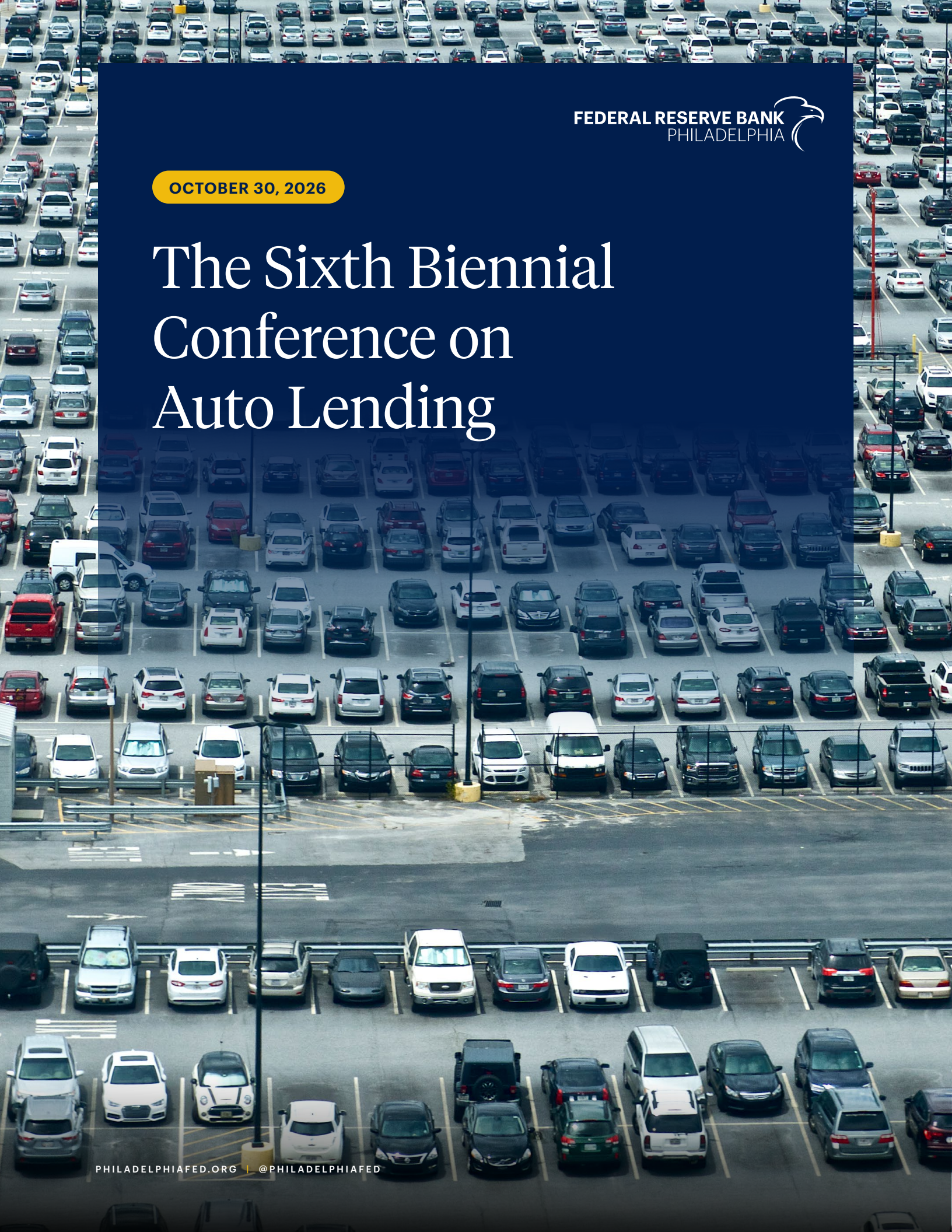

FEDERAL RESERVE BANK
PHILADELPHIA

OCTOBER 30, 2026

The Sixth Biennial Conference on Auto Lending

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Agenda

Friday, October 30, 2026

8:30 a.m.–9:00 a.m. **Registration**

9:00 a.m.–9:15 a.m. **Opening Remarks**

William G. Spaniel, Executive Vice President, Federal Reserve Bank of Philadelphia

9:15 a.m.–10:45 a.m. **Industry Session 1: Industry and Market Perspectives on Auto Lending**

