Hutchins Center on Fiscal & Monetary Policy at BROOKINGS

Washington University in St. Louis
OLIN BUSINESS SCHOOL

Brandeis University
INTERNATIONAL BUSINESS SCHOOL
The Rosenberg Institute of Global Finance

THE UNIVERSITY OF CHICAGO
Harris Public Policy

9th Annual Municipal Finance Conference

Monday, July 13 – Tuesday, July 14, 2020

Speakers

Tom Aaron is the dedicated public pension specialist for the US Public Finance Group at Moody's Investors Service. In this role, he frequently authors research on state and local government pension and retiree healthcare liabilities, and facilitates the analysis of these obligations as part of the group's municipal bond ratings. Aaron has been recognized with multiple industry awards for his pension analytics. He received the 2018 "Award of Excellence" from the National Federation of Municipal Analysts. In 2016, Aaron was named one of the Bond Buyer's "Rising Stars" of municipal finance, and a "Municipal All-Star" by Smith's Research & Gradings. Prior to joining Moody's, Aaron served as Deputy Chief of Staff to a member of the San Diego City Council. He holds a Master of Science degree in Applied Mathematics (Actuarial Science) from DePaul University in Chicago and a Master of Arts in Economics from San Diego State University.

Carolyn Abott is an assistant professor at St. John's University in the Department of Government and Politics. Abott's research interests include state and local politics and the politics of debt and public finance. Her work has been published in Journal of Public Economics and American Journal of Political Science. She is currently writing a book about the politics of state public sector pensions. Before joining St. John's University, she was a postdoctoral fellow at The Ohio State University where she created a 20-state panel of school board and local tax referenda election data for the Education Governance and Accountability Project. Abott received her Ph.D. in politics and social policy from Princeton University.

Timothy Bartik is a senior economist at the Upjohn Institute for Employment Research, a non-profit and non-partisan research organization in Kalamazoo. He co-directs the Institute's research initiative on place-based prosperity, *Investing in Community*. Bartik's research focuses on state and local economic development and local labor markets. His most recent book is *Making Sense of Incentives: Taming Business Incentives to Promote Prosperity* (2019). Bartik received his B.A. from Yale, and his Ph.D. in economics from the University of Wisconsin-Madison.
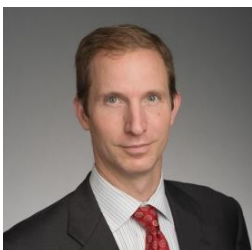
Daniel Bergstresser is Associate Professor of Finance at the Brandeis International Business School. Bergstresser's research focuses on municipal finance and on the impact of taxation, regulation, and market structure on financial markets. This research has been published in the *Journal of Law and Economics*, the *Journal of Financial Economics*, *The Quarterly Journal of Economics*, *Review of Financial Studies*, and the *Journal of Public Economics*, and has been widely cited in both the academic and business press. He earned a Ph.D. in Economics at MIT, and earned an A.B. at Stanford. In addition to his service at Brandeis, Bergstresser has also served as an Associate Professor at Harvard Business School, as Head of the European Credit Research group at Barclays Global Investors, and on the research staff of the Board of Governors of the Federal Reserve System.

Christopher Berry is the William J. and Alicia Townsend Friedman Professor at the University of Chicago Harris School of Public Policy and the College. He is the academic director of the Center for Municipal Finance. His research interests include metropolitan governance, the politics of public finance, and intergovernmental fiscal relations. Berry is the author of *Imperfect Union: Representation and Taxation in Multilevel Governments* (Cambridge UP, 2010), winner of the Best Book Award in Urban Politics from the American Political Science Association, and many other scholarly publications. For access to Professor Berry's writings, please visit his research website. Prior to joining Harris, Berry was a postdoctoral fellow at Harvard University in the Department of Government's Program on Education Policy and Governance. He received his BA from Vassar College, Master of Regional Planning (MRP) from Cornell University, and PhD from the Department of Political Science at the University of Chicago. Professor Berry is also active in community development and was formerly a director in the MetroEdge division of ShoreBank, which was America's oldest and largest community development financial institution.

Donald Boyd has over three decades of experience analyzing state and local government fiscal issues. Boyd is a co-director of the State and Local Government Finance Project at the Center for Policy Research at the University at Albany's Rockefeller College, and consultant to several organizations that analyze or model aspects of state and local government finances, including the Pew Charitable Trusts and the Open Source Policy Center at the American Enterprise Institute. In addition, he is an affiliated expert at the Open Research Group. Previously, Boyd was director of fiscal studies at the Rockefeller Institute of Government, where he led the Institute's analysis of state and local government finances in the 50 states. While at the Institute, he also developed and led its *Pension Simulation Project*, examining risks associated with public pension plans. His previous positions include executive director of the State Budget Crisis Task Force; director of the economic and revenue staff for the New York State Division of the Budget; and director of the tax staff for the New York State Assembly Ways and Means Committee. Boyd holds a Ph.D. in managerial economics from Rensselaer Polytechnic Institute.

Keith Brainard is the research director for the National Association of State Retirement Administrators. Brainard leads the organization's effort to inform public retirement system directors regarding public pension administration, design, and policy. NASRA members are the directors of more than 90 mostly statewide public retirement systems in the United States. Combined, these systems hold assets of more than $3.5 trillion to fund pension and other benefits for most of the nation's 25 million working and retired employees of state and local government. Brainard is co-author of *The Governmental Plans Answer Book*, and he has discussed public pension issues before Congress, state legislative committees, public pension boards of trustees, and on broadcast television and radio. He created the Public Fund Survey, predecessor to the Public Plan Database and winner of the Government Finance Officers Association's *Award for Excellence*. Brainard has served as vice-chairman of the Texas Pension Review Board since 2013 and he served two terms as a member of the Georgetown, Texas city council. He previously served as manager of budget and planning for the Arizona State Retirement System and as a fiscal analyst for the Texas and Arizona legislatures. Brainard holds a BA and an MPA from the University of Texas at Austin.

