70 (0.07) percentage points. Using a regression discontinuity design, we provide causal evidence that this is not driven by investment selection into firms where ex-ante support for environmental and social proposals is high. Additionally, we find that institutional investors from civil law countries are more likely to support CSR for financial rather than social reasons. In comparison to institutional investors from common law countries, we argue that institutional investors from civil law countries have a more enlightened view of value maximization: they believe that the creation of stakeholder value ultimately benefits shareholder value.

Title: *Explaining Deference: Why and When do Policymakers think FDI needs Tax Incentives?*

Authors: [Sarah Bauerle Danzman](#) and [Alexander Slaski](#).

Why do governments compete for investment through tax incentives when there is strong evidence that such packages inconsequential to the locational decisions of foreign firms (Jensen, 2016)? Previous scholarship has attributed pro-business policies such as investment incentives to factors including the structural power of business in an era of international capital mobility (Lindblom, 1977; Frieden, 1991; Strange, 1996), fiscal competition generated through political decentralization (Li, 2016), or electoral pandering by political leaders (Jensen and Malesky, 2018). However, there is currently little understanding about how individuals, in their role as decision-makers within government agencies, form beliefs over how to best attract investment. Building on insights from the bureaucratic politics and behavioral economics literatures, we anticipate investment promotion professionals are more likely to view investment incentives as effective attraction tools when they have previous experience in the private sector, when they work for investment promotion agencies that are more integrated into the national bureaucracy, and when employee performance is evaluated based on deals closed. We test these expectations with a conjoint survey experiment of investment promotion professionals designed to uncover respondents' beliefs over the relative importance of different components of the investment environment to firms' locational decisions, and find substantial support for our expectations.

Session 4b: ESG: What Lenders Want, Do, and Can Do

Title: *The Cost of Debt of Renewable and Non-Renewable Energy Firms: Evidence from Loan Data*

Authors: Oliver Schenker, [Karol Kempa](#) and Ulf Moslener.

The transition to a sustainable low-carbon economy requires a change in investments from carbon-intensive technologies towards clean energy alternatives. However, higher risk is imminent to younger technologies and markets as well as other market frictions might impede clean energy firms' access to external financing. We empirically analyse the differences between the costs of debt of firms developing and producing renewable energy technologies and of non-renewable energy firms. Using global micro-level data on individual loans matched to firm-level data, we find that renewable energy firms face relatively higher costs of debt initially, when technologies and markets are new and immature. This cost disadvantage, however, disappears over time. Investigating potential drivers of this result, we find that the costs of debt of renewable energy firms are lower in economies with a more developed banking sector. Finally, stringent environmental policies reduce lenders' perceived risk of renewable energy firms and hence reduce the cost of debt to these firms.

Title: *Credit risk sensitivity to carbon price*

Authors: [Vincent Bouchet](#) and Theo Le Guenedal.

In order to meet the objectives set by the Paris Climate Agreement, global greenhouse gas emissions must be drastically reduced. One way to achieve this goal is to set an effective carbon price. Although beneficial for the climate, a rapid increase in this price can have a significant financial impact on corporate firms. Based on the 2018 Intergovernmental Panel on Climate Change scenarios, we study the credit risk sensitivity of 795 international companies. We develop a bottom-up approach and analyze how probabilities of default within each sector might evolve in both the medium (2023) and long term (2060). We find that energy, materials and utilities sectors would be the most affected. Moreover, the risk materializes earlier and is more heterogeneous for utilities. From a policy perspective, the prices associated with a scenario limiting global warming to 2 degrees Celsius have a limited impact on global credit risk. Such a scenario therefore seems achievable without generating substantial financial losses. From these results, we propose a new indicator, the carbon price threshold, that takes the economic and capital structure of the firm into account in measuring carbon risk.

Title: *Bank 2030: Accelerating the transition to a low carbon economy*

Authors: Jasminka Enderle, Grant Rudgley and [Nina Seega](#).

