

Timothy P. Dombrowski

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Academic Positions / Education

Assistant Professor of Finance, University of Missouri–St. Louis	Aug. 2020 – present
Ph.D. Finance with Economics Minor, Louisiana State University	May 2020
Graduate Certificate in Econometrics, Louisiana State University	May 2019
B.A. Accounting and Mathematics, Saint Leo University, <i>Summa Cum Laude</i>	May 2015
A.A. Pasco-Hernando State College, <i>Summa Cum Laude</i>	Dec. 2011

Research (See <https://timdombrowski.com/research.html> for abstracts)

Interests

- Mortgage markets, spatial statistics, real estate finance, financial technology

Publications

- Dombrowski, T.P. and Slawson Jr., V.C. (2024), “The Feasibility of Mortgage-Backed Securities as Decentralized Autonomous Organizations.” *Real Estate Finance*, 41:1, 1–20. <https://dx.doi.org/10.2139/ssrn.4761692>
- Calabrese, R., Dombrowski, T.P., Mandel, A., Pace, R.K., and Zanin, L. (2024), “Impacts of Extreme Weather Events on Mortgage Risks and Their Evolution under Climate Change: A Case Study on Florida.” *European Journal of Operational Research*, 314:1, 377–392. <https://doi.org/10.1016/j.ejor.2023.11.022>
- Dombrowski, T.P., Pace, R.K., and Wang, J. (2024), “Imputing Borrower Heterogeneity and Dynamics in Mortgage Default Models.” *Journal of Real Estate Finance and Economics*, 68:3, 462–487. <https://doi.org/10.1007/s11146-022-09934-9>
- Dombrowski, T.P., Narayanan, R.P., and Pace, R.K. (2023), “The Rank-Size Rule and Challenges in Diversifying Commercial Real Estate Portfolios,” *Journal of Real Estate Finance and Economics*, 67:1, 1–28. <https://doi.org/10.1007/s11146-020-09765-6>
- Dombrowski, T.P., Ratnadiwakara, D., and Slawson Jr., V.C. (2021), “The FIMA NFIP’s Redacted Policies and Redacted Claims Datasets.” *Journal of Real Estate Literature*, 28:2, 190–212. <https://doi.org/10.1080/09277544.2021.1876435>
- Dombrowski, T.P., Pace, R.K., Ratnadiwakara, D., and Slawson Jr., V.C. (2020), “Deductible Choice in Flood Insurance: Who Chooses the Maximum?” *Journal of Housing Research*, 29, S144–S169. <https://doi.org/10.1080/10527001.2020.1839320>
- Dombrowski, T.P., Pace, R.K., and Narayanan, R.P. (2020), “Mortgage Portfolio Diversification in the Presence of Cross-Sectional and Spatial Dependence,” *Advances in Econometrics* 41, 383–411. <https://doi.org/10.1108/S0731-905320200000041014>

Working Papers

- Dombrowski, T.P. “From Plantations to Blockchains: A Review and Synthesis of the MBS and DeFi Literatures.”

Working Papers (continued)

Dombrowski, T.P., Pace, R.K., and Narayanan, R.P., “Concentration Risk in Mortgage Portfolios: A Rank-Size Approach”

Works in Progress

Dombrowski, T.P. and Pugachev, L., “Financial Inclusion for Banks? The Benefits of Fed Master Account Access.”

Ph.D. Dissertation

Dombrowski, T.P. (2020), “Essays on Mortgage Portfolio Diversification,” *LSU Doctoral Dissertations*, 5160. https://digitalcommons.lsu.edu/gradschool_dissertations/5160

- Committee: R. Kelley Pace (chair), Rajesh Narayanan, V. Carlos Slawson Jr., Dek Terrell, and Norman Massel

GitHub Projects

See my GitHub profile (<https://github.com/tim-dombrowski>) to review my open-source data science projects exploring various fintech topics. Some examples include:

- bank-trends-project: example for loading and cleaning data from FDIC BankFind API
- bitcoin-miningstocks-project: comparison of publicly-traded Bitcoin mining stocks
- bitcoin-timeseries-project: exploring autocorrelation and seasonality of BTC prices
- money-supply-project: example for FRED API and ggplot2 graphics
- national-debt-project: API example using the U.S. Treasury’s Fiscal Data API
- numerai-fund-project: overview of Numerai project and analysis of fund performance
- sharpe-ratio-project: CAPM analysis and Sharpe ratio comps for stocks and crypto
- singularitynet-project: overview of SingularityNET AI projects and token performance

Teaching Experience (*italics indicates online courses*)

Instructor of Record

Financial Management, FIN 3500, UMSL, *Fall 2020, Summer 2021, Fall 2021, Spring 2022, Summer 2022, Fall 2022, Spring 2023, Summer 2023, Fall 2023, Summer 2024*

Principles of Real Estate, FIN 3542/6542, UMSL, *Spring 2024*

FINRA Exam Prep, FIN 3598/6590, UMSL, *Spring 2023, Fall 2023, Spring 2024*

AI Applications in Finance, FIN 3574/6574, UMSL, *Spring 2021, Spring 2022, Spring 2023, Spring 2024*

Financial Data Analytics, FIN 3572/6572, UMSL, *Fall 2020, Fall 2021, Fall 2022*

PMBA Fintech Seminar, FIN 6590, UMSL, *Spring 2021* (×2 sections)