Patrick Brett is a Managing Director and Head of Citi's Municipal Debt Capital Markets and Capital Solutions businesses. Brett's team works with U.S. municipal securities issuers and investors to raise capital for infrastructure projects and other key financing priorities, and provides issuers with a full range of derivatives, credit products and alternative capital solutions. Brett began his career at Citi in 2000 as a summer analyst in Municipal Sales & Trading and has held multiple positions in the company. Prior to his current role, he was Managing Director, Head of Global Municipal Marketing, for nine years. Brett is a member of the Board of Directors of the Municipal Securities Rulemaking Board (MSRB), the regulator for the municipal securities marketplace. Brett is a term member of the Council on Foreign Relations, an advisory board member at the Univ. of Pennsylvania, Institute for Urban Research, and an honorary Ambassador for the Brazilian city of Porto Alegre. Brett is a graduate of the Univ. of Pennsylvania, where he received a degree in finance from the Wharton School; in anthropology; and a master's of science in South American archaeology. He is fluent in Spanish and speaks Portuguese.

Dario Cestau has a Ph.D. in Economics from the Tepper School of Business, Carnegie Mellon University. He holds a position as an Assistant Professor at the finance department of the IE Business School, Madrid, Spain, since 2014. His research interests include public finance, municipal bonds, and political economy. His research has been published in top academic journals such as the *Journal of Political Economy,* the *Journal of Monetary Economics, Public Choice,* and the *Annual Review of Financial Economics.* He teaches courses on Financial Markets, Corporate Finance, and Advanced Corporate Finance in the Master's in Management program at the IE Business School. He is also involved in several research projects with the United States Military Academy.

Donnie Charleston is the Director for State and Local Fiscal Engagement at the Urban Institute. His work focuses on translating research for decision makers, and translating the needs and priorities of state policy makers for the Urban Institute's researchers. Much of his efforts are focused on Urban's State and Local Finance Initiative in its Tax Policy Center. He previously worked in the NC Legislature and with local government agencies including the NC Association of Counties. On the research front, he previously served as Assistant Director for a University research institute, and as the Economic Policy Manager at the NCSU Institute for Emerging Issues. He is a seasoned professional with extensive policy and research expertise in government and service systems reform initiatives. He has earned Bachelor of Science degrees in Sociology and Psychology and an MA in Sociology. His doctoral work at NC State University focused on Economic Sociology and Industrial/Organizational Sociology.

Gang Chen is an Assistant Professor in Public Administration at the University at Albany's Rockefeller College of Public Affairs and Policy. He is also the co-director of the State and Local Government Finance Project (SLGF) at the Center for Policy Research at Rockefeller College. His research focuses on state and local budgeting, financial management, and public pension governance. Chen's work has been published in leading academic journals. His research projects on U.S. state and local pension systems have been funded by the Center for Retirement Research at Boston College, the Equable Institute, the Crane Foundation, and the Laura and John Arnold Foundation.

Stephanie Cheng is an assistant professor of accounting at the Freeman School of Business, Tulane University. She received her PhD in accounting from the University of Toronto and dual bachelor's degrees in psychology and economics from the University of Texas at Austin. Her research interests include the roles of alternative information sources in capital markets, disclosure and reporting incentives, and emerging issues in the municipal bond market.

Natalie Cohen is President and founder of National Municipal Research, a consulting and research company focused on U.S. state and local government finance. She publishes on these topics at [The Public Purse](). A seasoned analyst, writer and speaker, she started her career at New York City OMB, worked at a rating agency, several bond insurers and is known for her published work on municipal bond defaults. She most recently spent eight years building and branding municipal research at Wells Fargo Securities. She was awarded the "Lifetime Achievement" award by Smith's Research and Gradings and the "Women Trailblazers" award from the Bond Buyer. She has an MPA from New York University's Wagner School of Public Service and a BA from Hampshire College in Amherst, Massachusetts. She has been a member of the Government Accounting Standards Advisory Council, a former Board member of the National Federation of Municipal Analysts. She served two terms on the Government Finance Officers Association standing budget committee and is on the GFOA Committee on Retirement Benefits Administration. She is also a Board member of Build America Mutual, a bond insurer, and chairs the Audit Committee.
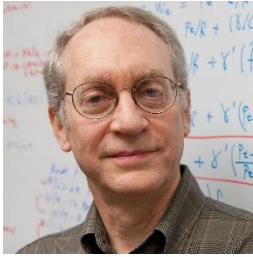
Robert Costrell is Professor of Education Reform and Economics and holds the Endowed Chair in Education Accountability at the University of Arkansas. Costrell has both an academic and policy-making background. His academic career has featured seminal publications on teacher pensions, the economic theory of educational standards, income distribution and testing, and school finance litigation. These have appeared in the *American Economic Review*, the *Journal of Political Economy*, the *Journal of Public Economics*, the *Journal of Pension Economics and Finance*, and *Education Finance and Policy*, as well as general interest publications, such as *Brookings Papers on Education Policy* and *Education Next*. He has also written commentaries for the *Wall Street Journal* and *Education Week*. From 1999 to 2006, Costrell served in major policy roles for three governors of Massachusetts, including policy research director and chief economist. As education advisor to Governor Mitt Romney, he had primary responsibility for crafting and implementing the administration's education policy. Costrell joined the faculty at the University of Arkansas in August 2006 and was the founding graduate director of the Ph.D. program in Education Policy. He received his B.A. in economics from the University of Michigan in 1972 and his Ph.D. in economics from Harvard University in 1978.