To avert dangerous climate change, deep cuts to greenhouse gas emissions are needed. Achieving these cuts requires a transformation of assets, which requires trillions of dollars in finance. However, sustainable debt issued in 2018 did not exceed \$250 billion (Bloomberg New Energy Finance, 2018). This research asked how banks can bridge this gap. Based on an extensive literature review and 100 interviews, including with 88 senior bankers, we found that the main barrier to banks scaling up low carbon finance was a passive mindset. Regarding themselves as 'client-led', bankers were not leveraging their unique position in the economy to stimulate investment in low carbon assets by clients. Encouragingly, however, we also identified outliers - bankers with the appetite and ability to make low carbon projects happen. These pioneers were helping clients secure capital at a rate that makes low carbon investment more attractive and connecting clients with industry experts to develop a compelling low carbon investment case. After detailing what characteristics pioneering bankers share (and what employers can do to create more of them) we analyse opportunities for banks to accelerate the low carbon transition, highlighting hard-to-abate sectors, agriculture and electric vehicles as especially attractive. With more and more resource being made available at banks to define their role in meeting the climate challenge, this paper provides a timely guide for how banks can accelerate the low carbon transition.

Title: *Low-Carbon Investment and Credit Rationing*

Authors: Karol Kempa and [Christian Haas](#).

This paper offers a novel theoretical approach to analyse the impacts of emission externalities and credit market failures on low-carbon investments. We use a principal-agent model with information asymmetries between borrowing firms and lenders. Firms can choose between a carbon-intensive technology and a low-carbon technology requiring an externally funded initial investment. We find that an emission tax alone is not sufficient to achieve the first-best outcome if the low-carbon technology is immature and risky and thus results in credit rationing. Combining the emission tax with interest subsidies or loan guarantees can eliminate credit rationing. If a carbon price is (politically) not feasible, intervention on the credit market alone can promote low-carbon development. However, such a policy yields a second-best outcome. Our dynamic analysis shows that any intervention on credit markets is finite, as knowledge spillovers reduce the risk of low-carbon technologies. Without such intervention, there are social costs of delay.

Thursday, September 10 2020

Session 5a: Shareholders: Drivers of ESG Change(?)

Title: *Can Sustainable Investing Save the World? Reviewing the Mechanisms of Investor Impact*

Authors: Julian Koelbel, [Florian Heeb](#), Falko Paetzold and Timo Busch.

This article asks how sustainable investing contributes to societal goals, conducting a literature review on investor impact - that is, the change investors trigger in companies' environmental and social impact. We distinguish three impact mechanisms: shareholder engagement, capital allocation, and indirect impacts, concluding that the impact of shareholder engagement is well supported in the literature, the impact of capital allocation only partially, and indirect impacts lack empirical support. Our results suggest that investors who seek impact should pursue shareholder engagement throughout their portfolio, allocate capital to sustainable companies whose growth is limited by external financing conditions, and screen out companies based on the absence of specific environmental, social, and governance practices that can be adopted at reasonable costs. For rating agencies, we outline steps to develop investor impact metrics. For policy makers, we highlight that sustainable investing helps diffuse good business practices, but is unlikely to drive a deeper transformation without additional policy measures.

Title: *Environmental Impact Investing*

Authors: Tiziano De Angelis, [Peter Tankov](#) and Olivier David Zerbib.

This paper shows how green investing spurs companies to reduce their greenhouse gas emissions by raising their cost of capital. Companies' emissions decrease when the proportion of green investors and their environmental stringency increase. However, heightened uncertainty regarding future environmental impacts alleviates the pressure on the cost of capital for the most carbon-intensive companies and pushes them to increase their emissions. We provide empirical evidence supporting our results by focusing on United States stocks and using green fund holdings to proxy for green investors' beliefs. When the fraction of assets managed by green investors doubles, companies' carbon intensity drops by 5% per year.

Title: The Real Effects of Environmental Activist Investing

Authors: [S. Lakshmi Naaraayanan](#), Kunal Sachdeva and Varun Sharma.

