The Centre for Endowment Asset Management

# CENTRE REPORT ON RESEARCH AND ENGAGEMENT ACTIVITIES

2022

Centre for
**Endowment Asset Management**

UNIVERSITY OF CAMBRIDGE
Judge Business School

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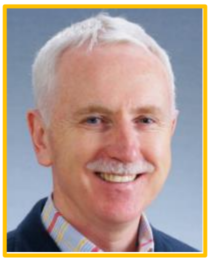
## Overview

### About us

The Centre for Endowment Asset Management (CEAM) is a research and education centre based within Cambridge Judge Business School (CJBS) at the University of Cambridge. We focus on evidence-based research in the areas of asset management relevant to long-horizon investors (including sovereign funds, endowments, family offices and charities). Our research themes focus on general areas of investment strategy and asset management as well as more specialised areas like responsible investing and ownership, climate change and exclusions, currencies, trading and market microstructure. Our core activities are designed to encourage and facilitate academic research, to promote research excellence and to engage in workshops and events where research can impact best practice and learning amongst institutional investors. This summary booklet is designed to capture some of the work we have been conducting up to early 2022. It includes research activity supported by CEAM and being undertaken by academic researchers within our network. The booklet also highlights some of the support CEAM has given to early career researchers and the events and workshops we have hosted for institutional investors.

### Our Core Team

**Sarah Carter**
CEAM Co-Founder & Executive Director



**David Chambers**
CEAM Co-Founder & Co-Director, Invesco Professor in Finance, University of Cambridge

**Elroy Dimson**
CEAM Co-Founder & Chairman

**Oğuzhan Karakaş**
CEAM Co-Director, Associate Professor in Finance, University of Cambridge

**Merve Karakaş**
CEAM Centre Manager

**Raghavendra Rau**
Sir Evelyn de Rothschild Professor of Finance, Cambridge Judge Business School

**Pedro Saffi**
Professor in Financial Economics, University of Cambridge

## Early Career Researchers

An important activity within CEAM is to offer support to early career academics who will go on to become leaders of research in the future. Providing support through funding and supervision, hosting research excellence awards and providing research training and mentoring are all Important parts of this process.

### PhDs and Post-Docs currently supported by CEAM

### CURRENT PHD STUDENTS

**Zhenkai Ran**
Zhenkai is a first-year PhD student in Finance at Cambridge Judge Business School. His research focuses on Financial Regulation, Financial Technology, Network Economics. He holds holds a BA from University of Manchester and an MPhil and MRes from Cambridge Judge Business School.

**Ting Yu**
Ting is a second-year PhD student in Finance at Cambridge Judge Business School. Her research focuses on corporate finance, corporate governance, responsible investing, fintech, and innovation. She holds a BA from University of Manchester and an MPhil from Cambridge Judge Business School.

**Lukas Ryll**
Lukas is a third-year PhD student at the Engineering Department, University of Cambridge with joint supervision in Finance at Cambridge Judge Business School. His research focuses on the development of new soft computing methods for financial forecasting. He holds a BSc from WHU – Otto Beisheim School of Management.

**Elias Ohneberg**
Elias is a fourth-year PhD student in Finance at Cambridge Judge Business School. His research focuses on asset management and portfolio theory. He holds a BSc from Utrecht University and an MPhil in Finance from Cambridge Judge Business School.

**Jinhua Wang**
Jinhua is a fourth-year PhD student in Finance at Cambridge Judge Business School. His research focuses on machine learning in finance. He holds a BCom from University of Toronto and an MPhil in Finance from Cambridge Judge Business School.

**Xinrui (Cindy) Zheng**
Cindy has received PhD degree in Finance from Cambridge Judge Business School at the end of 2021. She will pursue her career as a postdoctoral research associate at the Cambridge Endowment for Research in Finance (CERF). Her PhD research is on empirical asset management, quantitative finance. She holds a BSc degree from the University of Manchester as top of her class.

## CURRENT POST-DOCS

**Matthias Buechner** (Post doc October 2020 - May 2021)
Matthias' research focuses on applications of machine learning to investment management. Previously, he completed a PhD in Finance & Econometrics at Warwick University, part of which was spent as a Visiting Scholar at the Yale School of Management. Matthias holds an MSc in Financial Mathematics from University College London (UCL) and a BSc in Physics from Karlsruhe Institute of Technology.

**Tengfei Zhang** (Post doc June 2021 - ongoing)
Tengfei's research focuses on empirical asset pricing, machine learning in finance, and responsible investing. He received his PhD degree in Finance from Louisiana State University (LSU) in August 2021.

# News from current PhDs, Post-Docs and recent alumni

## PUBLISHED JOURNAL ARTICLES

**Matthias Buechner's** co-authored paper titled "A Factor Model for Option Returns" has been accepted for publication in the Journal of Financial Economics (JFE).

## PAPER AWARDS/MENTIONS

**Jinhua Wang's** co-authored paper "Do Investors Pay Less Attention to Women (Fund Managers)?" was awarded the 'Peak Award' in the Digital Finance Open Research Initiative organised by Ant Group and Peking University (Beijing, 25 July 2021).

**Cindy Zheng's** paper titled "What Determines an Exchange-traded Fund Launch?" was selected as one of the finalists at the European Investment Forum research prize (Cambridge, 12 September 2021).

## CONFERENCE PAPERS

**Jinhua Wang's** paper, co-auhored with Professor Raghavendra Rau, "Do Investors Pay Less Attention to Women (Fund Managers)?" was presented at Financial Intermediation Network of European Studies (FINEST) autumn workshop (Virtual, 9-10 December 2021).

## ACADEMIC POSITIONS

**Vaska Atta-Darkua**, CEAM post-doctoral student (February – September 2020) and Visiting Researcher (January 2021 - present) with the Climate Risk & Sustainable Finance group at the Centre for the Study of Existential Risk, University of Cambridge, was accepted as Postdoctoral Research Associate at the Richard A. Mayo Center for Asset Management, Darden School of Business, University of Virginia.

## OTHER NEWS

**Cindy Zheng** has submitted her PhD thesis entitled "Essays in Asset Management: Mutual Funds and Exchange-traded Funds".

## FMA CONSORTIUM RESEARCH PRIZE FOR BEST PAPER

Due to the pandemic, an FMA Consortium event and prize competition did not run in 2021. It will resume in 2022 with the Consoritum on Asset Management and Fintech taking place in Dublin on 4th March. The 2022 Consoritum is supported by the Financial Management Association and the Centre for Endowment Asset Management with sponsorship kindly provided by the Bank of Ireland.

## EUROPEAN INVESTMENT FORUM PRIZE

The prizes were awarded at the European Investment Forum 2021, in collaboration with FTSE Russell, a London Stock Exchange company. A global call for papers resulted in 97 submissions, 6 finalists were shortlisted and invited to present their research at the Forum and compete for two awards: Best Presenter and Best Paper. In selecting the winner of the Best Paper award, the judging committee gave priority to research excellence and novel insights and applicability to asset management. The Best Presenter was selected by the audience at European Investment Forum.

The winners were as follows:

**Winner, EIF 2021 Best Presenter** – Huan Tang, Assistant Professor of Finance, London School of Economics, for her paper "The Value of Privacy: Evidence from Online Borrowers".

**Winner, EIF 2021 Best Paper** – Lakshmi Naaraayanan, Assistant Professor of Finance, London Business School, for his paper "The Real Effects of Environmental Activist Investing".

The rest of the shortlisted candidates were as follows:

1. Mingyi Hua, Ph.D. Student in Finance, HEC Paris – "Why Do Digital Firms Outperform?".
2. Altan Pazarbasi, Ph.D. Student in Finance, Frankfurt School of Finance & Management – "Credit Beta".
3. Olivier David Zerbib, Assistant Professor of Finance, Boston University – "Climate Impact Investing"
4. Xinrui (Cindy) Zheng, Ph.D. Candidate in Finance, Cambridge Judge Business School – "What Determines an Exchange-traded Fund Launch?".

