

Tom L. Dudda

PhD Student in Finance | Research Associate | TU Dresden

Faculty of Business & Economics · Chair of Finance & Financial Technology · Helmholtzstr. 10, 01069 Dresden (Germany)

E-Mail tom_lukas.dudda@tu-dresden.de
Date of Birth May 17, 1994
Nationality German
Languages German (native), English (fluent)
Programming R, Python, MATLAB

🔗 researchgate.net/profile/Tom-Dudda 🔗 linkedin.com/in/tom-dudda 🔗 orcid.org/0000-0003-4619-514

Research Interests

Commodity Finance, Carbon Finance, Financial Econometrics

Research Output

[abstracts are listed on the last page]

Working Paper

1. *Common Drivers of Commodity Futures* (with Tony Klein, Duc K. Nguyen, and Thomas Walther). doi: 10.2139/ssrn.4231994.

Work in Progress

1. *The Financialization of the European Futures Market for Carbon Emission Allowances* (with Tony Klein, Florentina Paraschiv, and Thomas Walther)
2. *The Perks and Perils of Machine Learning in Business Research* (with Lars Hornuf)

Publications

1. Bouri, E., Dudda, T.L., Rognone, L., Walther, T. (2023). Climate Risk and the Nexus of Clean Energy and Technology Stocks. *Annals of Operations Research*. doi: 10.1007/s10479-023-05487-z. [VHB B]
2. Menkveld, A.J., Dreber, A., Holzmeister, F., Huber, J., Johannesson, M., Kirchler, M., Neusuess, S., Razen, M., Weitzel, U., ..., Dudda, T.L., ... (2023). Non-Standard Errors. *Journal of Finance*, forthcoming. doi: 10.125358/0340-1650-2021-4-19. [VHB A+] [participated as a member of a research team in the #fincap project]
3. Dudda, T.L., Klein, T., & Walther, T. (2021). Schätzung und Vorhersage "Realisierter Volatilität". *WiSt - Wirtschaftswissenschaftliches Studium*, 50(4), 19–25. doi: 10.125358/0340-1650-2021-4-19. [VHB D]

Education

10/2020– **PhD Student in Finance** | TU Dresden (Germany)

2017–2020 **M.Sc. Business Management** | TU Dresden (Germany)
Grade: 1.1 (with distinction, top 2%) · Thesis: *Applying VIX forecasting models to VIX futures trading*

2018 **Semester abroad** | Bond University (Australia)
GPA: 4.0 (high distinction) · Placed on Vice-Chancellor's List of Academic Excellence

2013–2017 **B.Sc. Business and Economics** | TU Dresden (Germany)
Grade: 1.4 (top 10%) · Thesis: *Quantifying the market risk of banks with Value-at-Risk and Expected Shortfall within the Basel regulatory framework*

Summer Schools

2023 VHB ProDok (Tübingen): *Endogeneity in Applied Empirical Research*

2022 EABCN Training School (virtual): *What's new in mixed frequency data, with applications to machine learning and big data*

2021 The International Institute of Forecasters (virtual): *Nowcasting & models for mixed frequency data* · VHB-ProDok (Berlin): *Machine Learning*

2020 University of Chicago (*virtual*): *SoFiE Financial Econometrics Summer School on the econometrics of mixed frequency (big) data*

Presentations

2024 DRUID Academy (*Odense*)

2023 29th Annual Meeting of the German Finance Association (*Stuttgart*) · Causal Data Science Meeting (*virtual*)

2022 5th Commodity Markets Winter Workshop (*St. Johan i.P.*) · Workshop on Carbon Finance FernUniversität Hagen (*virtual*) · 8th International Symposium on Environment and Energy Finance Issues (*virtual*) · Annual Conference, Commodity and Energy Markets Association (*Chicago*) · ZAFIN Finance and Sustainability Conference, Wrocław University of Economics & Business (*virtual*) · PhD Workshop in Finance, Zeppelin University (*virtual*) · HVB Doctoral Seminar (*Utrecht*) · 16th Conference on Energy Economics and Technology (ENERDAY, *Dresden*) · Brown Bag Seminar, TU Dresden (*Dresden*)

2021 Annual Conference, British Accounting and Finance Association (Doctoral Masterclass, *virtual*) · Finance Research Seminar, Utrecht School of Economics (*virtual*) · HVB Doctoral Seminar, Technical University of Chemnitz (*virtual*) · 6th Vietnam Symposium in Banking and Finance (*virtual*)

2019 6th Joint Seminar on Capital Markets and Risk Management (*Dresden*)

2018 3rd Joint Seminar on Capital Markets and Risk Management (*Wrocław*)

Referee Activities

Finance Research Letters · Energy Economics · Annals of Operations Research · The Energy Journal · Journal of Commodity Markets · Resources Policy · International Journal of Finance and Economics · International Review of Economics and Finance · Journal of Asian Business and Economic Studies · Mineral Economics

Awards

Best PhD Paper in Finance (*for Common Drivers of Commodity Futures, Annual Conference of the British Accounting and Finance Association 2021*) · **Victor-Klemperer Award** (*for outstanding achievements during the master's program Business Management, TU Dresden*) · **Best graduate in 2020 within the master's program Business Management** (*nexus e.V., Faculty of Business and Economics, TU Dresden*)