We study the real effects of environmental activist investing. Using plant-level data in a quasi-experimental setting, we find that firms targeted by environmental activist investors reduce their toxic releases, greenhouse-gas emissions, and cancer-causing pollution through preventative efforts. Improvements in air quality within a one-mile of targeted plants suggest potentially important externalities to local economies. We provide evidence supporting the external validity of environmental activism while also ruling out decline in production, reporting biases, and forms of selection. Overall, our study suggests that engagements are an effective tool for long-term shareholders to address climate change risks.

Title: Shareholder Activism and Firms' Voluntary Disclosure of Climate Change Risks

Authors: [Caroline Flammer](#), Michael Toffel and Kala Viswanathan.

This paper examines whether - in the absence of mandated disclosure requirements - shareholder activism can elicit greater disclosure of firms' exposure to climate change risks. We find that environmental shareholder activism increases the voluntary disclosure of climate change risks, especially if initiated by investors who are more powerful (institutional investors) or whose request has more legitimacy (long-term institutional investors). We also find that companies that voluntarily disclose climate change risks following environmental shareholder activism achieve a higher valuation, suggesting that investors value transparency with respect to climate change risks.

Session 5b: A Financial Lens into the Crises of Our Times

Title: Sustainability in the time of uncertainty

Authors: [Julia Meyer](#) and Ola Mahmoud.

We present evidence that sustainability ratings reflect stock-inherent uncertainty. Sustainability scores are econometrically decomposed into three orthogonal components capturing uncertainty, investor sentiment, as well as an idiosyncratic sustainability factor. Examining the shock of the COVID-19 pandemic, we show that the resilience of sustainable stocks during the crash is principally driven through the uncertainty channel. Experimental evidence on investor preferences for sustainability supports the premise that sustainability is valued during the crash. The results shed light on the type of market information encoded in sustainability and the resulting impact on resilience in times of uncertainty.

Title: Universal Ownership Theory and the Double Hermeneutic: Norms and Feedback Loops in the Age of COVID-19

Authors: [Ellen Quigley](#).

The COVID-19 crisis has laid bare many preexisting conditions of modern society. Besides the obvious lack of pandemic preparedness, these include biodiversity loss, air pollution, supply chain vulnerabilities, and inequality, to name a few - all systemic risks that threaten the health and wellbeing of humans, the environment, or both. This is universal owners' belief made manifest, proof that externalities generated in one part of the system can add outsized costs to the rest. What has changed is that this concept - of system-wide threats that can only be addressed at a system-wide level - has become much more widely known and understood by politicians and the public. For good or ill, crises present opportunities; in this metacrisis, systemic risks, externalities, and inequalities have been exposed, and with that comes a chance to counter the attendant harms. Through an exploration of the relevant evidence and theory, this paper lays out some of the systemic risks the COVID-19 crisis has revealed; identifies a number of shifting norms that are already in evidence; quantifies the opportunity that unprecedented fiscal stimulus measures present in countering these systemic risks; and explores the theory and practice of norm-building, feedback loops, and the double hermeneutic. It ends by proposing a set of five experiments for asset owners to test whether universal ownership theory could become self-fulfilling - and therefore whether universal owners might be capable of mitigating the systemic risks this crisis has revealed.

Title: *Capital Budgeting and Climate Change: Does Corporate Internal Carbon Pricing Reduce CO2 Emissions?*

Authors: [John Byrd](#), Elizabeth Cooperman and Kent Hickman.

Internal carbon pricing by corporations is a relatively new tool in carbon management. Using a sample of 1,274 firms from 45 countries and across 43 industries reporting to the Carbon Disclosure Project (the CDP) during the years, 2015 to 2018, this study uses carbon emissions intensity ratios to compare the carbon emission reductions of firms that have engaged in carbon pricing for the most recent four years with other firms that do not employ internal carbon prices. Our univariate analysis for the entire sample shows no significant difference in either revenue or employee-based carbon intensities between firms using an internal carbon price and other firms. However, when we examine industry sectors with high CO2 emissions and which are capital-intensive, there is a significant difference: Carbon pricing firms reduce emissions more quickly based on both revenue intensity and employee-intensity measures. This subsample of firms is comprised of companies in the extractive, airline, ground transportation, cement manufacturing and utilities sectors, so represent firms that regularly make large capital investments. Our results are consistent with internal carbon pricing helping capital-intensive firms make investment decisions that lower carbon emissions. Multivariate regressions confirm that the effect of internal carbon pricing is additional to reductions realized from other carbon efficiency tactics pursued by sample firms. Our results are unaffected by the existence of national carbon tax plans.