Matt Fabian is a Partner at Municipal Market Analytics (MMA) where he leads market and credit research. Fabian is the lead contributor MMA's weekly Municipal Outlook and biweekly Municipal Default Trends. His expansive knowledge of the idiosyncratic characteristics of the municipal market has made him one of the primary voices of the industry. Prior to MMA in 2015, Fabian served in a similar capacity at Municipal Market Advisors since 2006. Prior to his current position, Fabian was the lead municipal research analyst for UBS and UBS Wealth Management Research. Earlier in his career he was an underwriting analyst at FSA, and a municipal rating analyst with Moody's Investors Service. Fabian has served as Chairman of the Municipal Analysts Group of New York (MAGNY) and was on the Board of Governors of the National Federation of Municipal Analysts (NFMA). He is routinely a featured speaker at numerous industry conferences on a wide range of topics, including investment strategy, demographic trends, bond insurance, tax reform, derivatives, defaults, state governments, and municipal credit. Fabian's efforts in municipal default analysis led to the creation of MMA's Credit Impairment Database, the most complete resource of troubled issuers in the industry. Fabian has an undergraduate degree from Penn State University, and Masters of Public Administration from the Maxwell School of Citizenship and Public Affairs at Syracuse University.

Daniel Garrett researches issues surrounding municipal finance, corporate and personal income taxation, and financial regulation. He has published studies on international tax avoidance and local labor market responses to corporate tax incentives. Garrett's research is particularly interested in how public entities raise funds--primarily through issuing bonds or raising taxes--and how those mechanisms affect businesses, consumers, investors, and workers. Garrett is an Assistant Professor at the Wharton Finance Department. He did his graduate research in Economics at Duke University. Before grad school, he worked as a Tax Analysis Professional for the Ohio Department of Taxation.

Brad Gewehr is a Senior Vice President in the Municipal Products Group at Bank of America, where he specializes in advising issuer clients on credit structure and rating strategies. He has nearly 30 years of experience in municipal finance, having served as a rating analyst, investment banker and director of both sell-side and buy-side municipal research teams. Gewehr works with Bank of America's issuer clients to help develop rating and investor relations strategies. He has participated in the structuring and introduction of numerous new credits into the market. A significant added focus in recent years has been assisting issuers in analyzing and disclosing their retirement benefit obligations. Before joining Bank of America Merrill Lynch, Gewehr headed a fixed-income research team for UBS Wealth Management; prior to that, he was a municipal investment banker with UBS Securities, concentrating on pension, tobacco settlement, and special assessment credits. As a Managing Director in the Public Finance Group of Moody's Investors Service, Gewehr supervised ratings on municipal tax-backed, utility and transportation revenue, and lease credits in 26 states. As a senior member of Rating Committee, he participated in rating decisions for major municipal credits throughout the United States. Gewehr earned an MBA in Finance from New York University and a BA from Amherst College.

Tracy Gordon is a senior fellow with the Urban-Brookings Tax Policy Center, where she researches and writes about fiscal challenges facing state and local governments, including budget trade-offs, intergovernmental relations, and long-term sustainability. Before joining Urban, Gordon was a senior economist with the White House Council of Economic Advisers. She was also a fellow at the Brookings Institution, assistant professor at the University of Maryland School of Public Policy, and fellow at the Public Policy Institute of California. Gordon was a member of the District of Columbia Infrastructure Task Force and the District of Columbia Tax Revision Commission. She serves on the board of trustees for the American Tax Policy Institute and the National Tax Association. Gordon has written extensively on state and local government finances, including taxes, budgeting, intergovernmental relations, municipal debt, and pensions. She has appeared in the *New York Times*, *Wall Street Journal*, and *Washington Post* and on C-SPAN, Fox Business News, and NPR. Recent publications include *Assessing Fiscal Capacities of States: A Representative* Gordon holds a PhD in public policy with a concurrent MA in economics from the University of California, Berkeley.

Gary Hall is a Partner with Siebert Williams Shank & Co., LLC (the nation's largest minority-owned investment bank) and a Partner with American Triple I Partners, an infrastructure private-equity firm. He formerly was an investment banker with JPMorgan, an attorney with Gardner, Carton and Douglas (now Faegre Drinker Biddle & Reath LLP) and a White House Fellow assigned to the U.S. Department of Treasury. Hall serves on the boards of the National Recreation Foundation and Bay Area Council. He also on the Advisory Board of the University of Chicago Harris Public Policy School's Center for Municipal Finance and is the immediate past Chairman of the Municipal Securities Rulemaking Board.

Chris Hartshorn was an early advisor and now Chief Commercial Officer at risQ, directing and driving the company's entrance and focus on the municipal bond ecosystem. These activities include working with the cohorts of buy-side, sell-side, bond insurance, and issuer advisory firms, as well as with partners including MMA and ICE Data Services. He is also Founder and Partner at Level 11 Analytics, a real estate investment analytics start-up. In addition, he previously directed strategy, product development and delivery as Chief Research Officer of Lux Research, an emerging technology subscription intelligence service to hundreds of the world's most innovative companies and agencies; and as Chief Technology Officer at Callaghan Innovation, the New Zealand Government's innovation agency, which included support of the country's vibrant FinTech and GovTech start-up communities. He brings first-hand experience in developing and growing information services businesses and commercializing multidisciplinary solutions drawing from physical, life and data sciences.

