

Fintech and the New Financial Landscape

November 13-14, 2018



FEDERAL RESERVE BANK
OF PHILADELPHIA



Wharton
UNIVERSITY of PENNSYLVANIA

Fintech and the New Financial Landscape

Fintech has been playing an increasing role in shaping financial and banking landscapes. Financial companies are benefiting from artificial intelligence and machine learning (AI/ML) technologies in their credit decisions, custom marketing programs, custom wealth management services, fraud detection, cybersecurity, anti-money laundering, Know Your Customers (KYC programs), and more.

The use of alternative data sources, big data, and complex AI/ML algorithms allows faster service and a lower cost of credit assessments and monitoring, creating savings that could potentially be passed on to consumers. Some examples of these alternative data sources include information drawn from utility payments, electronic records of deposit and withdrawal transactions, insurance claims, bank account transfers, use of mobile phones or the Internet, other personal data, such as consumers' occupation or details about their education, and more. Public statements and reports from some lenders indicate that they no longer rely on the traditional credit risk measures when determining loan qualifications. Concerns have emerged about the use of alternative data sources by fintech lenders and the impact on financial inclusion. These innovations could carry a risk of disparate treatment because some lenders may not fully understand the black box algorithms used through some AI vendors. The conference intends to provide a platform for industry practitioners, regulators, policymakers, business leaders, and researchers to come together and share their vision and wisdom.

We hope that the rich discussion from the conference will provide guidance in developing the best policy solutions that would result in greater efficiencies and benefits to all parties. Our in-depth understanding of the interplay among the various activities, rules, policies, and guidance would help to enhance policy effectiveness without potential unintended consequences.

Committees

Conference Organizing Committee

Julapa Jagtiani

Federal Reserve Bank of Philadelphia

Rosalind Bennett

Federal Deposit Insurance Corporation

Christopher Feeney

Bank Policy Institute

Itay Goldstein

The Wharton School of the University of Pennsylvania

Richard J. Herring

The Wharton Financial Institutions Center

Aaron Klein

Center on Regulation and Markets, Brookings Institution

Kevin Werbach

The Wharton School of the University of Pennsylvania

Conference Advisory Committee

Kelvin Chen

Board of Governors of the Federal Reserve System

Carol Evans

Board of Governors of the Federal Reserve System

William G. Spaniel

Federal Reserve Bank of Philadelphia

Tuesday, November 13

- 9:00 a.m.** Registration
- 10:00 a.m.** **Opening Remarks and Introduction**
Patrick T. Harker (President and CEO, FRB Philadelphia)
- 10:10 a.m.** **Opening Keynote**
Lael Brainard (Governor, Board of Governors of the Federal Reserve System)
- 10:40 a.m.** **Session 1: Fintech CEO Perspectives: Using AI to Identify the “Invisible Prime”**
Moderator: **Patricia Hasson** (President and CEO, Clarifi, and Member of the Board of Directors, FRB Philadelphia)
- Speakers: **Al Goldstein** (Chairman and CEO, Avant Holding Co., and CEO, Amount)
Jeffrey Meiler (Founder and CEO, Marlette Funding, LLC)
Ken Rees (CEO, Elevate)
Jason Gross (Cofounder and CEO, Petal)
- 11:55 a.m.** Break
- 12:10 p.m.** **Session 2: Fintech CEO Perspectives: Data Aggregation and Alternative Data**
Moderator: **Paul Saltzman** (Partner, White & Case LLP)
- Speakers: **Paul Gu** (Cofounder, Upstart)
Sanjoy Malik (CEO, Urjanet, Inc.)
James Wu (Founder and CEO, MonJa)
- 1:00 p.m.** Lunch
- 2:20 p.m.** **A Conversation with Patrick Harker**
Patrick T. Harker (President and CEO, FRB Philadelphia)
Moderator: **Richard J. Herring** (Director and Cofounder, The Wharton Financial Institutions Center)