## Research Activity

ESG Investing, Asset Management, Asset Pricing

### JOURNAL PUBLICATIONS

#### Practical Applications of Strategies for Responsible Investing

**Authors**: Vaska Atta-Darkua, David Chambers, Elroy Dimson, Zhenkai Ran and Ting Yu

**Summary**: In Strategies for Responsible Investing: Emerging Academic Evidence, authors Vaska Atta-Darkua, David Chambers, Elroy Dimson, Zhenkai Ran, and Ting Yu (all of the University of Cambridge) summarize and explain the findings from the Divest or Engage? Strategies for Responsible Investing conference in October 2019 at the University of Cambridge. The authors use a responsible investing debate from that conference as an object lesson to critique two methods of responsible investment, negative screening and engagement. They also illustrate the importance of selecting an ESG score provider by examining the differences in metrics among different providers.

**Publication**: Practical Applications Portfolio Management Research 2020 8(2)

#### The Norway Model in Perspective

**Authors**: David Chambers, Elroy Dimson, Antti Ilmanen

**Summary**: The authors' 2012 article on the Norway model spotlighted that country's sovereign wealth fund. They argued that Norway provides a coherent and compelling approach to managing long-term pools of assets. Since then, the Norwegian Government Pension Fund has grown in scale and complexity, and its structure has evolved. Meanwhile, other models for asset management have been put forward. In this article, the authors review Norway's investment strategy in the light of the last decade's experience, put it in a broader context by comparing Norway with alternative approaches, and reexamine the fund's commitment to responsible investing. Since the authors wrote their earlier paper, environmental and social issues have come to the fore, and there is still much to learn from the Norway model.

**Publication**: The Norway Model in Perspective

#### The Rate of Return on Real Estate: Long-run Micro-level Evidence

**Authors**: David Chambers, Eva Steiner and Christophe Spaenjers

**Summary**: Real estate—housing in particular—is a less profitable investment in the long run than previously thought. We hand-collect property-level financial data for the institutional real estate portfolios of four large Oxbridge colleges over the period 1901–1983. Gross income yields initially fluctuate around 5%, but then trend downward (upward) for agricultural and residential (commercial) real estate. Long-term real income growth rates are close to zero for all property types. Our findings imply annualized real total returns, net of costs, ranging from approximately 2.3% for residential to 4.5% for agricultural real estate.

**Publication**: Review of Financial Studies, 34(8): 3572-3607

### A Factor Model for Option Returns

**Authors**: Matthias Büchner, Bryan T. Kelly

**Summary**: Due to their short lifespans and migrating moneyness, options are notoriously difficult to study with the factor models commonly used to analyze the risk-return trade-off in other asset classes. Instrumented principal components analysis solves this problem by tracking contracts in terms of their pricing-relevant characteristics via time-varying latent factor loadings. We find that a model with three latent factors prices the cross-section of option returns and explains more than 85% of the variation in a panel of monthly S&P 500 option returns from 1996 to 2017. In particular, we show that the IPCA factors can be rationalized via an economically plausible three-factor model consisting of a level, slope and skew factor. Finally, out-of-sample trading strategies based on insights from the IPCA model have significant alpha over previously studied option strategies.

**Publication**: Journal of Financial Economics (JFE), Forthcoming

### Practical Applications of Divergent ESG Ratings

**Authors**: Elroy Dimson, Paul Marsh and Mike Staunton

**Summary**: In Divergent ESG Ratings, from the November 2020 issue of The Journal of Portfolio Management, authors Elroy Dimson of the University of Cambridge Judge Business School and Paul Marsh and Mike Staunton of London Business School address inconsistencies in how environmental, social, and governance (ESG) ratings are evaluated by raters and used by asset managers and investors. The authors carried out an extensive review of previous literature on ESG fund and index performance, along with an analysis of variations in ESG ratings given by different rating bodies. Their analysis found that many popular claims that ESG investing outperforms conventional indexes are unfounded. Furthermore, there is no clear agreement among raters on how individual companies score, or on the relative importance of individual factors of ESG ratings. The divergent ESG ratings provide little to no clear direction for asset managers and investors intending to implement ESG investment strategies.

**Publication**: Practical Applications Portfolio Management Research 2021 9(3) 1-8

### To Divest or to Engage? A Case Study of Investor Responses to Climate Activism

**Authors**: David Chambers, Elroy Dimson, and Ellen Quigley

**Summary**: A dilemma faced by an increasing number of investors is whether to boycott environmentally damaging businesses or whether to enter into a dialogue with them. This predicament now has its epicentre in Cambridge, England, where the ancient university faces great pressure from students and staff to respond to the threat of climate change. Having already received two reports on its approach to responsible investment, the university has appointed a new chief investment officer (CIO) who needs to consider the question of whether to divest or to engage. What would be the financial effects of each choice, and what would be the outcome in terms of environmental impact? Our case describes the background and the research behind the debate. The new CIO and her recently appointed colleague, the chief financial officer, will present their ideas to the university. In contrast with other Journal articles, we do not propose solutions. Instead, we ask you, the reader, to consider the arguments and to take a position.

**Publication**: Journal of Investing ESG Special Issue 2020

### Strategies for Responsible Investing: Emerging Academic Evidence

**Authors**: Vaska Atta-Darkua, David Chambers, Elroy Dimson, Zhenkai Ran and Ting Yu

**Summary**: The authors contrast and evaluate two of the most popular responsible investing strategies employed at present: negative screening and engagement. As a backdrop, they consider the challenges faced by the University of Cambridge, which mirror those experienced by institutional investors worldwide. Specifically, they make use of issues raised at the recent "Divest or Engage?" conference at the university. The authors discuss emerging academic evidence from recent, and hitherto unpublished, papers to provide an up-to-date perspective. They describe the challenges in excluding undesirable assets from investment portfolios and present evidence on the effectiveness of engaging with investee companies. The strategies of divestment and engagement are often employed as complements to each other, and this can be advantageous. The authors caution that investors need to be aware of the disquieting evidence that ESG metrics differ considerably across rating services, and the choice of data provider can have a fundamental impact on the ESG credentials of institutional portfolios.

**Publication**: Journal of Portfolio Management Ethical Investing Special Issue 2020 46(3): 1-8

### American Exceptionalism: The Long-Term Evidence

**Authors**: Elroy Dimson, Paul Marsh and Mike Staunton

**Summary**: In this article, the authors examine the evolving composition of the global equity market over the past 121 years. Using the DMS database from Morningstar, they study the long-term returns on all the main asset classes. The authors present investment returns based on 90 countries, 23 of which have histories starting in 1900. Over the long run, equity returns have systematically exceeded the investment performance of government bonds and Treasury bills. For the world as a whole, stocks beat bills by 4.4% per year and bonds by 3.1% per year. In the United States, stocks outperformed bills by 5.8% per year, compared with 3.7% per year in the world ex-US. Contrary to many equity investors' expectations at the dawn of the 21st century, the United States continued to outperform non-US stock markets by a significant margin.

**Publication**: The Journal of Portfolio Management Non-US Financial Markets 2021, 47(7): 14-26

### Divergent ESG Ratings

**Authors**: Elroy Dimson, Paul Marsh and Mike Staunton

**Summary**: Responsible investors require data to underpin their stock and sector selections. Regardless of the rating agency, bond ratings for a particular issuer are broadly similar. This is not the case for ESG ratings. Companies with a high score from one rater often receive a middling or low score from another rater. This article examines the extent of, and reasons for, disagreement among the leading suppliers of ESG ratings. The weightings given to each pillar of an ESG rating also vary across agencies. Many asset managers contend that ESG ratings can help investors to select assets with superior financial prospects, and the authors therefore review the investment performance of portfolios and of indexes screened for their ESG credentials. In the authors' opinion, ESG ratings, used in isolation, are unlikely to make a material contribution to portfolio returns.

