Pioneering Responsible Finance Research: The PBFJ Pre-registration Initiative

2025 Sydney Banking and Financial Stability Conference

16 December 2025

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University of Queensland, and Bond University

RF

Transparency & Acknowledgment

genAI (GAMMA) was used in the creation of these slides ...

The Scientific Enterprise …

Research

Systematic investigation to deliver evidence and reach new conclusions.

Discovery

Uncovering new patterns, relationships, and phenomena through rigorous analysis.

Knowledge

Accumulation of verified information and insights in a given field of study.

Truth

Pursuit of objective, evidence-based understanding of phenomena and behaviors.

Research … in Finance

New Knowledge Creation

Generating original insights into financial markets, instruments, and behaviors.

Creative Application

Applying existing financial theories in innovative ways to solve complex problems.

Methodological Innovation

Developing new techniques for analyzing financial data and modeling market dynamics.

Synthesis and Analysis

Integrating previous research to form new, comprehensive understanding of financial phenomena.

Principles of Responsible Science

Credibility	Relevance	Independence
Ensures reliable knowledge	Produces useful insights	Maintains unbiased perspective
Rigorous methodology	Addresses real-world issues	Avoids conflicts of interest

Responsible Science …

1

Open Inquiry

Embracing all topics for investigation, fostering a genuine contest of ideas.

2

Balanced Perspective

Presenting fair treatment of all views, avoiding cherry-picking of evidence and avoiding “politicised” debate.

3

Objective Pursuit

Focusing on uncovering “truth” not advocacy or activism.

Importance of Diverse Viewpoints

Avoiding Groupthink

Diverse perspectives challenge consensus and prevent unreliable agreement.

Encouraging Dissent

Valuing differing opinions to maintain the integrity of financial research.

Attracting Talent

Fostering an inclusive environment to draw bright minds from all backgrounds.

Enhancing Credibility

Building trust in financial research through open dialogue and critique.

The Future of Responsible Finance Research

1

Self-Critique

Encouraging researchers to question their own assumptions and methods.

2

Diverse Viewpoints

Actively seeking out and incorporating a wide range of perspectives.

3

Transparency

Promoting open access to data, methods, and results in financial studies.

4

Public Trust

Building credibility through rigorous, unbiased, and relevant financial research.

… for more information

- SSRN paper:

Faff, Robert W., Responsible Science Matters (July 5, 2021). Available at SSRN: https://ssrn.com/abstract=3880341

- “Responsible Science” Module video:

https://bit.ly/3z5IvTx

House of Commons

Science, Innovation and Technology Committee

Reproducibility and Research Integrity

Sixth Report of Session 2022–23

Report, together with formal minutes relating to the report

Ordered by the House of Commons to be printed 26 April 2023

Report link …

https://bit.ly/3MwxtRn

Terms of Reference for the Inquiry

1 **Reproducibility Crisis**

Investigating the extent and nature of the alleged reproducibility crisis in scientific research.

2 **Stakeholder Roles**

Examining the responsibilities of various stakeholders in addressing reproducibility challenges.

3 **Enhancing Research Integrity**

Exploring measures to promote open, contestable, and rigorous research practices.

The Importance of Reproducibility

Robustness of Knowledge

Reproducibility ensures that generated knowledge is robust and reliable for future applications.

Pursuit of "Truth"

It helps evaluate the extent to which scientific findings approach the truth.

Scientific Progress

Reproducible results form a solid foundation for advancing scientific understanding.

The Cost of Irreproducibility

Financial Impact

An estimated 85% of medical research expenditure is wasted due to reproducibility issues.

Public Funding

The UK government spends over £2bn annually on medical research.

Charitable Contributions

Significant charitable funding is lost to avoidable waste in non-reproducible research.

Background and Considerations

1

Meta Studies

Ioannidis (2005) suggested that most published research findings are false.

2

Researcher Surveys

Wellcome Trust (2020) revealed pressure on novice researchers to produce specific results.

3

Article Retractions

Retraction Watch tracks and analyzes retractions in scientific publications.

4

Questionable Research Practices

HARKing, P-hacking, and outcome switching undermine research integrity.

House of Commons Recommendations

1

Evidence Gathering

Collect data on reproducibility issues across various research fields.

2

Institutional Measures

Implement frameworks for addressing misconduct and promoting responsible research culture.