Agenda

- 3:00 p.m.** **Session 3: Fintech Industry Research**
Moderator: **Julapa Jagtiani** (Senior Special Advisor, FRB Philadelphia)
- Paper 1: “Fintech: Fact Versus Fiction”
John Wirth (TransUnion)
- Paper 2: “Fintech Small Business Lending Efficiency”
Usman Ahmed (PayPal Inc.)
- Paper 3: “Developing Transparent Credit Risk Scorecards More Effectively: An Explainable Artificial Intelligence Approach”
Gerald Fahner (FICO)
- Paper 4: “Trended Credit Data Attributes in VantageScore Model”
Nick Rose (VantageScore Solutions)
- 4:15 p.m.** Break
- 4:30 p.m.** **Session 4: The Roles of Alternative Data in Expanding Credit Access and Bank/Fintech Partnership**
Moderator: **Christopher Feeney** (Executive Vice President, Bank Policy Institute)
- Speakers: **Nathaniel Hoopes** (Executive Director, Marketplace Lending Association)
Arlen W. Gelbard (General Counsel, Cross River Bank)
Scott Pearson (Partner, Ballard Spahr, LLP)
Brad Pennington (Chief Risk Officer, PayJoy)
Travis Skelly (Senior Vice President, Citi Ventures)
Brian King (CRO, Digital Finance, Goldman Sachs/Marcus)
- 5:25 p.m.** **Evening Keynote**
Jelena McWilliams (Chairman, Federal Deposit Insurance Corporation)
Introduced by **Patrick T. Harker** (President and CEO, FRB Philadelphia)
- 6:00 p.m.** Conference Reception

Wednesday, November 14

7:45 a.m. Breakfast

8:25 a.m. **Session 5: Responsible Fintech Small Business Lending**
Moderator: **Ami Kassar** (Founder and CEO, MultiFunding LLC)

Speakers: **Bernardo Martinez** (U.S. Managing Director, Funding Circle)

Louis Caditz-Peck (Director of Public Policy, LendingClub)

Sam Taussig (Head of Global Policy, Kabbage)

9:10 a.m. **Session 6: Legal Issues Around Fintech, Alternative Data, and Fair Lending**

Moderator: **Aaron Klein** (Policy Director, Brookings Institution)

Speakers: **Frank R. Borchert** (General Counsel, Marlette Funding, LLC)

Cory Kampfer (Head of Operations and Chief Legal Officer, OnDeck)

Richard H. Neiman (Head of Regulatory and Government Affairs, LendingClub)

Jonah Crane (Regulator in Residence, FinTech Innovation Lab)

Todd H. Baker (Senior Fellow, Columbia Business School, Columbia Law School)

10:00 a.m. Break

10:15 a.m. **Session 7: More Recent Academic Fintech Research**
Moderator: **Itay Goldstein** (The Wharton School of the University of Pennsylvania)

Paper 1: "Fintech Borrowers: Lax-Screening or Cream-Skimming?"

Marco Di Maggio (Harvard Business School and National Bureau of Economic Research)

Vincent W. Yao (Georgia State University)

Agenda

Paper 2: “The Real Effects of Financial Technology”
Piotr Danisewicz (University of Bristol) and Ilaf Elard
(Shanghai University of International Business and
Economics)

Paper 3: “Consumer Lending Efficiency: Commercial
Banks Versus Fintech Lenders”
Joseph P. Hughes (Rutgers University), Julapa Jagtiani
(FRB Philadelphia), and Choon-Geol Moon (Hanyang
University)

Paper 4: “Reintermediation in FinTech: Evidence from
Online Lending”
Tetyana Balyuk (Emory University) and Sergej
Davydenko (University of Toronto)

**11:45 a.m. Session 8: Looking Ahead — Artificial Intelligence and
Quantum Computing in Fintech and the Future of
Fintech Credit Funding**

Moderator: **Kevin Werbach** (Professor of Legal Studies
and Business Ethics, The Wharton School)

Speakers: **Michael P. Perrone** (AI Partnerships Program
Director, IBM Thomas J. Watson Research Center)

Mark Jackson (Scientific Lead, Cambridge Quantum
Computing)

Hanna Halaburda (NYU Stern School and Bank of Canada)

Jose N. Penabad (Cofounder and CIO, HCG Fund
Management)

Edward Conrads (Cofounder and President, Colchis
Capital)

12:35 p.m. Closing Remarks
William G. Spaniel (FRB Philadelphia)

Lunch (boxes available for takeaway)