**Publication**: The Journal of Portfolio Management November 2020, 47(1): 75-87

### Seventy-Five Years of Investing for Future Generations

**Authors**: David Chambers, Elroy Dimson and Charikleia Kaffe

**Summary**: University endowments invest for future generations, so their strategy should reflect their long horizon. We researched whether they really do behave like long-term investors. We examined the behavior of US endowments since 1945 and drew comparisons with earlier periods. Using a long-run dataset on 12 major universities, we examined their preferences for risky assets and documented their big strategic moves into equities and, later, into alternatives. We then analysed how they invest at the time of crises and the extent to which they exploit their long-horizon advantage. We found that, on average, endowments invested countercyclically at crisis times, particularly by increasing their allocations to risky assets after a crisis.

**Publication**: Financial Analysts Journal 2020 76(4): 5–21

### Exclusionary Screening

**Authors**: Elroy Dimson, Paul Marsh and Mike Staunton

**Summary**: Investors want their assets to be a force for good, or at least to do no harm. Approaches range from avoiding companies or sectors deemed to fail on ethical grounds through to active engagement with companies. Exclusionary screening is the most prevalent approach to ESG investing, and may focus on individual stocks or entire sectors. In this article, the authors take two perspectives. First, they report on the returns since 1900 from tobacco and alcoholic beverage companies. They show that the returns from these sin stocks have substantially beaten the market in both the US and UK, and they evaluate explanations for this. Second, the authors extend their analysis to other large-scale exclusions such as those demanded by climate activists, Sharia-complaint investors, or dharmic investors. In a historical analysis of the return and risk impact from such screens, the authors find that, while divestment may exert downward pressure on stock prices, the impact of protracted and sustained exclusions is, on average, small.

**Publication**: The Journal of Impact and ESG Investing Fall 2020, 1 (1) 66-75

## ARTICLES, REPORTS AND BOOK CHAPTERS

### Economic Challenges and Success in the Post-COVID Era – Chapter 3: The Impact of the COVID-19 Pandemic on London as a Global Financial Centre.

**Contributing Author**: David Chambers

**Summary**: How will the UK financial sector be affected by the COVID-19 pandemic? And how will these effects interact with those arising from the Brexit process? This chapter argues that the probable impacts of the pandemic and Brexit can best be understood in terms of three factors that have guided the long-run development of the City of London: Globalization, regulation and technology.

**Publication**: University of Warwick – CAGE Policy Report 2021

### Investment Luminaries and Their Insights: 25 years of the Research Foundation's Vertin Award

**Contributing Author**: Elroy Dimson

**Summary**: CFA Institute Research Foundation is honored and delighted to present these insights from 25 years of Vertin Award recipients. These legends of the investment industry range in stature from Nobel Prize winners to billionaire hedge fund managers, from distinguished professors of finance who have shaped thousands of young minds to editors of prestigious academic journals and authors of some of the most popular investment books ever published. Although their backgrounds vary widely, they hold one thing in common: They all made substantial lifetime contributions to the field of investments.

**Publication**: CFA monograph

### Global Investment Returns Yearbook 2020

**Authors**: Elroy Dimson, Paul Marsh and Mike Staunton

**Summary**: Investments with products linked to environment, social and governance (ESG) issues now (start-2020) exceed USD 31 trillion. In their Special Feature, the authors review a wealth of academic studies as well as new work of their own. They evaluate exclusionary screening, the role and limitations of ESG ratings, and whether screening enhances performance. For those pursuing exclusion-based strategies, the good news is that, over the longer term, such strategies need not compromise diversification and relative risk-adjusted returns. A caveat is that the shorter term can experience significant deviation from such longer-term results, both positive and negative. This could be a material issue for passive ESG investment products if their performance is judged over a shorter-term time horizon. For those relying on screening to enhance returns and reduce risk, there is vast literature with sometimes conflicting results depending on time horizons and approaches taken. The authors argue that the route by which ESG investors can combine principles of responsibility with aims for material capital appreciation is to pro-actively use their powerful "voice," and that of others, to engage with companies to drive change rather than "exit" through divestment.

**Publication**: Credit Suisse Global Investment Returns Yearbook 2020 Summary Edition (complete Yearbook is hardcopy only)

### Global Investment Returns Yearbook 2021

**Authors**: Elroy Dimson, Paul Marsh and Mike Staunton

**Summary**: By way of new thematic content, the 2021 edition of the Yearbook presents a highly topical deep-dive into emerging markets, reflecting their increasing importance to global markets. Only 20 years ago, emerging markets made up less than 3% of world equity market capitalization and 24% of gross domestic product. Today, they comprise 14% of the free-float investable universe and 43% of gross domestic product, with their influence only likely to grow further. To help investors frame assumptions for future returns and valuation, the study presents a substantial extension of the 23-country, 121-year Dimson-Marsh-Staunton dataset. Nine new emerging markets have been added providing for each at least 50 years of performance of equities, bonds, bills, currencies and inflation. The markets include seven from Asia – India, Hong Kong SAR, South Korea, Singapore, Taiwan (Chinese Taipei), Malaysia, and Thailand – and two from Latin America – Brazil and Mexico. We also carry historical data on a further 58 countries with data spanning less that 50 years.

**Publication**: Credit Suisse Global Investment Returns Yearbook 2021 Summary Edition (complete Yearbook is hardcopy only)

## WORKING PAPERS AND ONGOING RESEARCH

### Coordinated Engagements

**Authors**: Elroy Dimson, Oğuzhan Karakaş and Xi Li

**Summary**: 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. A two-tier engagement strategy, combining lead investors with supporting investors, is effective in successfully achieving the stated engagement goals and is 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 lead investors are domestic, and when the investor coalition is capable and influential.

**Working paper**: https://dx.doi.org/10.2139/ssrn.3209072

### Local Boy Does Good: CEO Birthplace Identity and Corporate Social Responsibility

**Authors**: Lei, Zicheng and Petmezas, Dimitris and Rau, P. Raghavendra and Yang, Chen

**Summary**: We examine how CEO birthplace identity affects firm corporate social responsibility (CSR) activities. CEOs heading firms located in their home birth counties are associated with higher levels of CSR. The relation is more pronounced for CEOs with deeper home connections. Importantly, CSR activities by home CEOs are associated with significant increases in firm value relative to non-home CEOs. Additionally, home CEOs do not appear to extract private benefits, either directly or indirectly, from these activities. Overall, our results suggest that engaging in CSR will not necessarily increase firm value. The place identity of the CEO also matters.

**Working paper**: https://ssrn.com/abstract=3718687

### Are Women Undervalued? Board Gender Diversity and IPO Underpricing

**Authors**: P. Raghavendra Rau, Jason Sandvik and Theo Vermaelen

**Summary**: We show that investor preferences for diversity have had a significant effect on the initial returns earned by U.S. firms going public with gender diverse boards over the past decade. There is no difference in economic fundamentals, such as profitability, between these firms and firms without gender-diverse boards following the IPO. The underpricing appears to reflect recent institutional investor demand for diverse firm boards during the IPO process, possibly as a result of social pressure or an increased focus on corporate social responsibility.

**Working paper**: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3783771

### Do Investors Pay Less Attention to Women (Fund Managers)?

**Authors**: P. Raghavendra Rau and Jinhua Wang

**Summary**: We document a gender-based attention effect in the sensitivity of mutual fund flows to fund performance using individual-level fund data from a fintech platform in China. Investors increase (decrease) flows to funds following positive and strong (negative and weak) prior- month performance. However, although there is no significant difference in the performance of male and female managers, the sensitivity effect significantly weakens if the fund manager is female. The effect persists after controlling for managerial characteristics and fund objectives, as well as individual investor fixed effects. Simply put, investors react less to the performance of female fund managers.