3

Funding and Publishing

Encourage open access, data sharing, and publication of negative results.

4

Career Development

Create new reward structures and resume formats for researchers.

MY Top 3 Recommendations

1: Comprehensive Training

Research Integrity

Cover ethical considerations and best practices in scientific research.

Methodological Rigor

Teach robust experimental design and statistical analysis techniques.

Collaborative Science

Foster skills for effective teamwork and open communication in research.

MY Top 3 Recommendations
#2: Open Access

Principle	Implementation
Open as Possible	Make research findings freely accessible to all
Closed as Necessary	Protect sensitive data and intellectual property rights
FAIR Data	Ensure data is Findable, Accessible, Interoperable, and Reusable

MY Top 3 Recommendations

#3: Addressing Publication Bias

Negative Results

Encourage publication of null findings to prevent skewed scientific literature.

Pre-registration

Publicly register protocols and analysis plans before data collection.

Registered Reports

Implement a two-stage review process to reduce bias in publication decisions.

MY Top 3 Recommendations

#3: Addressing Publication Bias

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Pre-registration

Publicly register protocols and analysis plans before data collection.

Registered Reports

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…

Nosek, B. A. and Lakens, D., (2014), “Registered Reports: A method to increase the credibility of published results”, Soc. Psychol. 45, 137–141.

The Concept of Pre -registration

1

Public Declaration

Researchers publicly announce their project before initiating any research activities. This step promotes transparency and accountability.

2

Pre-Analysis Planning

Detailed analysis plans are outlined prior to data collection. This prevents post-hoc alterations and reduces bias.

3

Pre-Data Collection

The methodology is established before gathering or examining any data. This ensures objectivity in research design.

The Role of Pre-analysis Plans (PAPs)

Transparency

PAPs provide a clear roadmap of the intended research process. They enhance the credibility of findings.

Bias Reduction

By outlining analyses beforehand, PAPs minimize the risk of data dredging and p-hacking.

Reproducibility

Registered PAPs allow other researchers to replicate studies more accurately. This fosters scientific progress.

A New Publishing Paradigm

1

Innovative Ideas

Pre-registration emphasizes the importance of groundbreaking research concepts. It encourages creative thinking in project design.

2

Expert Research Teams

The focus shifts to the qualifications and expertise of researchers. This ensures high-quality execution.

3

Gold Standard Techniques

Pre-registration promotes the use of cutting-edge methodologies. It pushes the boundaries of research practices.

Critical Evaluation Timing

1

Pre-Research Evaluation

Projects are assessed before any research activities begin. This ensures methodological rigor from the start.

2

Pre-Analysis Scrutiny

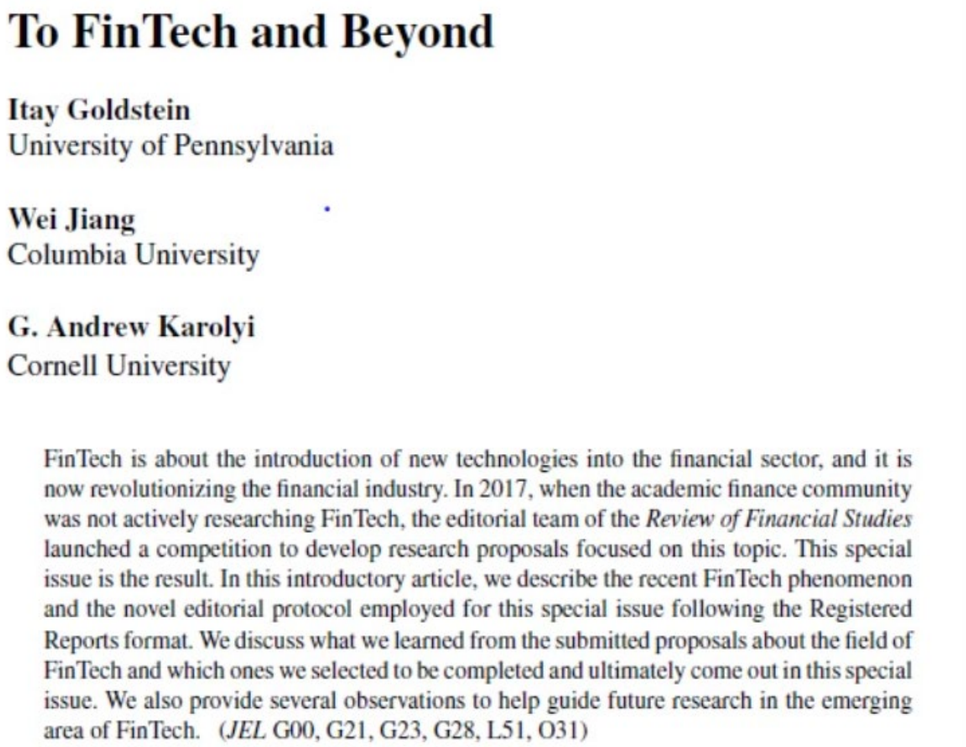
Analytical approaches are reviewed prior to data examination. This prevents selective reporting of results.