"The Auto Market in 2026: A Story of Resilient and Marginal Demand,"
Jeremy Robb, Vice President and Chief Economist, Cox Automotive

"Light-Vehicle Market Update and Outlook,"
Patrick Manzi, Chief Economist, National Automobile Dealers Association

"Auto Lending Through Elevated Vehicle Prices and Interest Rate Challenges,"
Grace Bai, Senior Quantitative Specialist, Federal Reserve Bank of Philadelphia

CHAIR: Mallick Hossain, Senior Financial Economist, Federal Reserve Bank of Philadelphia

10:45 a.m.–11:00 a.m. **Break**

11:00 a.m.–12:30 p.m. **Academic Session 1: Credit Markets, Information, and Competition in Auto Lending**

"Asymmetric Information and Search Frictions in Auto Loans,"
Davi Doneda Mittelstadt, Ph.D. Candidate in Economics, University of Wisconsin–Madison (presenter), and Bernardus Van Doornik, Central Bank of Brazil

"Borrowers in the Shadows: The Promise and Pitfalls of Alternative Credit Data,"
Mark Jansen, Associate Professor of Finance, University of Utah (presenter), Sam Kruger, University of Texas at Austin, Gonzalo Maturana, Emory University, and Amin Shams, The Ohio State University

"Non-Profits, Competition, and Risk Segmentation in Consumer Lending Markets,"
Andrés Shahidinejad, Northeastern University, David Stillerman, Assistant Professor, American University (presenter), and Jordan van Rijn, University of Wisconsin–Madison

CHAIR: David Low, Senior Economist, Consumer Financial Protection Bureau (Personal Capacity)

12:30 p.m.–1:00 p.m. **Lunch**

1:00 p.m.–2:30 p.m. **Industry Session 2: Technology, Credit Data, and AI in Auto Lending**

"The AI Advantage in Auto Lending: What the Data Shows Is Working and What It Takes to Get It Right"
Esther Kahng, Head of Government Impact, Zest AI

"Auto Lending Trends from FICO Score Credit Insights,"
Tommy Lee, Senior Director, FICO

"Subprime Auto Lending: Trends in Buy Here Pay Here Auto Lending,"
James Wang, Principal Economist, Federal Reserve Board

CHAIR: Geng Li, Assistant Director, Division of Research and Statistics, Federal Reserve Board

Agenda

2:30 p.m.–3:15 p.m.	**Industry Spotlight: Trends in Auto Finance and Securitization** **Presentation and Q&A** **"Trends in Auto Finance and Securitization,"** Amy Sze, Managing Director and Head of ABS Research, J.P. Morgan **CHAIR:** José J. Canals-Cerdá, Senior Special Advisor, Federal Reserve Bank of Philadelphia
3:15 p.m.–3:30 p.m.	**Break**
3:30 p.m.–5:00 p.m.	**Academic Session 2: Vehicle Finance Trends and Credit Risk Modeling** "Auto Finance, Credit Risk, and Electric Vehicles," Elizabeth Klee, Federal Reserve Board, Adair Morse, University of California Berkeley and National Bureau of Economic Research, and Chaehee Shin, Principal Economist, Federal Reserve Board (presenter) "Macroeconomic Parameter Instability in Auto Loan Loss Models," Nicholas Fritsch, Data Scientist Lead, Federal Reserve Bank of Cleveland (presenter), and Edward S. Prescott, Federal Reserve Bank of Cleveland "Why Are Post-Pandemic Auto Delinquencies So High?" Scott Fulford, Senior Economist, Consumer Financial Protection Bureau (Personal Capacity) [presenter], and Christa Gibbs, Consumer Financial Protection Bureau (Personal Capacity) **CHAIR**: Raluca A. Roman, Principal Economist, Federal Reserve Bank of Philadelphia
5:00 p.m.–5:15 p.m.	**Closing Remarks** Jeffrey R. Gerlach, Group Vice President, Risk Assessment, Data Analysis, and Research (RADAR) Group, Federal Reserve Bank of Philadelphia
5:15 p.m.–7:00 p.m.	**Reception**

CONFERENCE ORGANIZERS

Xudong (Sean) An, Vice President, Federal Reserve Bank of Philadelphia

Jeffrey R. Gerlach, Group Vice President, Risk Assessment, Data Analysis, and Research (RADAR) Group, Federal Reserve Bank of Philadelphia