Usman Ahmed

**Head of Global Public Policy
PayPal Inc.**

Usman Ahmed is the head of Global Public Policy at PayPal Inc. His work covers a variety of global issues including financial services regulation, innovation, international trade, and entrepreneurship. He has presented on these subjects at conferences and universities around the world and has published in the World Economic Forum's *Global Information Technology Report*, MIT Press' *Innovations Journal*, and Boston University's *International Law Journal*. Ahmed is also an adjunct professor of law at Georgetown University Law School, where he teaches a course on fintech law and policy. Before joining PayPal, Ahmed worked at a number of policy think tanks in the Washington, D.C. area focusing on good governance issues. Ahmed has a J.D. from the University of Michigan, an M.A. from Georgetown University's School of Foreign Service, and a B.A. from the University of Maryland.



Todd H. Baker

**Senior Fellow at the Richard Paul Richman Center for
Business, Law, and Public Policy
Columbia Business School, Columbia Law School**

Todd H. Baker is a Senior Fellow at the Richard Paul Richman Center for Business, Law, and Public Policy at Columbia Business School and Columbia Law School. He works on issues arising from the digital transformation of financial services, with a special focus on consumer financial resilience, employer-sponsored financial health, and emerging business models for both traditional banks and nonbank fintech financial services providers. Baker also is the managing principal at Broadmoor Consulting, LLC, a board member at the Opportunity Fund (a nonprofit small business lender), a member of the Academic Research Council at the Urban Institute, and a senior adviser to several financial technology firms. Baker has written for publications including the *Financial Times*, the *Wall Street Journal*, and *American Banker*, speaks frequently at industry conferences. He is often quoted in the press as an industry expert. He is a former banking executive and law firm partner whose career has led him from corporate law to C-suite strategic leadership roles at domestic and international banks and roles as an academic, consultant, writer, speaker, and commentator on banking, financial technology, consumer financial access, and regulation issues.

Biographies

Before his fellowship at Columbia, Baker was a Senior Fellow at the Harvard Kennedy School's Mossavar-Rahmani Center for Business & Government, the chief corporate strategy and development officer at MUFG Americas Holdings/ Union Bank NA; TD Bank, N.A.; and Washington Mutual, Inc.; and a corporate partner with the international law firms Gibson, Dunn & Crutcher LLP and Morrison & Foerster LLP.



Tetyana Balyuk

**Assistant Professor of Finance
Goizueta Business School, Emory University**

Tetyana Balyuk is an assistant professor of finance at the Goizueta Business School at Emory University. Balyuk's area of expertise is empirical corporate finance with a specific focus on fintech and lending. Her research received an award for the NFA Best Paper on FinTech in September 2016. Balyuk focuses on whether fintech innovation can mitigate financing frictions and correct market failures in markets with asymmetric information and adverse selection. She is also interested in the issuance of information-intensive debt and its benefit to corporations. Balyuk's research projects link her line of inquiry to literature on capital structure, financial intermediation, and household finance. Balyuk is teaching business economics and fintech at undergraduate and M.B.A. levels at the Goizueta Business School. She also taught corporate finance courses at the Rotman School of Management and international finance and business at the Taras Shevchenko National University of Kyiv. Balyuk won the 2015 Rotman School of Management Teaching Award. Before Emory University, she was an assistant professor at the International Finance Department of the Taras Shevchenko National University of Kyiv and an economic advisor for Telenor Group Ukraine. Balyuk has a Ph.D. in finance from the Joseph L. Rotman School of Management at the University of Toronto, and a C.Sc. and an M.Sc. in international economics, both from the Taras Shevchenko National University of Kyiv.



Frank R. Borchert

**General Counsel and Secretary
Marlette Funding, LLC**

Frank R. Borchert, general counsel and secretary at Marlette Funding, LLC, has extensive experience in the financial services industry and in serving consumers and small businesses. Before joining Marlette, he was at JPMorgan Chase, where his roles included chief regulatory counsel for the consumer businesses and general

counsel for Chase Card Services. Before that, he was senior advisor, counselor to the Secretary of Housing and Urban Development, and general counsel at the Small Business Administration in George W. Bush's administration. Borchert has also been a leader at Capital One Financial Corp., deputy general counsel, and on several not-for-profit community and trade association boards of directors.