3

Pre-Data Collection Review

Sampling and data collection methods are evaluated in advance. This ensures unbiased data acquisition.

Publishing Regardless of Significance …



To FinTech and Beyond

Itay Goldstein
University of Pennsylvania

Wei Jiang
Columbia University

G. Andrew Karolyi
Cornell University

FinTech is about the introduction of new technologies into the financial sector, and it is now revolutionizing the financial industry. In 2017, when the academic finance community was not actively researching FinTech, the editorial team of the *Review of Financial Studies* launched a competition to develop research proposals focused on this topic. This special issue is the result. In this introductory article, we describe the recent FinTech phenomenon and the novel editorial protocol employed for this special issue following the Registered Reports format. We discuss what we learned from the submitted proposals about the field of FinTech and which ones we selected to be completed and ultimately come out in this special issue. We also provide several observations to help guide future research in the emerging area of FinTech. (*JEL* G00, G21, G23, G28, L51, O31)

Null Results Publication

Pre-registration encourages publishing all findings, including null results. This reduces publication bias in scientific literature.

Focus on Methodology

The emphasis shifts from significant results to robust methodologies. This promotes a more balanced view of research outcomes.

Comprehensive Knowledge Base

Publishing all pre-registered studies contributes to a more complete scientific understanding. It prevents the file drawer problem.

The Journal of FINANCE
The Journal of THE AMERICAN FINANCE ASSOCIATION

THE JOURNAL OF FINANCE • VOL. , NO. 0 • MAY 2023

Is There a Replication Crisis in Finance?

THEIS INGERSLEV JENSEN,* BRYAN KELLY, and LASSE HEJE PEDERSEN

ABSTRACT

Several papers argue that financial economics faces a replication crisis because the majority of studies cannot be replicated or are the result of multiple testing of too many factors. We develop and estimate a Bayesian model of factor replication that leads to different conclusions. The majority of asset pricing factors (i) can be replicated; (ii) can be clustered into 13 themes, the majority of which are significant parts of the tangency portfolio; (iii) work out-of-sample in a new large data set covering 93 countries; and (iv) have evidence that is strengthened (not weakened) by the large number of observed factors.

JF … 2024

The Journal of FINANCE
The Journal of THE AMERICAN FINANCE ASSOCIATION

ARTICLE | Open Access

Nonstandard Errors

ALBERT J. MENKVELD, ANNA DREBER, FELIX HOLZMEISTER, JUERGEN HUBER, MAGNUS JOHANNESSON, MICHAEL KIRCHLER, SEBASTIAN NEUSÜß, MICHAEL RAZEN, UTZ WEITZEL … See all authors

First published: 17 April 2024 | https://doi.org/10.1111/jofi.13337

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ABSTRACT

In statistics, samples are drawn from a population in a data-generating process (DGP). Standard errors measure the uncertainty in estimates of population parameters. In science, evidence is generated to test hypotheses in an evidence-generating process (EGP). We claim that EGP variation across researchers adds uncertainty—nonstandard errors (NSEs). We study NSEs by letting 164 teams test the same hypotheses on the same data. NSEs turn out to be sizable, but smaller for more reproducible or higher rated research. Adding peer-review stages reduces NSEs. We further find that this type of uncertainty is underestimated by participants.