Charles Mattioli, Manager and Team Lead, Federal Reserve Bank of Philadelphia

Raluca A. Roman, Principal Economist, Federal Reserve Bank of Philadelphia

Biographies



Xudong (Sean) An

Vice President
Federal Reserve Bank of Philadelphia

Xudong (Sean) An is a vice president in the Supervision, Regulation, and Credit Department at the Federal Reserve Bank of Philadelphia. He oversees the Bank's stress testing function and supervisory research function. An's areas of research include consumer finance, housing, securitization, and risk management. An is a past president of the American Real Estate and Urban Economics Association and is currently an associate editor of several academic journals. He has a Ph.D. from the University of Southern California and is an academic fellow of the Hoyt Institute.



Grace Bai

Senior Quantitative Specialist
Federal Reserve Bank of Philadelphia

Grace Bai is a senior quantitative specialist in the Risk Assessment, Data Analysis, and Research, or RADAR, group in the Supervision, Regulation, and Credit (SRC) Department at the Federal Reserve Bank of Philadelphia. Currently, she is on the Retail Supervisory Modeling team, which forecasts loss rates of auto loans for use in the Dodd–Frank Act Stress Tests and Comprehensive Capital Analysis and Review exercises. Before joining RADAR, Bai was with the SRC Safety and Soundness group and worked on modeling bank and consumer risk. She has extensive knowledge of bank financial reporting, Y-14, the Home Mortgage Disclosure Act, the Equifax Consumer Credit Panel, and trade data. Before joining the Philadelphia Fed, Bai worked as a modeling specialist for multiple financial institutions, including Bank of America and Ally Financial.



José J. Canals-Cerdá

Senior Special Advisor
Federal Reserve Bank of Philadelphia

José J. Canals-Cerdá is a senior special advisor in the Supervision, Regulation, and Credit Department at the Federal Reserve Bank of Philadelphia. He has made significant contributions to the development of systems, models, and databases at the Federal Reserve System. He was the principal developer of the Federal Reserve System methodology for the stress testing of cards portfolios, leading a group of Ph.D. economists and analysts. Canals-Cerdá is an expert on risk management and quantitative methods, securitization, allowance for loan and lease losses (ALLL), economic capital, stress testing, the Basel Accords, credit scoring, and model risk management. He has led quantitative benchmark studies in several areas of interest to the Federal Reserve System related to stress testing, Basel II, and ALLL/current expected credit losses. He is a Ph.D. economist and FRM-GARP certified, and his undergraduate work was in mathematics with a concentration in statistics and decision sciences.

Biographies



Davi Doneda Mittelstadt

Ph.D. Candidate in Economics
University of Wisconsin–Madison

Davi Doneda Mittelstadt is a Ph.D. candidate in economics at the University of Wisconsin–Madison. His field is industrial organization, with a focus on applying industrial organization tools to the study of lending markets. His main research project examines the role of search frictions and asymmetric information in auto loans in Brazil, and he also has research work on oil and gas auctions and domestic-content policies. He previously worked at the Rio Grande do Sul state government and at the fintech Stone. He has a master's degree in economics from Pontifical Catholic University of Rio de Janeiro and bachelor's degrees in international relations and economics from the Federal University of Rio Grande do Sul.



Nicholas Fritsch

Data Scientist Lead
Federal Reserve Bank of Cleveland

Nicholas Fritsch is a data scientist lead in the Supervision and Regulation Department of the Federal Reserve Bank of Cleveland. In his current role, he is involved in research, monitoring, and analysis of issues in banking, finance, and financial stability. Fritsch joined the Cleveland Fed in 2015. He has an M.A. in economics and a B.A. in economics from the University of Akron, and he is currently pursuing a Ph.D. in economics from the University of Strathclyde.



Scott Fulford

Senior Economist
Consumer Financial Protection Bureau (Personal Capacity)

Scott Fulford is a senior economist at the Consumer Financial Protection Bureau (CFPB). His academic and policy research examines the economic problems individuals and households face and how they use financial products to help deal with them. He is the author of *The Pandemic Paradox: How the COVID Crisis Made Americans More Financially Secure*. Fulford taught economics and international studies at Boston College before joining the CFPB. He has a Ph.D. in economics from Princeton University.