**Working paper**: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3926970

## Corporate Social Responsibility Committee: International Evidence

**Authors**: Xi Li, Jenny Chu and Yuxia Zou

**Summary**: We show determinants and consequences of CSR-related committee at corporate board.

**Working paper**: Either a presentation or a summary can be provided on request.

## Let's Talk about the Environment: Discussions of Environment in Earnings Conference Calls and Investor Reaction

**Authors**: Xi Li, Aaron Yoon (Kellogg), Gabriel Wong (Cardiff), and Woon Sau Leung (Edinburgh).

**Summary**: a project using textual analysis technique to extract information from firms' earnings call transcripts to measure a firm's exposure to climate risk.

**Working paper**: Either a presentation or a summary can be provided on request.

## First in the Queue: The Role of Access Privileges in Private Equity Performance

**Authors**: Pedro Saffi, Andrea Carnelli Dompe, Daniel Ferreira (LSE), Davide Ferri, Bo Tang (LSE)

**Summary**: Access privileges matter in private equity markets. Funds of funds and other financial intermediaries can create value not only by selecting, but also by being able to access, better investment opportunities. We find that access-constrained funds outperform their peers, and that limited partners with access privileges tend to re-commit to access-constrained managers. The findings suggest that access privileges play an important role in explaining value creation and limited partners' performance persistence in private markets.

**Working paper**: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3965747

## One Hundred Years of CIP Deviations

**Authors**: Jason Cen, Olivier Accominotti (LSE), David Chambers (CJBS), and Victor Degorce (PSE)

**Summary**: This study places the recent evidence on CIP deviations in a much longer run context by exploiting a century of daily data, constructed from newspaper and archival sources, on spot and forward bid and ask exchange rates and on money market interest rates for 62 countries. Our preliminary findings suggest that i) CIP deviations are the norm rather than an exception since the 2008 Global Financial Crisis; ii) CIP deviations tend to comove; and iii) CIP deviations are closely linked to foreign exchange market speculation.

**Working paper**: NA

### Does Sustainable Investing Add Value? Evidence from ESG-Enhanced Benchmarks

**Authors**: Jason Cen, Linquan Chen (Exeter) and Yao Chen (Exeter)

**Summary**: Using various ESG ratings, we incorporate an ESG-enhancing tilt into mutual fund holdings and create fund-level hypothetical ESG-enhanced benchmark portfolios. We compare the actual fund returns with ESG-enhanced benchmark portfolio returns to examine whether sustainable investing enhances investment performance. We further investigate which ESG dimension, fund style, and characteristic help explain the profitability. We also compare the relative informational value of different ESG rating systems and propose an optimal ESG-enhanced trading strategy by aggregating across different ESG rating systems. This research provides valuable insights into whether ESG investing affects asset prices and mutual fund performance.

**Working paper**: NA

### Risk and Return in the Residential Real Estate Market

**Authors**: Matthias Buechner, Simon Schmickler and Bryan Kelly

**Summary**: We examine the cross-section of property-level real estate returns using proprietary data from Zillow containing the universe of US housing transactions from 1996 to 2020. We find many property characteristics predict returns, even after accounting for multiple hypothesis testing. Several signals mirror well-known anomalies in the stock market, such as value, size, momentum, long-term return reversal, and profitability. In addition, there are real estate-specific predictors: home age, the return realized by the last owner, local income per capita, housing supply growth, property taxes, and variables related to idiosyncratic risks. Further, using machine learning techniques, we document that real estate returns are highly predictable. Out-of-sample, houses in the top decile of predicted returns outperform homes in the bottom decile by around 10% annually, even holding location, time, and size constant to account for investors' constraints. Finally, observable factor models fail to price real estate assets. However, instrumented principle component analysis (IPCA) explains this puzzle: a model with two latent risk factors prices the cross-section of housing returns.

**Working paper**: NA

### Mimicking Portfolios at High-Frequency

**Authors**: Tengfei Zhang, David Chambers, Lucio Sarno, Jay Raol

**Summary**: We create tradable macroeconomic factors by constructing factor mimicking portfolios at high-frequency. By using 5-minute futures returns around macroeconomic announcements from One Tick dataset, we estimate the clean identification of the loadings of growth shocks by using principal component analysis. Applying the high-frequency loadings to construct a long-short mimicking portfolios at monthly level. By applying for the Giglio and Xiu (2021) method, we are working on estimating the risk premium of the mimicking portfolios on a large cross-section of asset returns. Trading strategies based on high-frequency momentum around announcements are also being explored.

**Working paper**: Either a presentation or a summary can be made available on request.

## The Market Effect of Social Norm Shifts: Evidence from Marijuana Legalization

**Authors**: Tengfei Zhang, David Chambers, Elroy Dimson, Jingjing Chen

**Summary**: We study the effect of social norm shifts on the investment decisions of institutional investors and explore its implications for socially responsible investing. We first test whether norm shifts affect institutional investors' attitudes toward marijuana by examining the ownership change of marijuana-related stocks after marijuana medical legislation (MML) and recreational legislation (MRL). Our preliminary difference-in-difference results show that marijuana-related stocks have lower institutional ownership than other stocks. After MRL at the state level, marijuana-related stocks experience a significant increase in institutional ownership, while change in ownership is not significant for MML. The second test is to examine the asset prices of marijuana firms after MML and MRL. We will also perform additional tests to show the reactions of institutional investors under more and less pressure of social norms, changes in marijuana-related stock holdings at fund levels, and changes in retail investor sentiment.

**Working paper**: Either a presentation or a summary can be made available on request.

## Gender Differences and Information Content in Conference Calls

**Authors**: Tengfei Zhang, Bill Francis (RPI), Nerissa Brown (UIUC), Wenyao Hu (SMU), and Thomas Shohfi (RPI)

**Summary**: Using a large sample of quarterly earnings conference call transcripts, we investigate gender issues in interactions between two high-profile professions—sell-side analysts and public firm executives. We find that women are generally less "visible" on conference calls. Specifically, female analysts have fewer conference call participation opportunities. Conditional on participation, female analysts are allowed fewer opportunities to ask follow-up questions and speak less compared with male counterparts. This gender-based discrimination deteriorates information production on conference calls and leads to several consequences, such as lower analysts' forecast accuracy, larger analysts' forecast dispersion, weaker liquidity, and larger volatility in equity market.

**Working paper**: Revise and Resubmit at Journal of Accounting Research

## Manager Uncertainty and Cross-Sectional Stock Returns

**Authors**: Tengfei Zhang

**Summary**: This paper evidences the explanatory power of managers' uncertainty for cross-sectional stock returns. I introduce a novel machine-learning-based measure of the degree of managers' uncertain beliefs about future states: manager uncertainty (MU). I find that manager's level of uncertainty reveals valuation information about real options and thereby has significantly negative explanatory power for cross-sectional stock returns. Beyond existing market-based uncertainty measures, the manager uncertainty measure has incremental pricing power by capturing information frictions between managers' reported uncertainty and investors' perception of uncertainty. Moreover, a short-long portfolio sorted by manager uncertainty has a significantly positive premium and cannot be spanned by existing factor models. An application on COVID-19 uncertainty shows consistent results.