Volume 79, Issue 3
June 2024
Pages 2339-2390

Figures References Related Informat

Recommended

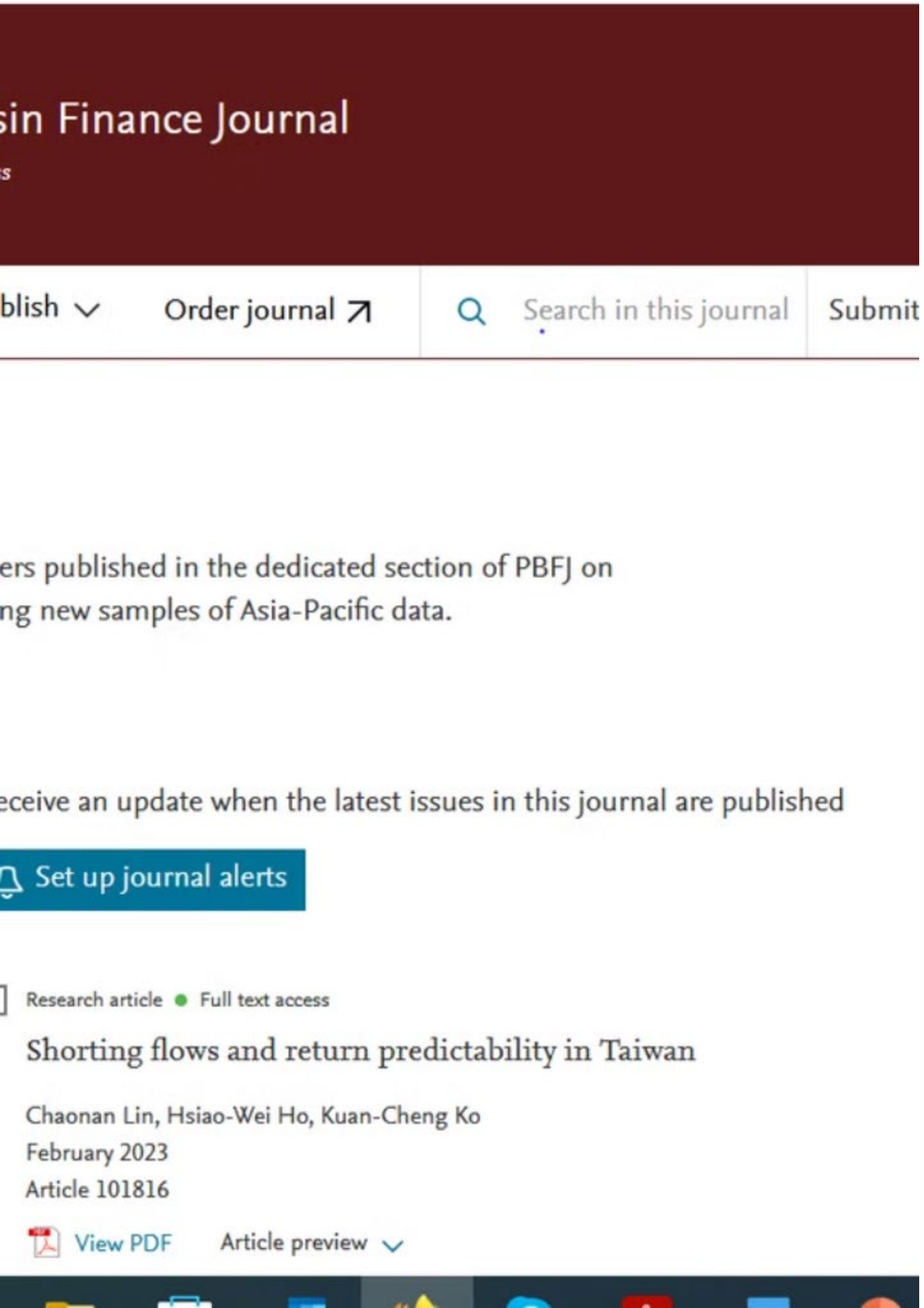
Measurement System Errors

ISO 14000 Environmental Management Standards: Engineering and Financial Aspects, [1]

Analytical Errors

X-Ray Fluorescence Spectroscopy for Laboratory Applications, [1]

Errors in Web Surveys



PBFJ's Forerunner Pilots

1

2018-2019

PBFJ celebrated Ball & Brown (1968) with a Special Issue, laying groundwork for innovative publishing approaches.

2

2019 Onwards

Introduction of Replication Studies articles, with over 50 replications published to date.