Biographies



Jeffrey R. Gerlach

Group Vice President, Risk Assessment, Data Analysis, and Research
Federal Reserve Bank of Philadelphia

Jeffrey R. Gerlach is group vice president of the Risk Assessment, Data Analysis, and Research, or RADAR, group of the Federal Reserve Bank of Philadelphia. Prior to taking on this role in January 2025, Gerlach worked for the Richmond Fed as vice president of the Quantitative Supervision & Research team. Before joining the Federal Reserve System in 2011, he was a professor at the SKK Graduate School of Business and the College of William and Mary and an international faculty fellow at MIT. Gerlach also worked as a foreign service officer for the U.S. Department of State, and he has a Ph.D. from Indiana University.



Mallick Hossain

Senior Financial Economist
Federal Reserve Bank of Philadelphia

Mallick Hossain is a senior financial economist at the Federal Reserve Bank of Philadelphia. He oversees stress testing for retail lending portfolios, including auto lending. His research interests are in consumer finance, disaster risk and insurance, and health economics. Previously, he worked as a staff economist for President Obama's Council of Economic Advisers and for the Census Bureau. He has a Ph.D. in economics from the University of Pennsylvania and bachelor's and master's degrees in mathematics from the University of Alabama at Birmingham.



Mark Jansen

Associate Professor of Finance
University of Utah

Mark Jansen is an associate professor of finance at the University of Utah whose research and teaching focus on private equity, entrepreneurial finance, and household finance. Before his current role, he served as managing director at Holland Park Capital, a private-equity firm, and was a member of the Young Presidents' Organization. Earlier in his career, he worked in management consulting and the chemical industry. He has a Ph.D. and master's degree in finance from the University of Texas at Austin, an M.B.A. from London Business School, and dual bachelor's degrees in management science and mechanical engineering from MIT.

Biographies



Esther Kahng

Head of Government Impact
Zest AI

Esther Kahng is the head of government impact at Zest AI, a leader in AI-powered credit risk management, helping financial institutions optimize underwriting, detect fraud, and unlock lending insights. She oversees Zest AI's engagement with policymakers on the responsible use of AI in financial services. She also leads the company's efforts in bringing AI solutions to government regulators and advocacy organizations, putting her at the intersection of policy and market adoption. Kahng has more than a decade of experience on Capitol Hill, most recently as chief counsel for the House Committee on Financial Services. In that role, she helped shape legislative and regulatory efforts on financial technology, working to promote innovation that benefits consumers and strengthens the financial ecosystem. Kahng has a law degree from Georgetown University Law Center and a bachelor's degree from the University of California San Diego.



Tommy Lee

Senior Director
FICO

Tommy Lee is a senior director on FICO's Analytics and Scores Development team, where he has spent more than two decades building and refining the FICO Score. He leads a team responsible for researching and developing the next generation of FICO Scores in the United States and Canada. Lee has a B.S. in business administration and a B.A. in statistics from the University of California, Berkeley.



Geng Li

Assistant Director, Division of Research and Statistics
Federal Reserve Board

Geng Li is an assistant director of the Division of Research and Statistics at the Federal Reserve Board. His research spans a wide range of topics in household economics and consumer finance, and he has written extensively on consumer credit markets, credit scoring, and household expectations. His current projects examine prepayments in the auto loan market and the role of trust and creditworthiness in household economic behavior. Li also has an active research agenda on macroeconomics, working on the topics of fiscal stimulus and light vehicle sales, inflation measurement during the pandemic outbreak, and investment dynamics under major technological advancement. His research has been published in various economics and finance journals,

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including the *Review of Financial Studies*, the *Review of Finance*, the *Review of Economics and Statistics*, *Management Science*, the *Journal of Money, Credit and Banking*, and *Real Estate Economics*. He has a Ph.D. in economics from the University of Michigan.



David Low

Senior Economist
Consumer Financial Protection Bureau (Personal Capacity)

David Low is a senior economist in the Office of Research at the Consumer Financial Protection Bureau (CFPB). His research spans consumer finance and applied macroeconomics, with a particular focus on auto loans and mortgages. His auto finance work examines the intermediation of auto loans through dealers, outcomes for subprime auto loans across lender types, and the effects of rising vehicle costs on deep subprime borrowers. His mortgage research uses both theory and data to study the causes and implications of mortgage default, and he has also worked on other topics ranging from overdraft and deposit advance products to the LIBOR transition. His research has appeared in leading economics journals, including the *Review of Economics and Statistics*, as well as in numerous CFPB reports and public-facing publications. Before joining the CFPB, he was a research intern at the Federal Reserve Board and a research assistant at the International Monetary Fund. He has a Ph.D. in economics from New York University, an M.S. in applied mathematics from George Washington University, and a B.A. in economics and foreign affairs from the University of Virginia.



