SCHOOL OF BUSINESS **RESEARCH SEMINAR SERIES**

RESEARCH WITH IMPACT

When Innovation Meets Instability: Asymmetric Spillovers Between Artificial Intelligence, FinTech, CleanTech, and Commodities

DATE: Friday 27 June 2025

TIME: 10:00am – 11:00am

MEETING DETAILS: Learning Studio 78 Level 7, 1PSQ & Zoom Online (Meeting ID: 892 8936 3775, Password: 679267)

RSVP: COB, Friday 20 June 2025

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PRESENTER:

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ABSTRACT:

We examine asymmetric spillovers between emerging technology sectors—AI, CleanTech, and FinTech—and commodity markets, focusing on extreme tail risks during recent crises. Using the Conditional Autoregressive Value-at-Risk (CAViaR) framework, we assess risk transmission across these markets from June 2018 to December 2023, covering major crises such as the COVID-19 pandemic and the Russia-Ukraine war. Our findings reveal intensified market connectedness during downturns, with AI, energy, and precious metals exhibiting the strongest linkages. During extreme downside risk periods, FinTech, AI, and CleanTech emerge as key risk transmitters, amplifying shocks to commodity markets. Conversely, in bullish conditions, these sectors shift to net risk receivers, absorbing spillovers from commodities. Additionally, we document strong bidirectional spillovers between key commodity pairs such as heating oil-oil, corn-soybean, and gold-silver, highlighting deep interdependencies across asset classes. Notably, technology-related assets exhibit heightened connectedness in market booms, particularly in extreme upper tails. Our results underscore the evolving role of AI and FinTech as systemic components of global financial markets. These insights have significant implications for investors and policymakers, emphasizing the need for dynamic risk management strategies in navigating the growing interplay between technology and commodity markets.

BIOGRAPHY:

Dr. Muhammad Abubakr Naeem is an Associate Professor with the Department of Economics and Finance, United Arab Emirates University, Al-Ain, United Arab Emirates and an Adjunct Fellow with the School of Business, Western Sydney University, Parramatta NSW, Australia. His areas of research interest include systemic risk, asset pricing, sustainable and conventional financial markets, and hedging strategies. His research has been published in the Energy Economics, Journal of Economic Behavior & Organization, European Journal of Finance, European Financial Management, British Journal of Management and International Review of Financial Analysis. He is also serving as an Associate Editor with International Review of Economics and Finance, Economic Analysis & Policy, and a Senior Editor with International Journal of Emerging Markets. He has also served as a Guest Editor for Energy Economics, Research in International Business and Finance, Economic Analysis and Policy, and Resources Policy.