3

Present

Continued focus on replication and pre-registration, solidifying PBFJ's position as a leader in responsible finance research.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journal homepage: www.elsevier.com/locate/pacfin

aging with responsible science. "C
ng the *PBFJ* pre-registration

low-up to the previous *PBFJ* Editorial published in September
ial, I made a very clear statement that "*PBFJ* is moving on a pa
e science, captured by three central pillars: (1) Credible resea
ew initiative is designed to both complement and augment our
time for real action … we invite expressions of interest, as th
ditorial.

PBFJ's Commitment to Unbiased Publication

1

Recognize Bias

PBFJ acknowledges the prevalence of publication bias in academic research.

2

Take Action

The journal actively promotes publishing well-executed studies regardless of results.

3

Foster Innovation

This approach encourages researchers to pursue bold, exciting research questions.

4

Serve Science

By reducing bias, PBFJ aims to better serve the scientific community.

PBFJ Pre-registration initiative …

For more details, see the PBFJ Editorial Note (accessible using the link below):

https://www.sciencedirect.com/science/article/pii/S0927538X22001329

PBFJ's Six Research "Flavors"

Full Original Study

Novel research addressing unexplored questions in finance.

Replication

Verifying and extending existing financial research findings.

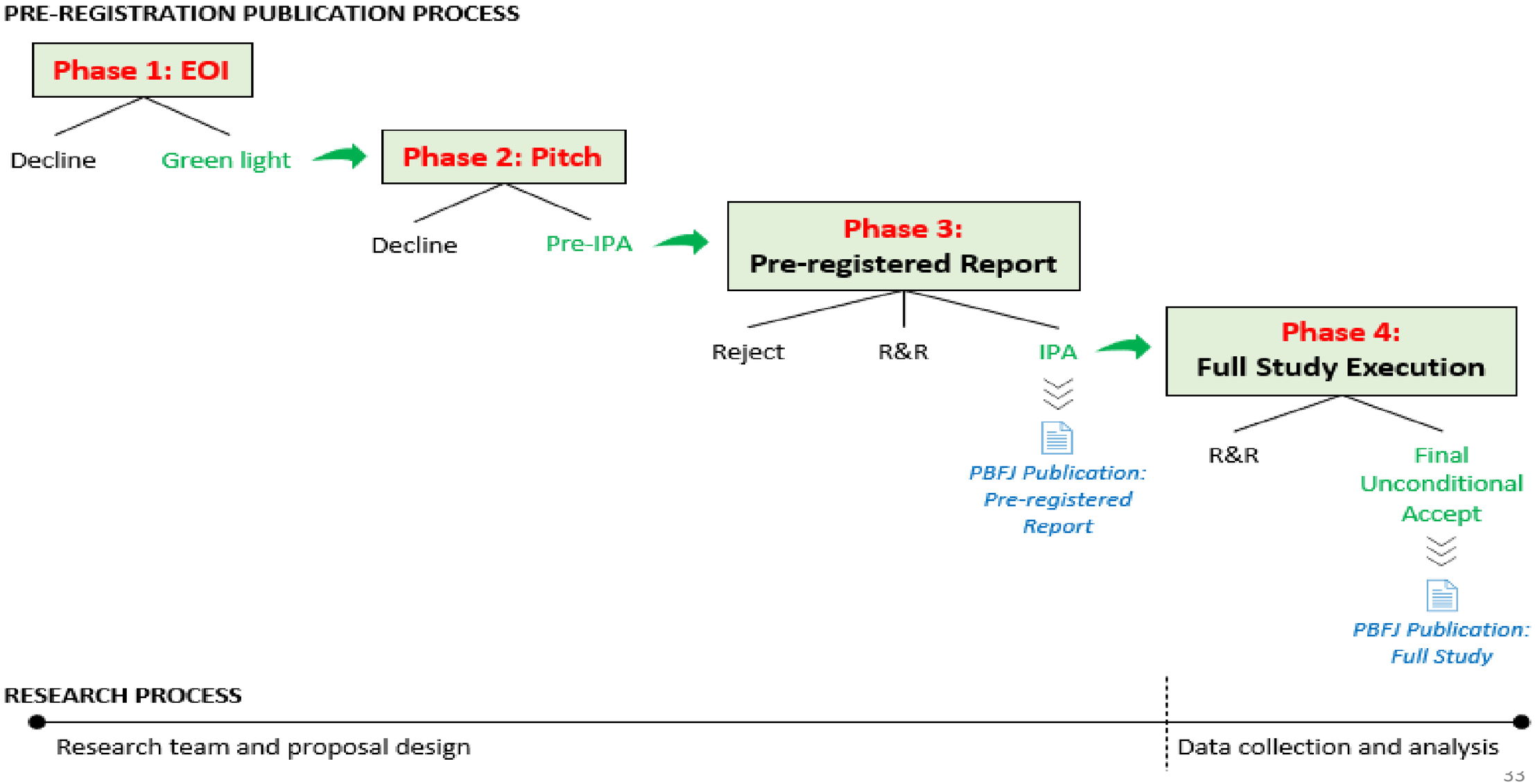
Systematic Literature Review

Comprehensive analysis of existing literature on specific topics.

Team Collaboration

"Big science" or "many labs" style mega studies.

PBFJ Pre-registration initiative …



General Advice for Quantitative Finance Studies

Avoid	Embrace
"Safe" or "boring" topics	Risky, bold research questions
Obvious or exploratory studies	Solid theoretical basis and intuition
Vague null hypotheses	Specific, novel predictions (sign/magnitude)
Purely academic focus	Real-world problems and applications
Small sample sizes	Adequate power, avoiding exaggerated effect sizes

ARTICLE IN PRESS

Pacific-Basin Finance Journal xxx (xxxx) xxx

Contents lists available at ScienceDirect

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journal homepage: www.elsevier.com/locate/pacfin

Modernising operational risk management in financial institutions via data-driven causal factors analysis: A pre-registered report

Nikki Cornwell [a,*], Christopher Bilson [a], Adrian Gepp [a], Steven Stern [a], Bruce J. Vanstone [b,a]

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ARTICLE INFO

JEL classification codes:
G20
G32
D81
C44

Keywords:
Risk management
Operational risk
Data analytics
Firm value
Financial institutions
Insurance

ABSTRACT