Teaching

Dresden University of Technology

- Financial Mathematics (*Master*, 40 students, tutorial 2020–2023)
- Professional Portfolio Management (*Master*, 40 students, tutorial 2020–2023)
- Research Seminar in Finance (*Master*, since 2020)
- Corporate Finance (*Bachelor*, 300 students, tutorial since 2021)
- Financial Management I (*Bachelor*, 100 students, tutorial 2017–2020)
- Financial Management II (*Bachelor*, 70 Students, tutorial 2017–2020)
- Bachelor Seminar in Finance (*Bachelor*, since 2020)
- Microeconomics (*Bachelor*, 50 students, tutorial 2015)

University of Cooperative Education Saxony, Staatliche Studienakademie Dresden

- Derivatives (*Bachelor*, 25 students, lecture since 2021)
- Financial Risk Management (*Bachelor*, 25 students, lecture since 2021)

Working Experience

06/2020– **Research Associate** | Chair of Finance and Financial Technology, TU Dresden (Germany)
Research · Teaching · University Administration: *Member of Hiring Committee (W3 (Full) Professor in Management Accounting and Control)*

03/2021– **Lecturer** | Berufsakademie Sachsen (University of Cooperative Education), Staatliche Studienakademie Dresden, Bachelor’s program “Finance – Banking” (Germany)

Internships

2019 Deutsche Bank AG | Risk Management Solutions (3M), Hamburg (Germany)

2017 KPMG AG | Governance & Assurance Services (6M), Dresden (Germany)

2016 Nachfolgekantor GmbH | Mergers & Acquisitions (6M), Dresden (Germany)

2015 Deutsche Bank AG | Private, Wealth & Commercial Clients (2M), Frankfurt a.M. (Germany)

2013 Commerzbank AG | Private Clients (2M), Braunschweig (Germany)

Honorary Engagement

2021– nexus e.V. | Chairman (alumni association at the TU Dresden faculty of business and economics, 300+ members)

2016 IG Börse an der TU Dresden e.V. | CFO (university finance club, 100+ members)

2012–2013 TU Braunschweig | Voluntary Service (university sports center)

References

Lars Hornuf
Professor of Finance
Dresden University of Technology
Germany
✉ lars.hornuf@tu-dresden.de

Thomas Walther
Assistant Professor of Finance
Utrecht University
The Netherlands
✉ t.walther@uu.nl

Tony Klein
Professor of Finance
Technische Universität Chemnitz
Germany
✉ tony.klein@wiwi.tu-chemnitz.de

Abstracts

Common Drivers of Commodity Futures

with Tony Klein, Duc. K. Nguyen, Thomas Walther

We study potential drivers for the cross-section of commodity futures returns based on Granger causality tests. Unlike previous studies, we use mixed data sampling techniques for monthly-available variables. We find that slowing real economic activity and growing macroeconomic uncertainty precede negative monthly returns. Stock markets predict returns at daily frequency but not at longer-term horizons. However, these linkages vary throughout distinct stages of financialization. In recent years, we find less overall sensitivity of commodity returns to financial variables and real activity measures. Our results suggest that the informativeness of fundamental variables for predicting commodity futures returns is negatively associated with the presence of financial investors in commodity markets.

The Financialization of the European Futures Market for Carbon Emission Allowances

with Tony Klein, Florentina Paraschiv, Thomas Walther

As the futures market for European carbon emission allowances (EUA) increasingly attracts financial investors seeking new risk-return profiles and diversification, we investigate whether this market is already subject to financialization. To measure the degree of financialization, we first identify fundamental variables that should drive the prices of EUA futures. We regress returns and volatility of EUA futures on their fundamental drivers and variables serving as indicators for the influence of financial investors. Using R^2 decomposition, we examine to what extent financial variables explain returns and volatility of EUA futures in relation to their fundamental drivers and how this relationship has evolved from trading phase II through the beginning of phase IV of the EU ETS. Our results indicate an emerging financialization as the importance of financial variables for explaining the variation in EUA futures returns increases over recent years.

Climate Risk and the Nexus of Clean Energy and Technology Stocks

with Elie Bouri, Lavinia Rognone, and Thomas Walther (2023). *Annals of Operations Research*, Online.

We examine the impact of climate risks on the nexus of clean energy and technology stocks using a time-varying correlation model. We find that physical and transition climate risks are positively associated with the long-term correlation between clean energy and technology stock indices, whereas the effect of transition risk is more robust to different sample periods and alternative stock indices. On the contrary, the short-term correlation tends to decrease after shocks to physical risk, since clean energy stocks react more strongly to physical risk shocks than technology stocks.

Non-Standard Errors*

with Albert J. Menkveld et al. (2023). *Journal of Finance*, forthcoming.

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: Non-standard 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 better reproducible or higher rated research. Adding peer-review stages reduces NSEs. We further find that this type of uncertainty is underestimated by participants.

*Participated as a member of a research team within the Finance Crowd Analysis Project (<https://fincap.academy/>)

Schätzung und Vorhersage “Realisierter Volatilität”

with Tony Klein and Thomas Walther (2021). *WiSt – Wirtschaftswissenschaftliches Studium*, 50(4), 19–25.

Volatility as a universal risk measure is of pivotal importance to financial markets. It plays a vital role in risk and portfolio management as well as for derivative pricing. Using intraday data can improve the accuracy of volatility estimates. This article introduces the concept and modeling of realized volatility based on intraday returns. We demonstrate parameter estimations and forecasting of realized volatility in the HAR-RV model for DAX30 returns.