**Working paper**: Manager Uncertainty and the Cross-Section of Stock Returns

## Convenience Yields of Collectibles

**Authors**: Elroy Dimson, Kuntara Pukthuanthong and Matthew Vorsatz

**Summary**: We propose a novel method to estimate convenience yields of collectibles based on factor mimicking portfolios. Using up to 110 years of collectibles returns for 13 distinct asset classes, we apply machine learning techniques to address challenges from non-synchronous trading. We use these estimates to study how convenience yields affect equilibrium pricing. Convenience yield estimates for 24 of our 30 collectibles return series are positive, with an annualized mean (median) of 2.64% (2.53%). Despite various forms of underestimation, these results provide evidence that assets with positive emotional returns have lower equilibrium financial returns. This finding has important implications for ESG investing.

**Working paper**: [https://drive.google.com/file/d/1fSaNnXnpQX1pLjGImg6itJDFg8J1h0eT/view](https://drive.google.com/file/d/1fSaNnXnpQX1pLjGImg6itJDFg8J1h0eT/view)

# Corporate Governance, Behavioral Finance, Market Microstructure

## JOURNAL PUBLICATIONS

### Staggered Boards and the Value of Voting Rights

**Authors**: Oğuzhan Karakaş and Mahdi Mohseni

**Summary**: This paper examines the impact of staggered boards on the value of voting rights (i.e., the voting premium) estimated using option prices. We find companies with staggered boards have a higher voting premium. Exploiting plausibly exogenous court rulings, we confirm that weakening the effectiveness of staggered boards decreases the voting premium. Given that the voting premium reflects private benefits consumption and associated managerial inefficiencies, our findings are consistent with the entrenchment view of staggered boards. Analyzing the cross-sectional heterogeneity in our sample, we find the entrenchment effect of staggered boards to be particularly pronounced for firms in noncompetitive industries and for mature firms.

**Publication**: Review of Corporate Finance Studies (RCFS), Volume 10, Issue 3, pp. 513–550, September 2021

### Till Death (or Divorce) Do Us Part: Early-life Family Disruption and Investment Behavior

**Authors**: Raghavendra Rau, André Betzer, Peter Limbach and Henrik Schürmann

**Summary**: We document a long-lasting association between a common societal phenomenon, early-life family disruption, and investment behavior. Fund managers who experienced the death or divorce of their parents during childhood take lower risk and are more likely to sell their holdings following risk-increasing firm events. They make smaller tracking errors, hold fewer lottery stocks, and show a stronger disposition effect. The results strengthen as treatment intensifies, i.e., when disruption occurred during formative years, when bereaved families had less social support, and after (unexpected) parental deaths. The evidence adds to our understanding of the role of social factors and “nurture” in finance.

**Publication**: Journal of Banking and Finance 124, 106057, 2021

### Does the Market Understand the Ex Ante risk of Expropriation by Controlling Shareholders?

**Authors**: Raghu, Rau, Yan-Leung Cheung, Aris Stouraitis and Weiqiang Tan

**Summary**: We examine how the market values operating assets in the presence of time-varying ex ante risk that these assets may be tunneled away. We analyze pairs of Chinese publicly listed firms and their non-listed parents and examine the market valuation of current assets (cash balances, trade receivables, receivables due from the controlling shareholders, inventories) and fixed assets on the publicly listed firm's balance sheet. Our results show that in periods when the risk of tunneling from the publicly listed firm to its controlling shareholder increases, operating assets that are easy to tunnel (cash and receivables due from the controlling shareholder) are valued at larger discounts, while operating assets that are not easy to tunnel (trade receivables, inventories, fixed assets) are not valued at such discounts.

**Publication**: Journal of Corporate Finance

### The Role of Corporate Culture in Bad Times: Evidence from the COVID-19 Pandemic

**Authors**: Kai Li, Xing Liu, Feng Mai and Tengfei Zhang

**Summary**: After fitting a topic model to 40,927 COVID-19-related paragraphs in 3,581 earnings calls over the period January 22 to April 30, 2020, we obtain firm-level measures of exposure and response related to COVID-19 for 2,894 U.S. firms. We show that despite the large negative impact of COVID-19 on their operations, firms with a strong corporate culture outperform their peers without a strong culture. Moreover, these firms are more likely to support their community, embrace digital transformation, and develop new products than those peers. We conclude that corporate culture is an intangible asset designed to meet unforeseen contingencies as they arise.

**Publication**: Journal of Financial and Quantitative Analysis, Forthcoming

### How Much do Firms Pay as Bribes and What Benefits do They Get? Evidence from Corruption Cases Worldwide

**Authors**: Raghu Rau, Stephen Yan-Leung Cheung and Aris Stouraitis

**Summary**: We analyze a hand-collected sample of 166 prominent bribery cases, involving 107 publicly listed firms from 20 stock markets that have been reported to have bribed government officials in 52 countries worldwide during 1971-2007. We focus on the initial date of award of the contract for which the bribe was paid (rather than of the revelation of the bribery). Our data enable us to describe in detail the mechanisms through which bribes affect firm value. We find that firm performance, the rank of the politicians bribed, as well as bribe-paying and bribe-taking country characteristics affect the magnitude of the bribes and the benefits that firms derive from them.

**Publication**: Management Science 67 (10), 6235-6285, 2021

## ARTICLES, REPORTS AND BOOK CHAPTERS

### The Palgrave Handbook of Technological Finance

**Authors**: Raghu Rau, Robert Wardrop and Luigi Zingales

**Summary**: This collection highlights the most current developments to date and the state-of-the-art in alternative finance, while also indicating areas of further potential. Acting as a roadmap for future research in this innovative and promising area of finance, this handbook is a solid reference work for academics and students whilst also appealing to industry practitioners, businesses and policy-makers.

**Publication**: Palgrave Macmillan

## WORKING PAPERS AND ONGOING RESEARCH

### Oracles of the Vote: Predicting the Outcomes of Proxy Contests for Board Seats

**Authors**: Oğuzhan Karakaş, Scott Hirst and Ting Yu

**Summary**: This paper examines proxy contests and the value of shareholder voting rights (i.e., voting premium) estimated using option prices. Our sample consists of 1,053 proxy contests for board seats from 1994 to 2017 where targets are U.S. publicly listed firms. We find that voting premium can foretell the outcomes of the proxy contests. Specifically, voting premiums around contest announcements increase for contests that are later settled or voted, but remain unchanged for contest that are later withdrawn. Further, the success of the dissidents achieving board seats at the voted contests increases with the voting premium around the record dates.

**Working paper**: Either a presentation or a summary can be made available upon request.

### Earnings and the Value of Voting Rights

**Authors**: Oğuzhan Karakaş and Umit Gurun

**Summary**: We examine the impact of earnings announcements on the value of shareholder voting rights (voting premium) estimated using a new technique that exploits option prices. We find the voting premium is negatively related to earnings surprises. This relation is primarily driven by unfavorable earnings surprises. The negative effect of earnings on the voting premium is more pronounced with impending shareholder meetings, shareholder activist involvement, firm performance below industry norms, and is attenuated by lower analyst forecast dispersion, more insider ownership, fewer generalizable assets. Our study highlights the opposing influences of earnings on stock price through voting and cash flow rights.

**Working paper**: https://dx.doi.org/10.2139/ssrn.2793545

### Shareholder-Creditor Conflicts and Limits to Arbitrage: Evidence From the Equity Lending Market

**Authors**: Pedro Saffi, Yongqiang Chu, Luca Lin and Jason Sturgess

**Summary**: We show that conflicts of interest between shareholders and creditors affect prices in financial markets through the equity lending market and short selling constraints. Using mergers between financial institutions as exogenous variation in the presence of dual holders, that is, institutions holding equity and debt of the same firm, we find that shareholders increase equity lending supply when they face lower conflicts, which reduces short sale constraints and limits to arbitrage and increases price efficiency. The decrease in short sale constraints is more pronounced in firms with ex-ante greater conflicts of interest between shareholders and creditors. Our findings suggest that agency problems due to shareholder-creditor conflicts have a real impact on market efficiency and asset prices.