Kent Hiteshew is a Deputy Associate Director in the Office of Financial Stability at the Federal Reserve Board. He was hired in March 2020 to bolster the Fed's municipal market expertise in the wake of the sharp market dislocations resulting from the COVID pandemic. He has been responsible for developing the Fed's crisis response, including the Municipal Liquidity Facility. Hiteshew has more than 35 years of experience delivering public finance solutions to both state and local government debt issuers and federal policy makers. Prior to joining the Federal Reserve Board, Hiteshew was a Strategic Advisor to EY's infrastructure advisory and municipal restructuring businesses. Hiteshew was also a Senior Fellow for Municipal Finance at the Marron Institute of New York University. From 2014 to 2017, Hiteshew served as the first Director of the Office of State and Local Finance at the US Department of the Treasury. At Treasury, he designed policies to inform senior officials at Treasury and the White House concerning infrastructure finance, the municipal bond market, public pensions and fiscal distress. In particular, he served on the President's Build America Infrastructure Task Force to promote federal policies to encourage greater private investment in public infrastructure. He led the team at Treasury that responded to the financial and economic crisis in Puerto Rico and developed the legislative proposals that became the basis for Congressional enactment of PROMESA in June 2016. Before joining Treasury, Hiteshew was a public finance banker with JP Morgan and its predecessor firm, Bear Stearns, where he was lead banker for major issuers across the municipal finance sector, including state and local general obligation bonds, tax-backed and enterprise system revenue bonds and mortgage and real estate-related revenue and project finance debt instruments. He led financings over the course of his career that raised billions of dollars in the municipal capital markets for infrastructure and affordable housing. Hiteshew is a graduate of Rutgers University and holds a Masters in City Planning from the University of North Carolina, Chapel Hill.

Jill Jaworski joined PFM as a managing director in 2010 and manages the Chicago financial advisory practice. She has over 20 years of experience in public finance. Jaworski serves a range of clients in the Chicago area, and as a member of PFM's transportation team, she serves transit clients nationally with a focus on the South and Mid-Atlantic regions. Jaworski has extensive experience serving as either financial advisor for technically complex long-term assignments. She works with both high-grade and distressed credits. In addition to her deep knowledge of Chicago area governments, she has broad experience in transportation with a specialization in public transit. Her work includes project finance and both tax-backed and revenue-based credits. As part of her engagements, she has overseen and managed the creation of FTA and TIFIA compliant financial models, long-term capital planning, the development of new credits, the implementation of springing covenants in existing indentures, creation and implementation of rating agency strategies, obtaining credit enhancement, creation of debt policies, and evaluation and implementation of derivative strategies. Her experience includes public bond sales, private placements, TIFIA and RRIF loans and FFGA Grants.

Marc Joffe is a senior policy analyst at Reason Foundation. After a long career in the financial industry, including a senior director role at Moody's Analytics, Joffe's research now focuses on sovereign and sub-sovereign credit risk and fiscal sustainability. His financial research has been published by the California State Treasurer's Office, UC Berkeley, the Mercatus Center at George Mason University and the Macdonald-Laurier Institute among others. Joffe is a regular contributor to *The Fiscal Times* and his op-eds have also appeared in *The Guardian*, Bloomberg View and RealClearMarkets. He has an MBA from New York University and an MPA from San Francisco State University.

Lauren Larson is Director of the Office of State Planning and Budgeting, responsible for developing the Governor's annual budget request for Colorado, forecasting State revenue, and conducting research and evaluation of programs. Prior to this appointment in 2018, Larson was Director of State Operations in the Office of the Lt. Governor & Chief Operating Officer, where she improved the State's service to its customers. She first joined the state in 2012, leading regulatory reform efforts while directing the Division of Professions & Occupations at the Colorado Department of Regulatory Agencies. Prior to joining the State, Larson managed a $50 billion budget at the White House Office of Management & Budget where she was Chief of the Treasury Branch under Presidents Bush and Obama. She negotiated win-win budget solutions for more than a dozen federal agencies, even in a budget reduction environment. During the 2008 financial crisis, she ensured strong fiscal controls for the $700 billion financial rescue known as TARP (Troubled Asset Relief Program). As an economist at PricewaterhouseCoopers, Larson analyzed and priced the profit drivers in aerospace, software, and pharmaceutical companies, helping clients expand overseas and maintain profitable business and tax models. She also improved international tax administration, working with other countries while a senior advisor at the U.S. Department of the Treasury, Internal Revenue Service. Early in her career, Larson managed projects at nonprofits in London and New York City. She holds degrees from Syracuse University (BA) and the University of Michigan (MPP).

Fitzroy Lee was appointed Deputy Chief Financial Officer and Chief Economist for the Office of the Chief Financial Officer (OCFO) in October 2009. Prior to becoming the Chief Economist, Lee was the Director of Revenue Estimation. Lee has worked for the Economic Research Service of the United States Department of Agriculture (USDA), where he co-authored a paper on the efficacy of user-fees for funding the meat inspection program. He was also an Assistant Professor of Economics at Tulane University in New Orleans. Lee has published papers on revenue forecasting and tax policy in nationally recognized academic journals. He is a member of the board of directors of the National Tax Association. Lee holds a Bachelor of Science degree in Applied Physics and Computer Science from the University of the West Indies (Jamaica) and earned his Ph.D. in Economics at The Andrew Young School of Policy Studies at Georgia State University.

Pengkai Lin is a third-year Ph.D. candidate in Accounting at the Freeman School of Business, Tulane University. His research interests include financial disclosures, accounting information and asset prices, and financial intermediaries. He is especially interested in analyzing emerging issues through the lens of capital markets.