Patrick Manzi

Chief Economist
National Automobile Dealers Association

Patrick Manzi is the chief economist at the National Automobile Dealers Association (NADA), where he provides expert economic analysis for both NADA and the American Truck Dealers (ATD) division. A trusted voice in the automotive industry, Manzi frequently delivers insights to diverse audiences and oversees the creation of key economic reports, including the annual NADA Data and ATD Data publications. Manzi has doctoral and undergraduate degrees in economics from West Virginia University.

Biographies



Charles Mattioli

Manager and Team Lead
Federal Reserve Bank of Philadelphia

Charles Mattioli has more than 13 years of combined experience in risk analytics, surveillance, and stress test modeling and management at the Federal Reserve Bank of Philadelphia, where he is a manager and team lead for stress testing operations in the Risk Assessment, Data Analysis, and Research, or RADAR, group of the Supervision, Regulation, and Credit Department. He previously managed the Dodd–Frank Act Stress Tests (DFAST) Retail Modeling team and served on the First Lien Supervisory Modeling team, which forecasts loss rates for the DFAST and Comprehensive Capital Analysis and Review exercises. Earlier in his tenure, he developed early-warning risk models for community and regional banks in the Risk Analytics and Surveillance unit. Mattioli has an M.S. in statistics from Temple University's Fox School of Business, where he also served as an adjunct professor of statistical business analytics from 2014 to 2019.



Jeremy Robb

Vice President and Chief Economist
Cox Automotive

Jeremy Robb is the vice president and chief economist for Cox Automotive. In this role, Robb leads a team that translates complex market dynamics and economic data into actionable insights across the automotive industry — with a primary focus on the used vehicle marketplace. He combines analysis with AI-powered tools to surface patterns and opportunities that drive decision-making, moving beyond traditional approaches to unlock insights. A frequent public speaker presenting at industry events, Robb makes economics accessible by breaking down Fed policy, auto market trends, and financial forecasts for diverse audiences — from executive teams to industry conferences. Robb joined Cox Automotive from Nissan in 2018, where he served as the remarketing leader for the Nissan and Infiniti brands in the United States and Canada. Before this, he led finance teams at NMAC responsible for all budgeting, month-end close processes, and executive support. Since beginning his professional career in equity research, Robb has been known for creating new tools that support decision-making across large organizations to make meaningful operational and financial impacts. He has an executive M.B.A. from the University of North Alabama and a bachelor's degree in music and economics from Vanderbilt University, and he is a chartered financial analyst.

Biographies



Raluca A. Roman

Principal Economist
Federal Reserve Bank of Philadelphia

Raluca A. Roman is a principal economist at the Federal Reserve Bank of Philadelphia. She joined the Bank in July 2018; before that, from 2015 to 2018, she was a research economist at the Federal Reserve Bank of Kansas City. Roman's research areas include a variety of topics related to banking and financial institutions, consumer finance (including retail credit, consumer behavior, and consumer market trends), corporate finance, and international finance. She has published research articles in academic journals including the *Journal of Political Economy*; the *Review of Financial Studies*; the *Journal of Financial and Quantitative Analysis; Management Science*; the *Journal of Financial Intermediation*; the *Journal of Money, Credit and Banking; Financial Management*; the *Journal of Corporate Finance*; the *Journal of International Money and Finance*; and the *Journal of Banking and Finance*. She has also published book chapters in the *Handbook of Finance and Development*, the *Oxford Handbook of Banking*, and the *Oxford Research Encyclopedia of Economics and Finance*, as well as a variety of regulatory policy briefs. Roman coauthored the books *Commercial Banking*: *Distinct Value, Roles, and Methods*, *The Economic and Financial Impacts of the COVID-19 Crisis Around the World: Expect the Unexpected*, and *TARP and other Bank Bailouts and Bail-Ins around the World: Connecting Wall Street, Main Street, and the Financial System*. She has presented her research and discussed the research of others at numerous finance and regulatory conferences. She also has more than seven years of professional experience in banking and corporate finance and has worked for top international organizations like UBS Investment Bank and MasterCard International, where she won various awards. Roman has a Ph.D. in finance from the University of South Carolina, an M.B.A. with a concentration in finance from the University of Bridgeport, and a B.A. in economics from Alexandru Ioan Cuza University.