**Working paper**: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3747035

### Does Stock Manipulation Distort Corporate Investment? The Role of Short Selling Costs and Share Repurchases

**Authors**: Pedro Saffi, Murillo Campello and Rafael Matta

**Summary**: We characterize the effect of short selling costs on interactions between informed and uninformed speculators, showing how this dynamic impacts corporate decisions. Manipulation coexists with informed trading at low shorting costs, reducing price informativeness and firm investment. Manipulation becomes less profitable as shorting costs increase, making prices more informative and boosting investment if speculators are less likely to be informed. At high shorting costs, informed shorting is unprofitable even without manipulation threats, resulting in low price informativeness and constraining firm investment. Our model shows how contracts that pre-commit funds induce managers to stop manipulation through stock repurchases, implementing efficient investment.

**Working paper**: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3669172

### The Rise of the Equity Lending Market: Implications for Corporate Policies

**Authors**: Pedro Saffi and Murillo Campello

**Summary**: We show how the equity lending market affects corporate behavior. Firms react to a decline in the cost to short their stocks by repurchasing shares and increasing investment, consistent with the theory that managers respond to manipulative shorting threats by signaling firm value through observable corporate policies. Firms also save more cash and issue more debt in response to declines in stock loan fees. These policy responses are internally coherent and are more pronounced for firms with more illiquid stocks, higher growth opportunities, and higher governance standards.

**Working paper**: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2703318

## JOURNAL PUBLICATIONS

### Mutual Fund Performance: Using Bespoke Benchmarks to Disentangle Mandates, Constraints and Skill

**Authors**: Alessandro Beber, Michael W. Brandt, Jason Cen and Kenneth A. Kavajecz

**Summary**: While no two mutual funds are alike in terms of their mandates and constraints, metrics used to evaluate fund performance relative to peers typically fail to account for these differences by relying on generic benchmark indices and rankings. We develop a methodology to construct a conditional multi-factor benchmark that explicitly incorporates the details of a given fund's mandates and constraints. The results suggest that (i) mandates and constraints are economically important and affect funds differently, (ii) in general, the average mutual fund has a much improved track record when comparing themselves to a bespoke benchmark, and (iii) the rank ordering of fund bespoke performance relative peers is significantly different than the original rank ordering suggesting investors and regulators would make better decisions regarding their mutual funds if they incorporate the impact of mandates and constraints.

**Publication**: Journal of Empirical Finance

## WORKING PAPERS AND ONGOING RESEARCH

### Phantom of the Opera: ETF Shorting and Shareholder Voting

**Authors**: Oğuzhan Karakaş, Richard B. Evans, Rabih Moussawi and Michael Young

**Summary**: The short-selling of exchange-traded funds (ETFs) creates "phantom" ETF shares, trading at ETF market prices, with cash flows rights but no associated voting rights. Unlike regular ETF shares backed by the ETF's underlying securities which are voted as directed by the ETF sponsor, phantom ETF shares are backed by collateral that is not voted. Introducing a novel measure of phantom ETF shares for the corresponding underlying securities, we find that increases in phantom shares are associated with decreases in number of proxy votes cast (for and against), and increases in broker non-votes, the voting premium, and value-reducing acquisitions.

**Working paper**: https://dx.doi.org/10.2139/ssrn.3345799

### The More Things Change, The More They Stay The Same: Why Do Mutual Funds Change Sub-advisors?

**Authors**: Pedro Saffi, Julia Arnold, David Chambers and Xinrui (Cindy) Zheng

**Summary**: We study the effects of managerial turnover and competition on U.S. sub-advised mutual funds (MFs), using changes of sub-advisors by 426 funds from January 1995 to December 2016. Sub-advised MFs exhibit return-chasing behaviour when making turnover decisions, but these changes neither improve subsequent fund returns and risk measures nor increase future flows into the fund. Using sub-advisor turnover to change the degree of competition among sub-advisors does not affect the performance of incumbent sub-advisors. Overall, there is no evidence that sub-advisor selection decisions by fund families benefit sub-advised MF's performance. Outperforming sub-advisors with larger style drift are less likely to be hired, and the more a sub-advisor deviates from its investment mandate, the more likely it is to be fired.

**Working paper**: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3962476

## Glass Half Full or Half Empty? Activists, Short Sellers, and Disagreement

**Authors**: Pedro Saffi, Tao Li and Daheng Yang

**Summary**: We study events in which activist hedge funds and short sellers target the same stock, using unique European data on activism and mandatory disclosures of large short positions. We find that the presence of large short sellers positively influences activists' targeting decisions (especially when investor disagreement is high) and their success and profitability. Hedge fund activism is associated with a reduction in short interest but it does not affect the likelihood of a large short position. Our results suggest that corporate managers become more receptive to activists' demands after they face pressure from large short sellers. 2018 INQUIRE Europe Award.

**Working paper**: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3820253

## Securities Lending and Information Acquisition

**Authors**: Pedro Saffi, Stefan Greppmair, Stephan Jank and Jason Sturgess

**Summary**: We show that mutual funds use information acquired by participating in the equity lending market to make portfolio allocation decisions. Using data from German mutual funds on their stock-level lending decisions, we find that funds lending shares are more likely to exit positions relative both to stocks that they do not lend and to funds that do not lend. Lenders also avoid losses by better timing the closure of long positions than for stocks they do not lend. Finally, we show information acquisition in the lending market allows lenders to front-run public disclosure of large short positions. The results suggest that the securities lending market provides a mechanism for mutual funds to acquire information.

**Working paper**: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3604977

## Public Engagement and Outreach Activities

We have facilitated and contributed to knowledge exchange between academics and practitioners through the following events and activities.

### European Investment Forum 2021

The European Investment Forum 2021 took place in person and over three days between 12-14 September 2021, at the University Arms Hotel, Cambridge. It was the second collaboration between the Centre for Endowment Asset Management and the London Stock Exchange Group. The Forum intended to challenge the frontiers of investment thinking by showcasing innovative ideas across the natural and social sciences.

The 2021 Forum was attended by over 50 asset owners and investment practitioners. It addressed fundamental questions around key themes including: acute and slow pandemics, the influence of demographics on the investment environment, today’s biggest trends & re-shaping the future, quantum computing, machine learning & AI and their impact on asset management, digital currencies: opportunities and challenges, the growth of fintech & big tech credit markets, venture capital investing, investing for the long term, sustainable and responsible investing, investor involvement in corporate governance.

### Universal Ownership and Global Systemic Risks Summit

The Universal Ownership and Global Systemic Risks Summit was held in person at Jesus College between 26 - 28 October 2021. The event was specificly designed for the senior executives from 12 of the world’s largest asset owner institutions to attend ahead of COP26. The topics discussed included; understanding systemic risk, sustainable finance in the context of systemic risk and the next steps forwards as norm formation, applying the guardrails.

### One Hundred Years of the Modern Foreign Exchange Market

Organised in collaboration with the Bank of England and the Centre for Economic Policy Research (CEPR), this one-day workshop was intended to reflect on the evolution of the modern foreign exchange market in London over the last hundred years. The agenda included contributions from leading economists, historians and practitioners and it was intended to cover the following key themes: the international role of sterling and the London market, the role of the Bank of England, currency market efficiency and predictability, and developments in of market microstructure and in fintech in the context of foreign exchange.

It had been due to take place in March 2020 but due to the covid pandemic it was canceled a few weeks before it was due to run.

## Broader Network Collaborations

### CEAM Research Fellows, Fellows & Research Affiliates

### RESEARCH FELLOWS

**Prof. William N. Goetzmann, Edwin J. Beinecke Professor of Finance and Management Studies, Yale School of Management & Director of the International Center for Finance**
Will is an expert on a diverse range of investments. His past work includes studies of stock market predictability, hedge funds and survival biases in performance measurement. His current research focuses on alternative investing, factor investing, behavioral finance and the art market.