Cate Long is the founder of Puerto Rico Clearinghouse, a consultancy for Puerto Rico bondholders and other stakeholders. As a municipal bonds writer for Reuters Long predicted the insolvency of the Puerto Rico Commonwealth in March, 2012 and has covered the fiscal, political and legal challenges of the territory for eight years. Long worked extensively with staff of the U.S. Congress in the development and passage of the Puerto Rico Oversight, Management, and Economic Stability Act or "PROMESA". Long worked in Washington on the development of Dodd-Frank and federal laws regulating credit rating agencies. For Dodd Frank she lead an open source financial reform project for Hill staff, regulators and the media. Her expertise lies in analyzing and clearly explaining complex financial topics. Long's work shaped the laws governing credit rating agencies and she was successful in having equivalent disclosure of underwriting information to raters adapted for asset backed securities. Long also successfully lobbied for federal law to require the standard application of credit rating symbols between asset classes within a credit rating agency. Long holds two U.S. patents for the standardization and visualization of fixed income market data which she is currently commercializing. In the early 2000s Long was one of the bond market leaders who migrated the protocol for electronic trading of equities, FIX, to fixed income. Electronic trading is a rapidly growing sector within the secondary fixed income market. Prior to founding her own firm she worked for British and Dutch investment bank ING Barings. Long received a BA in from Goddard College in Plainfield, Vermont.

Patrick Luby is the Senior Municipal Bonds Strategist at CreditSights. Luby's expertise in the Municipals market and industry trends has received acknowledgment from *The Bond Buyer, Bloomberg, The Wall Street Journal, Barrons.com* and *ETF.com*, among other financial and trade media, where he is frequently quoted on market moving developments. His unique perspective draws on his experience in the trading, research, sales, distribution and management of municipal bonds and municipal bond products, including separately managed accounts (SMAs), mutual funds and ETFs. Luby's current areas of focus include the impact on the market from the increasing reliance on taxable municipal bonds by issuers and the influence of fixed income ETFs on investor behavior and market structure. Luby serves on the Board of Directors of the Municipal Analysts Group of New York (MAGNY) and is a member of the National Federation of Municipal Analysts (NFMA). Additionally, he is a member of the Fixed Income Analysts Society and serves the industry as Chair of the Technical Advisory Committee for the Municipal Bonds for America Coalition. Luby received his BA from the University of Florida.

Justin Marlowe is a Research Professor at the University of Chicago's Harris School of Public Policy. His research and teaching are focused on public financial management, and he has published four books – including the first open-access textbook on public financial management – and dozens of articles on public capital markets, infrastructure finance, government financial disclosure, and public-private private partnerships. Since 2017 he has served as Editor-in-Chief of *Public Budgeting & Finance.* He is an admitted expert witness in federal and state courts, and has served on technical advisory bodies for the State of Washington, the California State Auditor, the Governmental Accounting Standards Board, the National Academy of Sciences, the Bill and Melinda Gates Foundation, and many other public, private, and non-profit organizations. Prior to academia he worked in local government in Michigan. He is a Certified Government Financial Manager and an elected Fellow of the National Academy of Public Administration, and he holds a Ph.D. in political science and public administration from the University of Wisconsin-Milwaukee.

Todd Metcalfe is an economist at Moody's Analytics, where he works on a wide variety of research areas including housing, state and local government finance, and the municipal bond market. Metcalfe's work includes developing quantitative insights into the ways in which state and local government policy relate to the underlying economy. His work has included revenue forecasting projects for several long-time clients and working closely with a team of other modelers to develop and maintain new and innovative ways to measure risk in the municipal bond market. Currently, he is working on building real estate related products and forecasts to better understand risks associated with changing economic conditions in commercial and residential markets. Before joining Moody's Analytics, Metcalfe worked for the Regional Economic Studies Institute at Towson University as a senior economist, where he analyzed the impact of various public policies on Maryland's economy. His work there included analyzing economic impacts of environmental policies in the state. Metcalfe holds a PhD in Social Science from Syracuse University, where his dissertation focused on analyzing the impacts of the Regional Greenhouse Gas Initiative. He also earned an MA in Political Science from Syracuse University, an MS in Agricultural and Applied Economics from Virginia Tech, and a BA in economics from the University of Maryland.

Josh McGee is a faculty member in the Department of Education Reform at the University of Arkansas and chief data officer for the State of Arkansas. McGee is a leading retirement policy expert and has written extensively about retirement plan design, benefit security, and sustainability. He has provided expert testimony and technical assistance in more than 50 jurisdictions across the country and routinely provides state and local governments with retirement policy advice. McGee is the former chairman of the Texas State Pension Review Board.

Preston Niblack is the Deputy Comptroller for Budget at the Office of the New York City Comptroller. As Deputy Comptroller for Budget, Niblack is responsible for overseeing the work of the Budget Bureau including monitoring of New York City's fiscal and cash position, analyzing and reporting on the City budget, and issuing reports on various budgetary and economic issues. Prior to joining the Comptroller's Office, Niblack served as Director of the Finance Division for the New York City Council for six years under Speaker Christine Quinn. In this capacity, he oversaw a staff of 30 in their annual budget review, budget approval process, and fiscal analyses of legislation and other proposals. He was also the lead negotiator on the City budget on behalf of the City Council, and developed legislative and policy initiatives in budget and tax policy, housing, economic development, and other areas.
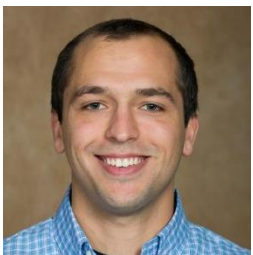
Jacob Ott is a Ph.D. student in accounting at the University of Minnesota. His primary research interests include regulation, financial institutions, municipalities, enforcement, and external monitors. Prior to his Ph.D. studies, he received a BS and MS in economics and finance from Southern Illinois University-Edwardsville.