Title: *Determinants of Internal Carbon Prices*

Authors: [Gianfranco Gianfrate](#) and Nuno Bento.

Action against climate change is urgent and requires the participation of firms. The progressive internalization of carbon costs by firms is essential in the transition to a low-carbon economy. Internal carbon pricing is an emerging set of practices voluntarily adopted by companies to embed climate footprint in operations and business models. We explore the factors that explain the adoption of internal carbon prices (ICP) among global companies reporting to the Carbon Disclosure Project between 2015 and 2017. We specifically test whether the macroeconomic, regulatory, industry, and firm-specific characteristics affect the disclosed level of the ICPs. Results show that the ICPs depend to a large extent on the national climate policy, country's development, industry, and corporate governance. Furthermore, context explain more the differences in ICP than industry and firm-specific characteristics. Thus uncertainties around countries' climate policy hampers carbon pricing in business. These findings shed light on the factors that contribute to the dissemination of carbon pricing in society.

Session 6a: Shareholders: Drivers of ESG Change(?) (continued from 5a)

Title: *Shareholder activism on climate change: evolution, determinants and consequences*

Authors: [Ivan Diaz-Rainey](#), Paul A. Griffin, David Lont, Antonio Jesús Mateo Márquez and Constancio Zamora Ramírez.

Based on a comprehensive dataset of climate-related shareholder proposals, this paper examines the evolution, determinants, and value relevance of shareholder activism on climate change. We first describe the evolution of these proposals, differentiating between disclosure resolutions and those more focused on climate risk or strategy. Our results show that companies compromise more in responding to disclosure-based proposals than those relating to climate risk or strategy. We then examine the value relevance of climate-related shareholder proposals using an event study. This analysis shows a positive stock price reaction on the proxy filing date. Lastly, we find that shareholders use climate risk proposals in a repetitive manner to pressure firms to include them in proxy statements for voting at the shareholders' meeting. As its contribution, this study deepens our knowledge of climate-related proxy proposals, important because of increased use by investors and advocacy groups to elicit greater disclosure and to induce firms to manage better the challenges and opportunities of climate change.

Title: Coordinated Engagements

Authors: [Elroy Dimson](#), [Oğuzhan Karaka](#) and Xi Li.

We study the nature of and outcomes from coordinated engagements by a prominent international network of long-term shareholders cooperating to influence firms on environmental and social issues. We find a two-tier engagement strategy, combining lead investors with supporting investors, is effective in successfully achieving the stated engagement goals, followed by improved target performance. An investor is more likely to lead the collaborative dialogue when the investor's stake in and exposure to the target firm are higher, and when the target is domestic. Success rates are elevated when the lead investors are domestic, and the investor coalition is capable and influential.

Title: Green versus Brown Initial Public Offerings: How do green IPOs fare?

Authors: Freddie Cleverley, Ivan Diaz-Rainey and [Pia Helbing](#).

Using a unique dataset we examine "green" and "brown" IPO's in terms of their characteristics, the probability of withdrawal and post-IPO performance. During the 2001-2017 sample period, green firms are less likely to withdraw, indicating a positive market sentiment toward these firms. We find greater Private Equity (PE) and Venture Capital (VC) involvement for green firms and higher levels of retained ownership for green IPOs. This may indicate a poor outlook for brown firms, leading to lower PE and VC involvement and reduced stakes by owners. However, green firms underperform post-IPO, producing significantly more negative BHARs relative to both benchmark indices and brown firms, and significantly lower alphas in the four-factor regressions. We find evidence that this effect is weakening over time, brown IPOs are more heavily discounted and have been more severely impacted by the COVID-19 crisis