**Dr Xi Li, Associate Professor of Accounting, The London School of Economics and Political Science (LSE)**
Xi's research focuses on Financial Reporting and Disclosure, Debt Contracting, and Shareholder Engagement on Environmental, Social and Governance (ESG) issues. She has published in top-tier academic journals in accounting and finance areas. Before joining the LSE in 2016, she worked at Fox School of Business, Temple University and the Wharton School, University of Pennsylvania. She earned her PhD in accounting from the London Business School in 2010.

**Prof. Adam Reed, Professor of Finance and Julian Price Distinguished Scholar of Finance, UNC Kenan-Flagler Business School**

Adam researches asset pricing, with a focus on short selling. His work has been published in the top finance journals, and it has featured the Wall Street Journal, and the New York Times. He served as a research consultant for the US Securities and Exchange Commission and as a member of the board directors for a number of organizations. He received a bachelors degree in mathematics and economics with honors from the University of California at Berkeley, and a doctorate in finance from the Wharton School of the University of Pennsylvania.

### FELLOWS

**Hiromichi (Hiro) Mizuno, the former Chief Investment Officer of Japan's Government Pension Investment Fund (GPIF)**
Hiro led GPIF, the world's largest pension fund, to embrace a long-term vision with a commitment to sustainable investing. He serves on the boards of Tesla and the Principles for Responsible Investment, and is an advisor to the World Economic Forum, Milken Institute, CFA Institute, and several Japanese government ministries. Prior to joining GPIF, Mr Mizuno was a partner of Coller Capital, a London-based private equity firm.

**Dr Christopher Woods, the former Head of Index Policy at FTSE Russell**
Chris is an investment professional whose expertise lies in the indexation of equities, fixed income and digital assets as well as governance, policy and regulation, risk, and hedge fund management. As the Head of Index Policy at FTSE Russell, Chris was responsible for index methodologies across all asset classes. Before that he was the Chief Investment Officer at Man Global Strategies, Man Group plc.

## FORMER FELLOWS

**Dr Harald Lohre, Director of Research at Invesco Quantitative Strategies (CEAM Fellow 2020-2021)**

Harald leads the Frankfurt Research Team and is a member of the management team responsible for strategic planning and direction. His work has been published widely in academic and practitioner journals, and he is the winner of The Sir Clive Granger Memorial Best Paper Prize. Harald is a Visiting Research Fellow at the Centre of Financial Econometrics, Asset Markets and Macroeconomic Policy at Lancaster University Management School, and serves on the research committee of Inquire Europe as well as the editorial board of the Journal of Systematic Investing.

**Dr Bradley Jones, Head of the International Department at the Reserve Bank of Australia (CEAM Fellow 2016-2021)**

Brad is the Head of the International Department at the Reserve Bank of Australia. He joined the Bank from the International Monetary Fund (IMF), where he has worked in the Monetary and Capital Markets Department since 2013. Brad holds a PhD in finance from Macquarie University and has published extensively on a wide range of topics related to international financial markets and financial stability.

**Paul Warren, Former Senior Bursar, Clare College, University of Cambridge (CEAM Fellow 2014 - 2021)**

Paul was a senior bursar at Clare College, Cambridge between 2013 – 2021. Before Clare College, he served as Bursar of Corpus Christi College for five years. Prior to this, he had a successful career in investment management, including Putnam Investments in Boston where he was CEO of Global and US Core equities.

## RESEARCH AFFILIATES

**Dr Matthias Büchner, Research Analyst at Trafigura**

Matthias' research focuses on applications of machine learning to investment management. Previously, he has undertaken a PhD in Finance & Econometrics at Warwick University, part of which was spent as a Visiting Scholar at the Yale School of Management and was a post-doctoral research associate in Finance at the University of Cambridge until May 2021. Matthias holds an MSc in Financial Mathematics from University College London (UCL) and a BSc in Physics from Karlsruhe Institute of Technology.

**Dr Jason Cen, Lecturer In Finance, The University Of Exeter Business School**

Jason joined the University of Exeter Business School in January 2020 as a Lecturer in Finance. Prior to this, Jason held academic appointments at the University of Essex as a Lecturer in Finance and at the University of Cambridge as a postdoctoral research associate in Finance. Jason has been working on research projects in empirical asset pricing, international finance, and investment management. His recent paper, "Currency Regimes and the Carry Trade" has won the Best Paper Award for Asset Pricing and Investments at the 2018 FMA European Conference and has been published on the Journal of Financial and Quantitative Analysis.

## Collaboration with the CJBS Finance Faculty

A core part of CEAM's mission is to contribute to the research environment for faculty at Cambride Judge Business School who are enaged with research in areas of asset pricing, investment analysis in financial markets, models of asset prices and returns, optimal investment, responsible investing & governance and risk & portfolio management. CEAM's contribution to this research environment is covered in more detail in specific areas of this report, including sponsoring visits from faculty at other academic insitutions, financial support towards postdoctoral and doctoral students supervised by faculty working in these areas, facilitating research enagement between faculty and CEAM's industry network, and providing additional sources of funding towards research activity in this group.

## Collaboration with the wider CJBS community

In 2017 a collaboration was established between Cambridge Judge Business School and Invesco. The initiative supports enagement around long-term asset management, alternative finance and data analytics. CEAM has a central role in managing this collaboration on behalf of the business school and in conjunction with the Centre for Alternative Finance (CCAF), the Psychometrics Centre and other groups within the CJBS community that form part of this collaboration.

## Collaboration with the broader University

CEAM Faculty are active contributors to networks and events hosted by the broader University community. Some examples through 2021 are as follows:

- 'Climate Change and the Endowment: Impact and Active Stewardship' hosted by Jesus College. Attended by approximately 60 people including Fellows, students and representatives from different Colleges. It was one of a series of internal and external events exploring sustainable investment across the University.

- 'Divergent Views on Responsible Investing' hosted by Gonville and Caius College, Cambridge, to which all Cambrigde alumni were invited.

The University of Cambridge Faculty of Economics is currently supporting two Visiting Professors:

> Wei Xiong is now a Visiting Professor and Director of Research in the Faculty of Economics at the University of Cambridge. He is the Trumbull-Adams Professor of Finance and Professor of Economics in the Department of Economics and Bendheim Center for Finance at Princeton University in the United States. His research interests centre on capital market imperfections and behavioural finance. He is Co-Editor of the Journal of Finance.
>
> Lin Peng is now a Visiting Professor and Director of Research in the Faculty of Economics at the University of Cambridge. She is Krell Chair Professor in Finance at the Zicklin School of Business, Baruch College, City University of New York. Her research interests cover the area of social networks, behavioural finance, ESG, and corporate governance. Her research has been published in leading economics and finance journals.

## SUPPORT OF COLLEGE AND UNIVERSITY ENDOWMENTS

CEAM members and fellows are involved in several college investment committees: Professor Elroy Dimson is a Bye Fellow of Gonville & Caius and a member of the College's Investment Committee; David Chambers is a fellow of both Clare College and Downing College. There is also ongoing engagement between the Centre Faculty and CIO of the University of Endowment.

## COMMITMENT TO THE UNIVERSITY'S RESPONSIBLE INVESTING FORUM

CEAM has committed to support the Vice-Chancellor's Office in convening a "Responsible Investing Forum", a series of events over two-year period, focused on:

- educating the various constituencies within the university about responsible investing and stimulate discussion of the evidence and findings from the academic literature; and
- provide guidance on best practice based on both the academic literature and the approaches adopted by other responsible asset owners.