Michael Pagano is Dean of the College of Urban Planning and Public Affairs at the University of Illinois at Chicago, Director of UIC's Government Finance Research Center, professor of public administration, Fellow of the National Academy of Public Administration (elected 2006), former co-editor of *Urban Affairs Review* (2001-2014), and Nonresident Senior Fellow of the Brookings Institution's Metropolitan Policy Program. He has published eleven books, including *The People's Money*, *Metropolitan Resilience in a Time of Economic Turmoil*, *Cityscapes and Capital* and *The Dynamics of Federalism*, and over 80 articles on urban finance, capital budgeting, federalism, transportation policy, infrastructure, urban development and fiscal policy; since 1991, he has written the annual City Fiscal Conditions report for the National League of Cities. He is the 2019 recipient of the Aaron Wildavsky award for a lifetime contribution to the study of budgeting and financial management from the Association for Budgeting and Financial Management of the American Society for Public Administration, the Donald Stone Distinguished Scholar award from the Section on Intergovernmental Administration and Management of the American Society for Public Administration (2015), and the Daniel Elazar Distinguished Scholar Award, from the Section on Federalism and Intergovernmental Relations of the American Political Science Association (2011). He earned a B.A. in Latin American Studies from the Pennsylvania State University and a Ph.D. in Government from the University of Texas at Austin in 1980.

Kelly Posenau is a PhD student in the Finance Program at the University of Chicago Booth School of Business. Her research interests include empirical corporate finance, financial intermediation, and private markets. Her recent work examines the effects of new regulations in financial markets. Prior to her graduate work, Posenau worked as a research assistant and financial systems analyst for the Federal Reserve Board of Governors. She received a BS in economics and a BA in political science from the University of Pittsburgh.

Natalie Pruett is currently completing a PhD in urban economics at the London School of Economics and Political science where her research centers on urban housing and resilience. Previously, she was a Research Fellow with the Michigan State University Extension Center for Local Government Finance and Policy. Pruett is an Urban Strategist with experience in urban planning, policy, research, and communications. Her work focuses on urban development, urban resilience, vacant property adaptation, public land management, land banking, green infrastructure, and real estate valuation and taxation. She works with an array of government and nonprofit organizations that have included the City of Flint, Genesee County Land Bank Authority, Community Foundation of Greater Flint, and Center for Community Progress. She is the author of nationally recognized plans. She has authored several policy reports and academic papers, including publications on tax foreclosure and community-based greening in Flint. Pruett holds a Master of Science from the London School of Economics and Political Science. She also holds a Bachelor of Science in Economics and a Bachelor of Arts in Political Theory and Constitutional Democracy from the James Madison College at Michigan State University.

Lori Raineri is the President of Government Financial Strategies, a registered municipal advisor. Her professional certifications include MSRB Series 50 and 54 Qualifications, Certified Independent Professional Municipal Advisor and Certified Fraud Examiner. In 2018, Raineri was honored with the prestigious S. Kenneth Howard Lifetime Achievement Award by the Association for Budgeting and Financial Management. Raineri currently serves on the Board of Directors of the California League of Bond Oversight Committees and has previously served on the boards of the National Association of Municipal Advisors and the Collaborative for High Performance Schools. Raineri has developed capital financing plans for hundreds of public agencies. She serves the public sector more generally via published articles and speaking engagements, often for California statewide associations, notably County Treasurer-Tax Collectors, County Auditor-Controllers, County Assessors, School Business Officials, and the Cal CPA Foundation. Raineri serves as an expert witness/litigation consultant in municipal bond cases across the United States. At the age of 26, Raineri founded Government Financial Strategies in 1988 after having worked as an investment banker. Raineri received her B.A. in Philosophy from the University of California, Berkeley, and received her M.S. in Financial Analysis from the University of San Francisco.

Kim Rueben is the Sol Price fellow and director of the State and Local Finance Initiative at the Urban-Brookings Tax Policy Center. Rueben is an expert on state and local public finance and the economics of education. Her work examines issues of state and local public finance and focuses on state budget and tax issues, intergovernmental relations, fiscal institutions, and the economics of education, including federal and state financing of both K–12 and postsecondary education and how decisions affect different individuals across states. She serves on a Council of Economic Advisors for the Controller of the State of California and a National Academy of Sciences panel on the economic and fiscal consequences of immigration, and she was on the DC Tax Revision Commission in 2013. In addition to her position at Urban, Rueben is an adjunct fellow at the Public Policy Institute of California (PPIC). Before joining Urban, Rueben was a research fellow at the PPIC. She has served as an adjunct professor at the Georgetown University Public Policy Institute and the Goldman School of Public Policy at the University of California, Berkeley; as a visiting scholar at the San Francisco Federal Reserve Bank; and as a member of the executive board of the American Education Finance Association. Rueben received a BS in applied math-economics from Brown University, an MS in economics from the London School of Economics, and a PhD in economics from the Massachusetts Institute of Technology.

Richard Ryffel is a part-time Professor of Finance Practice at Washington University in St. Louis' Olin Business School. During his 30-year career in investment banking and asset management, Ryffel advised colleges and universities, hospitals, cities, states, airports, school districts, and corporations on financings and capital structure, and led hundreds of financings in both the taxable and tax-exempt markets. He previously worked at A.G. Edwards (now Wells Fargo Advisors), Bank of America, Edward Jones and J.P. Morgan. In 2012, while in industry, he conceived and launched the Municipal Finance Conference with Professor Daniel Bergstresser of Brandeis University.

Mayor Libby Schaaf was born and raised in Oakland, which she proudly describes as, "The most unapologetic Sanctuary City in America." During her tenure, Oakland has undergone an economic revitalization and building boom, as well as cut gun violence in half. Her "17K/17K Housing Plan" has helped increase Oakland's affordable housing production, stabilize rents, and decrease evictions. Her innovative public-private partnerships Keep Oakland Housed and Cabin Communities are credited with preventing 1,800 families a year from losing their housing, while resolving some of Oakland's most unsafe street encampments. In 2019, Gov. Gavin Newsom appointed Mayor Schaaf to California's first Council of Regional Homeless Advisors. She created Oakland's first Department of Transportation, whose equity-based paving plan is the first of its kind in the nation and will make previously underserved neighborhoods safer, while addressing the city's decades-old infrastructure backlog. Mayor Schaaf is most proud of launching the Oakland Promise, a bold cradle-to-career initiative to send more low-income Oakland kids to preschool and college. The Oakland Promise has sent more than 1,400 Oakland students (and counting) to college with scholarships and mentors, and will give every baby born into poverty a $500 college savings account at birth.