Title: The value of a Principles for Responsible Investing designation: A setting for environmental social and governance natural experiments

Authors: [Dan Daugaard](#)

Fund flows determine assets under management and are therefore highly valued by investment managers. This article is concerned with whether the United Nation's Principles for Responsible Investing (PRI) can drive fund flows towards socially responsible investing (SRI) funds. If so, signing the PRI will be highly valued by investment managers and enable the PRI to influence investment practices and create a sustainable financial system. There are significant endogeneity issues encountered in fund flow analysis, so innovative techniques are necessary. Natural experiments are considered the 'gold standard' for addressing endogeneity problems. SRI fund flows are an ideal context for creating natural experiments using environmental, social and governance (ESG) events. Unfortunately, the results from these experiments raise doubts about the ability of the PRI to influence SRI fund flows. This outcome questions the value of signing the PRI for investment managers and implies the PRI has limited scope to contribute to sustainable developments.

Session 6b: ESG: Does it Matter to Investors?

Title: Sustainability and Private Wealth Investment Flows

Authors: [Amir Amel-Zadeh](#), Rik Lustermans and Mary Pieterse-Bloem.

In this paper we examine the sustainability preferences of wealthy retail investors and the effect of sustainability ratings on their asset allocation decisions. Using a large proprietary dataset of a private bank with monthly investment holdings of European private wealth investors, we document significantly larger investment flows into assets with a high sustainability rating compared to those with a low sustainability rating. We further find that investors react to changes in sustainability ratings of their portfolio assets by rebalancing their portfolios towards assets with higher sustainability ratings. Exploiting a quasi-natural experiment and an event study design our study documents a plausibly causal relationship between assets' sustainability ratings and retail investors' investment flows.

Title: Carbon Intensity and the Cost of Equity Capital

Authors: [Arjan Trinks](#), Gbenga Ibikunle, Machiel Mulder and Bert Scholtens.

The transition from high- to lower-carbon production systems increasingly creates regulatory and market risks for high-emitting firms. We test to what extent financial investors demand a premium to compensate for such risks and thus might raise firms' cost of equity capital (CoE). Using data for 1,897 firms spanning 50 countries over the years 2008 - 2016, we find a distinct and robust positive impact of carbon intensity (carbon emissions per unit of output) on CoE: On average, a standard deviation higher (sector-adjusted) carbon intensity is associated with a CoE premium of 6 (9) basis points or 1.7% (2.6%). This effect is primarily explained by systematic risk factors: high-emitting assets are significantly more sensitive to economy-wide fluctuations than low-emitting ones. The CoE impact of carbon intensity is most pronounced in Europe and in high-emitting industries. Our findings suggest that carbon emission reduction might serve as a valuable risk mitigation strategy.

Title: The Impact of Sustainability on Retail Investor Trading Behavior: Evidence from Germany

Authors: Yasid Soufi, Frederik Klatt and Christof Weinhardt..

This paper investigates the impact of sustainability on retail investor trading behavior. To examine trading behavior, we utilize unique order-level data from the Stuttgart Stock Exchange - Europe's largest retail investor exchange. We find a way to conduct an analysis on stock-level by applying a difference-in-difference approach for causal inference, utilizing a recently introduced matching method. Our findings are consistent with Bauer, Ruof, and Smeets (2018) and current societal trends, showing, that individuals prefer sustainable investments. From an industry perspective sustainable corporate behavior can drive retail demand of a firm's share.

Title: Determinants of individual sustainable investment behavior – A framed field experiment

Authors: [Gunnar Gutsche](#), Heike Wetzel and Andreas Ziegler.

This paper employs a new empirical approach for eliciting preferences for and determinants of sustainable investments at the individual investor level. We examine data from an incentivized framed field experiment that was part of a representative survey among financial decision makers in German households. The analysis reveals strong preferences for sustainable funds. These preferences are especially driven by non-pecuniary factors such as financial literacy, environmental values, and social norms. Interestingly, economic preferences or the Big Five personality traits are only of minor relevance. Our results provide useful implications for the discussion on how to mobilize individual investors for sustainable development.

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