To enable more proactive management of the underlying sources of operational risks in financial institutions, this pre-registered study seeks to improve traditional qualitative approaches to causal factors analysis. A Bayesian network-based approach is used to leverage both incident and operations data to model the probability of operational loss events. The approach is applied and empirically tested in a case study on an Australian insurance company. The outputs from the model go beyond simply identifying key risk drivers to offer risk managers a deeper understanding of how causal factors influence risk. Insights into the collective effects of causal factors, their relative importance and critical thresholds strategically inform more efficient and effective mitigation decisions, ultimately enhancing firm performance and value.

Pacific-Basin Finance Journal xxx (xxxx) 102011

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C44

ABSTRACT

In an effort to contribute a quantitative, objective and real-time tool to proactively and precisely manage the factors underlying and exacerbating operational risks, this pre-registered study executes the empirical methodology approved in the associated pre-registered report (Cornwell et al., 2023). The application of the Bayesian network-based approach to an Australian insurance company shows that integrating a financial institution's loss and operational data in this way can effectively model the probability of an operational loss event within its interconnected operational risk environment. Further insights and efficiencies are gained by modelling multiple operational loss events together, rather than in isolation. A novel two-module framework derived specifically for causal factors analysis from the resulting operational risk model helps to highlight the relative importance of causal factors, their collective effects and critical thresholds requiring proactivity. These insights derived from the framework are expected to be strategically valuable in helping an organisation design intentional and targeted controls for and monitoring of operational risks. Given existing knowledge of the improvements quantitative risk management tools make to risk management effectiveness and subsequently firm value, the enhanced risk management and the operational efficiencies this tool seeks to afford should ultimately contribute to driving financial performance and firm value.

PBFJ Special Issues aligned to Pre-reg pathway…

- “International Capital Markets Forum on Responsible Science” hosted by UIBE since 2023
- “Digital Finance Innovation” … hosted by PKU March & Dec 2025
- “Family Business, Entrepreneurship and Corporate Governance Conference” … May 2025 (partnering with Tsinghua University)
- “AI Disruption in Global Capital Markets” ... now live thru to end of 2026
- “Artificial Intelligence, Corporate Governance, and Financial Decisions Making” … early 2026
- “Responsible and Open Science in Action” … to be launched in early 2026

THANK YOU!

Professor Robert Faff
Corvinus University of Budapest,
University of Qld & Bond University

Signature SSRN paper:
“Pitching Research”: http://ssrn.com/abstract=2462059