As part of this, CEAM delivered a series of workshops (in collaboration with PRI and ECGI) that aimed to showcase global academic literature in this area. CEAM faculty also wrote a teaching case on divestment in the context of Cambridge University's working group on Ethical Investment, which is now taught to students and practitioners. CEAM has also facilitated one-to-one meetings between global experts on ESG and the University's CFO, the Cambridge University Endowment Fund (CUEF), and others involved in investment decision-making within the University.

# Collaboration with networks beyond Cambridge

## ACADEMIC COLLABORATORS

- Dr Olivier Accominotti, Associate Professor in Economic History, London School of Economics and Political Science and CEPR Research Fellow.

- Prof. Marco Brecht, Professor of Finance and the Goldschmidt Professor of Corporate Governance, Solvay Brussels School for Economics and Management, Université libre de Bruxelles.

- Prof. Rajna Gibson, Professor of Finance, University of Geneva and Deputy Director (Education & External Affairs) at Geneva Finance Research Institute.

- Dr. Antti Ilmanen, Principal and Global Co-head of the Portfolio Solutions Group at AQR Capital Management.

- Prof. Andrew Karolyi, Professor of Finance and Harold Bierman Jr. Distinguished Professor of Management and College Dean of Cornell S.C. Johnson College of Business, Cornell University.

- Prof. Paul Marsh, Emeritus Professor of Finance at London Business School.

- Dr. Mike Staunton, Director of the London Share Price Database at London Business School.

- Prof. Laura Starks, Charles E. and Sarah M. Seay Regents Chair in Finance and co-Executive Director of Social Innovation, The McCombs School of Business, The University of Texas.

## POLICY AND INDUSTRY COLLABORATIONS

CEAM engages with global leaders from industry, non-profit organisations, academic institutions and other similar associations with the goal of enhancing and complimenting the development and dissemination of knowledge and research already taking place amongst established global networks. Some examples of these partners are listed below, and details of the collaborations are covered in other areas of this report:

- **Bank of England** is the UK's central bank and a public body that must answer to the people of the UK through Parliament. Their mission is to deliver monetary and financial stability for the people of the United Kingdom.

- **Centre for Economic Policy Research (CEPR)** was founded in 1983 to enhance the quality of economic policymaking within Europe and beyond, by fostering high quality, policy-relevant economic research, and disseminating it widely to decision-makers in the public and private sectors. Drawing together the expertise of its Research Fellows and Affiliates, CEPR initiates, funds and coordinates research activities and communicates the results quickly and effectively to decision makers around the world. The Centre is an independent, non-profit organization and takes no institutional policy positions. CEPR is both a registered charity and a limited company.

- **Centre for Financial Econometrics, Asset Markets and Macroeconomic Policy, Lancaster University Management School** is a collaboration of leading academics, from the fields of finance, econometrics and economics, focusing on mutual research projects, within Lancaster University Management School. Their research activities span several topics and explore many themes. They include measuring and forecasting volatility, pricing bubbles, fiscal policies, investments, banking failure risk and stability.

- **CFA Institute** is a global association of investment professionals. It aims to generate value for core investment management professionals and engaging with the core investment management industry to advance ethics, market integrity, and professional standards of practice, which collectively contributes value to society.

- **European Corporate Governance Institute (ECGI)** an international scientific non-profit association providing a forum for debate and dialogue between academics, legislators and practitioners, focusing on major corporate governance issues and thereby promoting best practice.

- **Financial Management Association International (FMA)** is a global leader in developing and disseminating knowledge about financial decision making.

- **Financial Economists Roundtable (FER)** is a group of senior financial economists who have made significant contributions to the finance literature and seek to apply their knowledge to current policy debates. FER members meet annually to discuss policy issues concerning investments, corporate finance, financial institutions and markets, both in the U.S. and internationally. The statements they adopt are intended to increase the awareness and understanding of public policy makers, the financial economics profession, the communications media, and the general public.

- **FTSE Russell** is a wholly owned subsidiary of **London Stock Exchange Group (LSEG)** and is a unit of the Information Services Division. FTSE Russell is a global provider of benchmarks, analytics, and data solutions with multi-asset capabilities. FTSE Russell's solutions offer a true picture of global markets across asset classes, styles, and strategies.

- **Geneva Centre For Philanthropy** is a public-private partnership between the University of Geneva and a number of major Swiss-based foundations. The centre aims to encourage research and academic teaching in philanthropy and to ensure that knowledge is transferred to meet the needs of practitioners and the Geneva region. This preceded creation of the CJBS Centre for Strategic Philanthropy.

- **Geneva Finance Research Institute** is a multidisciplinary institute based at the University of Geneva that focuses on two main research topics in finance: "Portfolio Management" and "Finance and Society". The GFRI builds on synergies between the University of Geneva Faculties of Economy and Management, Law and Psychology and Educational Sciences.

- **Invesco** is the largest and best regarded investment managers in the UK, being a part of Invesco Ltd. Invesco has investment professionals located in 25 countries and more than 8,000 employees worldwide, all focused on delivering on our clients' goals.

- **London Business School Risk Measurement Service.** The London Business School publish the quarterly Risk Measurement Service which provides Beta values, various risk measures and other key data for 3,000 UK shares, including every UK stock with a full listing on the London Stock Exchange and all AIM listed stocks.

- **Newton Investment Management** is a global investment management subsidiary of **BNY Mellon** based in London. Founded in 1978, Newton is managing US$58.1 billion of assets (as at Sept 30, 2020) on behalf of clients including pension plans, corporations, endowments and, via BNY Mellon, individuals.

- **The Bank of New York Mellon Corporation (BNY Mellon)** is one of the world's major financial services groups with operations in 35 countries. It provides services in asset management, private equity and hedge fund administration, broker-dealer services, depositary receipts, corporate trust and treasury services.

- **The Risk Institute at The Ohio State University Fisher College of Business** is a consortium of forward-thinking companies and academics that understand effective risk management strategies not only protect firms, but position firms to create growth and value. It helps its members consider risk from all perspectives: legal, operational, strategic, reputational, talent, financial, and so many more.

- **WU (Vienna University of Economics and Business)** is one of the largest educational institutions for business, economics, and the social sciences in Europe.

- **The UN Principles for Responsible Investment (PRI)** is an organization dedicated to promoting environmental and social responsibility among the world's investors.

## Partners and Supporters

The Centre for Endowment Asset Management cannot achieve its success without the generosity of its supporters. We wish to thank the following current and past supporters.

### Core Supporters

We are particularly grateful to FTSE Russell, Invesco and Newton Investment Management.

Newton Investment Management has been a founding supporter of the Centre since 2014. Invesco's support comes as part of the wider funding relationship established with Cambridge Judge Business School to support research activities in long term asset management, alternative finance and data analytics. The multi-year funding pledges from both organisations provide core support to the Centre's work. FTSE Russell pledged support to CEAM in the last three years, sponsoring the European Investment Forum in 2019 and 2021.

### Activity-based supporters

We would also like to acknowledge the organisations who have supported projects at the Centre in the past.

Support provided through philanthropy and sponsorship:

- BNY Mellon
- Capital Generation Partners
- Cazenove Capital Management
- CFA Institute Research Foundation
- Commonfund
- Financial History consortium (Carn Macro, CFA UK, Credit Suisse, Fidelity, JP Morgan, Sandaire)
- Norwegian Government Pension Fund Global – Investment Department
- POK Pühringer Privatstiftung
- Principles for Responsible Investment (PRI)
- Sarasin & Partners
- The Atlantic Philanthropies
- Support provided through grants and awards
- Bank of Montreal
- Cambridge Endowment for Research in Finance
- Forum pour l'Investissement Responsible
- Harvard Business School
- Inquire Europe
- Isaac Newton Trust
- LSE Research Infrastructure and Investment Fund
- The Risk Institute at Ohio State University