Chaehee Shin

Principal Economist
Federal Reserve Board

Chaehee Shin is a principal economist in the Financial Stability Assessment Section at the Federal Reserve Board, where her research and policy work focus on nonbank financial intermediation, securitization, and the structure of financial markets, with additional interests in industrial organization and auto lending. Her published work appears in the *Journal of Finance*, the *American Economic Review: AEA Papers and Proceedings*, and the *Economic Policy Review*, and it spans fire-sale spillovers in debt markets, liquidity management at open-end funds, interconnectedness in the corporate bond market, auto asset-backed securities and the electric vehicle transition, and methods for evaluating climate-related financial stability risks. She has a Ph.D. in economics from the University of Chicago and a B.A. in economics from Seoul National University.

Biographies



William G. Spaniel

Executive Vice President
Federal Reserve Bank of Philadelphia

William (Bill) G. Spaniel is the executive vice president of the Supervision, Regulation, and Credit Department at the Federal Reserve Bank of Philadelphia. He has 30 years of experience in various banking and bank-related positions, and in his current role, he is responsible for the supervision and lending functions in the Third District and supports critical national supervision initiatives for stress testing, retail credit risk analysis, and information technology. Before joining the Philadelphia Fed, Spaniel was a senior associate director in the Division of Banking Supervision and Regulation at the Federal Reserve Board in Washington, DC. At the Board, he oversaw the day-to-day administration and operations of the division as well as the quality assurance function for supervision. Prior to his appointment as an officer in December 2000, he was the assistant to the director for the division. Spaniel also played an important role in the Federal Reserve System's initial participation in the International Monetary Fund Financial Sector Assessment Program and the supervisory event management program for Y2K. Prior to joining the Fed, he was the compliance officer for a billion-dollar savings and loan company and a consultant for KPMG, specializing in credit administration, profit improvement, and regulatory compliance. Spaniel has a B.A. in economics from the College of William and Mary.



David Stillerman

Assistant Professor, Kogod School of Business
American University

David Stillerman is an assistant professor in the Department of Finance and Real Estate at American University's Kogod School of Business. His research examines the intersection of industrial organization and finance, studying market failures arising from imperfect competition and asymmetric information and the role of public policy in addressing them. His recent work analyzes how loan guarantees distort incentives for information acquisition in small business lending markets, how realized merger effects in consumer-packaged goods inform competition policy, and how competition between non- and for-profit lenders contributes to the equilibrium composition of risk in auto lending markets. He has a Ph.D. in economics from Northwestern University.

Biographies



Amy Sze

Managing Director and Head of ABS Research
J.P. Morgan

Amy Sze is a managing director and the head of Asset-Backed Securities (ABS) Research at J.P. Morgan. She currently covers securitizations across various consumer and commercial asset classes, including autos, credit cards, student loans, unsecured consumer loans, AI infrastructure (data centers and fiber), and franchises/whole business, among others. Extel (formerly Institutional Investor) and the Greenwich Survey have consistently ranked Sze and her team in their annual polls for top ABS research analysts. Over her more than 25 years at J.P. Morgan, Sze has researched various securitized products (e.g., subprime residential mortgage-backed securities, ABX, asset-back commercial papers, and collateralized debt obligations). She has a bachelor of arts with honors in economics-math from Columbia University and is a CFA charterholder.



James Wang

Principal Economist
Federal Reserve Board

James Wang is a principal economist managing the Stress Testing Research Section at the Federal Reserve Board, where he oversees research on financial stress tests and credit intermediation. His research focuses on credit market dynamics across consumer and corporate lending, including recent work examining financial regulation on consumer credit usage, the relationship between loan pricing and credit risk, and loan screening assessments. His research has appeared in economics and finance journals including the *RAND Journal of Economics*, *Management Science*, and the *Journal of Money, Credit and Banking*. He has a Ph.D. in economics from the University of Michigan and a B.S. in mathematics from the University of Chicago.

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