SIE Exam Prep, FIN 3599, UMSL, *Spring 2021*

Principles of Finance, FIN 3716, LSU, *Fall 2019, Spring 2020*

Principles of Real Estate, FIN 3351, LSU, *Summers 2017, 2018, 2019*

Teaching Assistance / Supplemental Instruction

Principles of Real Estate, FIN 3351, LSU, Fall 2018, Spring 2019

Financial Planning, FIN 3060, LSU, Fall 2018, Spring 2019

Real Estate Financial Decisions, FIN 7310, LSU, Fall 2015 – Fall 2018

Linear Algebra, MAT 361, SLU, Spring 2015

Ordinary Differential Equations, MAT 411, SLU, Spring 2014, Spring 2015

Discrete Mathematics, MAT 251, SLU, Fall 2014

Computer Skills

Data Analysis:

- MATLAB (parallel computing, datastores, tall arrays, sparse matrices, etc.),
- R and RStudio (tidyverse, quantmod, xts, fst, caret, xgboost, rmarkdown, etc.),
- Python (Jupyter notebooks, pandas, numpy, selenium, etc.)

Document Processing:

- \LaTeX (including Beamer, Overleaf, and JabRef bibliography management),
- Microsoft Office (Word, Excel, OneDrive, Outlook, PowerPoint, Teams, etc.)

Financial Research:

- Bloomberg Terminal (Bloomberg Market Concepts (BMC) certificate),
- FRED (web application and the fredr R package),
- LSEG Workspace (formerly Refinitiv Workspace),
- SEC's EDGAR Database (web application and the edgar R package),
- Yahoo Finance (web application and the yfinance Python package)

Version Control:

- Git and GitHub (web application, command-line interface, and RStudio integration)

Presentations

Conferences and Seminars

UMSL College of Business Research Seminar, Nov. 2019, March 2022, April 2024

University of Tulsa Center for Real Estate Studies Research Seminar, March 2024

American Real Estate Society Annual Conference, April 2018, April 2019, March 2021, April 2022, March 2023, March 2024

JRER/UCF Current Issues in Real Estate Symposium, March 2024

Federal Housing Finance Agency Virtual Research Seminar, July 2022

LSU Finance Department Research Seminar, Nov. 2016, Sept. 2017, April 2019, Sept. 2019

Financial Management Association, Oct. 2017, Oct. 2018, Oct. 2019

École hôtelière de Lausanne Hospitality Finance & Economics Conference, June 2019

American Real Estate and Urban Economics Association, July 2017, Jan. 2018 (*poster*), June 2018, June 2019

FSU-UF-UCF Critical Issues in Real Estate Symposium, April 2019

Guest Lectures

“Modern Fintech and Engaging Students with Research and Debate”

- High School Advanced Credit Program, UMSL, Oct. 2023

“Finance for Non-Financial Leaders”

- Nidec Corp. Professional Development Seminar, UMSL, Aug. 2023

“Fintech and Cryptocurrencies”

- University Program Board, Lunch and Learn, UMSL, Nov. 2021
- Investments, FIN 3826, LSU, April 2018, Nov. 2018
- Financial Markets, FIN 3636/7633, LSU, Nov. 2017, Nov. 2018

“Python for Academic Research” authored by Dr. James Nordlund

- Accounting Department Summer Workshop, LSU, May 2018

Professional Service

Journal Referee

Journal of Real Estate Finance and Economics (×3) • *European Financial Management*
 • *Journal of Sustainable Real Estate* • *Journal of Real Estate Literature* • *PLOS One* •
Advances in Econometrics

Conference Discussions

ARES 2024 • ARES 2021 • FMA 2019 • AREUEA-International 2019 • FMA 2018 •
 AREUEA-International 2017

Conference Organization

UMSL Finance Career Conference (2021, 2022, 2023)

Doctoral Committee Service

- DBA Dissertation Committee Chair for David Beverly, UMSL, Fall 2023 – present
- DBA Dissertation Committee Member for Jason Northern, UMSL, Fall 2023 – present
- DBA Dissertation Committee Member for Jesse Core, UMSL, Fall 2023 – present
- DBA Dissertation Committee Member for John Held, UMSL, Fall 2023 – present
- DBA Dissertation Committee Chair for Steven Kraml, UMSL, Fall 2022 – Fall 2023

Other Service Activities

Assurance of Learning Committee Representative, UMSL CoBA, Fall 2022 – present

Website Manager, UMSL Finance and Legal Studies Department, Fall 2020 – present

Faculty Advisor, UMSL Finance Club, Fall 2020 – present

Internship Advising, FIN 3590/6591, UMSL, ×10 student internships through Summer 2024

Independent Study on Fintech Capstone Course, FIN 3599, UMSL, Summer 2024

Online Proctoring Software Search Committee, UM System, Spring 2023 – Spring 2024

Independent Study on Financial Data Analytics, FIN 5599, UMSL, Spring 2024

Independent Study on Fintech and Cryptocurrencies, FIN 3599, UMSL, Fall 2021

Grants/Awards

UMSL COVID-19 Supplemental Research Support Award, \$1,500, Summer 2021

UMSL Junior Faculty Travel Grant, \$1,000, Spring 2021

LSU Graduate Student Association Travel Award, \$200, Fall 2018

Top Ten Session and Semifinalist for Best Paper in Markets & Institutions, FMA, Oct. 2017

LSU Graduate Student Association Travel Award, \$450, Summer 2017

Student Tutor of the Year, SLU Learning Resource Center, Spring 2015

State Champion in Statistical Analysis, Florida PBL (FBLA Collegiate), Spring 2014

Most Utilized Tutor, SLU Learning Resource Center, Fall 2013

State Champion in Accounting Analysis, Florida PBL (FBLA Collegiate), Spring 2013