Eric Scorsone is the founding director of the Michigan State University (MSU) Extension Center for Local Government, Finance and Policy. Scorsone is an MSU Extension specialist, and a professor of economics in the Department of Agricultural, Food, And Resource Economics. He worked as senior economist at the Michigan Senate Fiscal Agency in 2010 and returned to Michigan State University in 2011. He also worked at MSU from 2005 to 2010. Prior to working at MSU in 2005, Scorsone developed award-winning Extension programs as an assistant professor in the Department of Agricultural Economics at the University of Kentucky in the areas of rural health economics and economic development. He also served as an Economist for the Colorado Governor's Office of State Planning and Budget and as a Senior Economist for the City of Aurora, Colorado. He received his Ph.D. from Colorado State University, where his dissertation focused on economic models of growth in the Denver housing and labor markets. He received his Master's degree from Michigan State University and a B.B.A. from Loyola University of Chicago. He has also worked on international development projects in Thailand, Macedonia and Indonesia and has taught at the taught at the University of Bologna, Italy and University of Valencia, Spain in public performance management.

Louise Sheiner is a senior fellow in Economic Studies and policy director for the Hutchins Center on Fiscal and Monetary Policy. She had served as an economist with the Board of Governors of the Federal Reserve System since 1993, most recently as the senior economist in the Fiscal Analysis Section for the Research and Statistics Division. In her time at the Fed, she was also appointed Deputy Assistant Secretary for Economic Policy at the U.S. Department of the Treasury (1996), and served as Senior Staff Economist for the Council of Economic Advisers (1995-96). Before joining the Fed, Sheiner was an economist at the Joint Committee on Taxation. Sheiner pursues research on health spending and other fiscal issues. She received her Ph.D. in economics from Harvard University, as well as an undergraduate degree in biology at Harvard.

Manpreet Singh is an Assistant Professor in Finance at Scheller College of Business at Georgia Institute of Technology. He received his Ph.D. in 2016 from the Hong Kong University of Science and Technology, Hong Kong. He holds a bachelor's degree and a master's degree with an emphasis in Economics from the University of Delhi. His teaching interests are in corporate finance. His research interest includes corporate finance, taxes, minimum wage, e-commerce, and role of legal institutions. His research papers have been published in top finance journals, Review of Financial Studies, and Journal of Financial Economics. His research paper documenting the impact of minimum wage on the financial health of small businesses has been covered by popular media and policy journals, including the Wall Street Journal, National Affairs, and Ameican Experiment. Further, his study on e-commerce highlights the impact of e-commerce on the retail sector. His co-authored paper studying the impact of corporate income taxes on innovation was recently discussed by Austan Goolsbee (former Chairperson of the Council of Economic Advisers during President Barrack Obama's administration) and Glenn Hubbard (former Chairperson of the Council of Economic Advisers during President George W Bush's Council) at NBER conference.

Akheil Singla is an assistant professor at the School of Public Affairs at Arizona State University. His research focuses on public financial management at the state and local level, with a specific focus on local government financial health and capital markets. His work has been published at venues such as *Public Budgeting & Finance*, *Municipal Finance Journal*, *Urban Affairs Review*, and *Public Administration*. Prior to joining ASU, he received his PhD from The Ohio State University's John Glenn College of Public Affairs.

Cailin Slattery is an Assistant Professor in the Economics Division at Columbia Business School. Her research currently focuses on the strategic interactions between local governments, the effectiveness of state and local tax incentives, the role of politics in economic development policy, and the spillover effects of firm location decisions. Slattery received her B.A. from Washington and Lee University and her Ph.D. from the University of Virginia.

Sarah Snyder is a Managing Director at Ramirez & Co., Inc. Ramirez is a full-service investment bank whose primary business is the structuring, pricing, underwriting, marketing and trading of municipal bonds. Based in New York City, Snyder has worked around the country in municipal finance for the last 15 years, spending most of her time with clients in the east and Midwest. She has led over $12 billion of municipal bond transactions across various sectors including many of the largest water and sewer, transportation and airport issuers across the country. Throughout her experience, she has worked diligently with clients in presenting their credits which has led to numerous rating agency upgrades and introduction of credits to new investors. She has also actively worked with issuers to finance green infrastructure projects with the use of Green Bonds and targeting investors with ESG priorities. She understands the importance of networking and empowering women in the finance industry and remains active in various organizations, including currently serving on the Board for Ladies First, the Mid-Atlantic Women in Public Finance chapter. Snyder earned a B.A. in finance, accounting and international business from the Olin School of Business at Washington University in St. Louis.

David Victor is a professor of industrial organization and innovation at the School of Global Policy and Strategy at UC San Diego. He is a director of the campus-wide Deep Decarbonization Initiative, which focuses on real world strategies for bringing the world to nearly zero emissions of warming gases. Victor is also an adjunct professor in Climate, Atmospheric Science & Physical Oceanography at the Scripps Institution of Oceanography and a professor (by courtesy) in Mechanical and Aerospace Engineering. Prior to joining the faculty at UC San Diego, Victor was a professor at Stanford Law School where he taught energy and environmental law. He is also co-Chair of The Brookings Institution's Initiative on Energy and Climate. His research focuses on regulated industries and how regulation affects the operation of major energy markets and their impact on the climate. Victor authored "Global Warming Gridlock," which explains why the world hasn't made much diplomatic progress on the problem of climate change while also exploring new strategies that would be more effective. The book was recognized by The Economist as one of the best books of 2011. Victor was a convening lead author for the Intergovernmental Panel on Climate Change (IPCC), a United Nations-sanctioned international body with 195 country members that won the Nobel Peace Prize in 2007. He is a member of the World Economic Forum's Global Future Council on Energy, where his work focuses on the role of natural gas as a transition fuel to deep decarbonization as well as a member of the Council on Foreign Relations. His Ph.D. is from the Massachusetts Institute of Technology and A.B. from Harvard University.
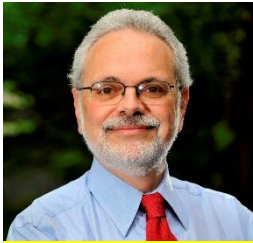
David Wessel is a senior fellow in Economic Studies at Brookings and director of the Hutchins Center on Fiscal and Monetary Policy, the mission of which is to improve the quality of fiscal and monetary policies and public understanding of them. He joined Brookings in December 2013 after 30 years on the staff of The Wall Street Journal where, most recently, he was economics editor and wrote the weekly Capital column. He is a contributing correspondent to The Wall Street Journal, appears frequently on NPR's Morning Edition and tweets often at @davidmwessel. David is the author of two New York Times best-sellers: "In Fed We Trust: Ben Bernanke's War on the Great Panic" (2009) and "Red Ink: Inside the High Stakes Politics of the Federal Budget" (2012.) He has shared two Pulitzer Prizes, one in 1984 for a Boston Globe series on the persistence of racism in Boston and the other in 2003 for Wall Street Journal stories on corporate scandals. David has served as a member of the Bureau of Labor Statistics' Data Users Advisory Committee. He also has taught in the Dartmouth Tuck School of Business Global 2030 executive education program and in the journalism program at Princeton University. A native of New Haven, Conn., and a product of its public schools, David is a 1975 graduate of Haverford College. He was a Knight-Bagehot Fellow in Business and Economics Journalism at Columbia University in 1980-81.

Simon Wu is the Chief Economist for the Municipal Securities Rulemaking Board (MSRB). With two decades of experience applying economic expertise to securities policymaking, Wu oversees economic analysis of MSRB rulemaking and municipal market transparency initiatives and leads related statistical econometric and financial analysis. Before joining the MSRB, Wu served as a Director for the Berkeley Research Group (BRG), where he provided financial economic expertise on many aspects of securities and banking issues. Prior to BRG, he was vice president at NERA Economic Consulting, where he served as a financial economic expert on securities trading, market structure, best execution, investment management and financial institution risk management. Wu also served as Chief Economist at the Federal Housing Finance Agency (FHFA), Office of Inspector General, where he won the Inspector General Award in 2012 and 2014. During his role at FHFA, he was involved in regulatory oversight on mortgage-backed securities issuance and trading, capital market risk management and unsecured lending by banks. He began his career as senior economist at the Financial Industry Regulatory Authority (FINRA) and subsequently Nasdaq, where he led economic studies in support of securities rule proposals and policy impact analysis. Wu has a doctorate and master's degree from Vanderbilt University and a bachelor's degree from Belmont University.

Yimeng Yin is an economic researcher and modeler focusing on quantitative analysis of public policies. His work over the past three years has focused primarily on modeling the finances of public pension funds and setting their finances in the context of the finances of their contributing governments. His previous positions have included research assistant at the Rockefeller Institute of Government, and assistant researcher at the Center for Human and Economic Development Studies at Peking University where he conducted research on health policy issues in China, including health system reform, government health expenditures, and projection of health and human resource expenditures. Yin is a doctoral candidate in economics at the University at Albany; his dissertation topic involves linking a stochastic simulation model of pension fund finances to a parsimonious stochastic macroeconomic model of real output, inflation, and investment returns for several asset classes. Yin's skills and interests include public economics, econometrics, economic forecasting, financial modeling, and simulation modeling.

Jerry Zhirong Zhao is the Gross Family Professor of Public & Nonprofit Management at the Hubert Humphrey School of Public Affairs, University of Minnesota, Twin Cities. He holds a Ph.D. in Public Administration from University of Georgia, and earned his bachelor's and master's degrees in Urban Planning from Tongji University (China). Zhao's research focuses on public budgeting and finance, in particular urban infrastructure finance – infrastructure revenue sources and capital structure, strategic allocation of infrastructure outlays, and the impact of infrastructure investment. Inside the Humphrey School, Zhao founded the Institute for Urban & Regional Infrastructure Finance (IURIF) in 2017, and directs the institute. Zhao has been a prolific scholar in public budgeting and finance. He has published two books and more than 40 articles in peer-reviewed journals, including *Public Administration Review*, *Journal of Public Administration Research and Theory*, *American Journal of Public Administration*, *Public Budgeting & Finance*, *Public Finance Review*, *Municipal Finance Journal*, and *Journal of Public Budgeting, Accounting and Financial Management*, etc. Zhao has led many funded projects supported by National Science Foundation, US Department of Transportation, and the Lincoln Institute of Land Policy, etc., and served as a consultant to many organizations, such as the World Bank, Asian Development Bank, National Governor Association, and National Council of State Legislatures. Zhao serves broadly in professional associations in the field of public administration. In American Society of Public Administration (ASPA), he serves on the National Council, and chaired the Section on Chinese Public Administration. In Network of Schools of Public Policy, Affairs, and Administration (NASPAA), Zhao serves on the Commission on Peer Review and Accreditation (COPRA), in which he contributes with his expertise on budgeting and his international perspectives.