Lael Brainard

Governor

Board of Governors of the Federal Reserve System

Lael Brainard took office as a member of the Board of Governors of the Federal Reserve System on June 16, 2014, to fill an unexpired term ending January 31, 2026. Before her appointment to the Federal Reserve Board, Brainard was Undersecretary of the U.S. Department of Treasury from 2010 to 2013 and Counselor to the Secretary of the Treasury in 2009. During this time, she was the U.S. Representative to the G-20 Finance Deputies and G-7 Deputies and a member of the Financial Stability Board. She received the Alexander Hamilton Award for her service.

From 2001 to 2008, Brainard was vice president and founding director of the Global Economy and Development Program and held the Bernard L. Schwartz chair at the Brookings Institution, where she built a new research program to address global economic challenges. Brainard was the deputy national economic adviser and deputy assistant to President Bill Clinton and his personal representative to the G-7/G-8. From 1990 to 1996, Brainard was assistant and associate professor of applied economics at the Massachusetts Institute of Technology's Sloan School of Management. She has published on many economic topics and is the editor or coeditor of several books. Previously, Brainard worked in management consulting at McKinsey & Company.

Brainard has a Ph.D. in economics from Harvard University, where she was awarded a National Science Foundation Fellowship. She also has an M.S. from Harvard and a B.A. with university honors from Wesleyan University. She is the recipient of a White House Fellowship.

Biographies



Louis Caditz-Peck

**Director of Public Policy
LendingClub**

As director of public policy for LendingClub, Louis Caditz-Peck is interested in creating a financial system that uses technology innovation to help people. He joined LendingClub five years ago to develop and launch its small business lending program, using technology innovation and responsible lending to fill the gap businesses face in access to capital. He was instrumental in passing the nation's first small business truth in lending act (California SB 1235); forming the Small Business Borrowers' Bill of Rights, an industry/nonprofit consensus on responsible lending standards signed by over 90 organizations; and helping to pass data innovation legislation at the federal level. Before LendingClub, he worked in small business lending and consumer protection policy at Self-Help, a leading community development financial institution. He also worked with Kiva Zip, a nonprofit peer-to-peer small business lending platform. He has spoken on fintech innovation and financial inclusion at the Massachusetts Institute of Technology, Harvard University, the Center for Financial Services Innovation, the Cato Institute, the Small Business Administration, and state and federal legislative bodies. Caditz-Peck attended the M.B.A. program at University of California, Berkeley, and has a bachelor's degree from Wesleyan University.



Edward (Ted) Conrads

**Cofounder and President
Colchis Capital**

As cofounder and president of Colchis Capital, Ted Conrads is responsible for overseeing investment sourcing and due diligence, firm-wide strategy, and product development with the senior leadership team as Colchis Capital. He has 15 years of experience in the alternative asset industry in operations management and portfolio management, including 13 years as cofounder and principal of Colchis Capital, concentrating on product development and portfolio management and as head of financial partner relationships. Before Colchis, Conrads spent two years as an associate responsible for model development and execution with Sterling Stamos, based in New York City. Conrads has a B.A. in economics from Stanford University.



Jonah Crane

**Regulator in Residence
FinTech Innovation Lab**

Jonah Crane is regulator in residence at the FinTech Innovation Lab in New York and executive director of the RegTech Lab in Washington, D.C. He is also an adviser to financial technology start-ups, helping them navigate the U.S. regulatory landscape and regulatory change as they scale. He previously was deputy assistant secretary at the U.S. Department of the Treasury, a policy adviser to Senator Chuck Schumer, and a corporate attorney focusing on mergers and acquisitions at Milbank, Tweed, Hadley & McCloy LLP in New York. Crane has a J.D. from the New York University School of Law.



Piotr Danisewicz

**Assistant Professor of Finance
University of Bristol**

Piotr Danisewicz is an assistant professor of finance at the School of Economics, Finance and Management at the University of Bristol. Previously, he was an assistant professor of finance at Lancaster University and a visiting researcher at the International Division at the Bank of England. Danisewicz focuses his research in the area of financial intermediation. He examines the effects of regulation and supervision on bank conduct and the real economy. His work has been published in *The Review of Financial Studies*, the *Journal of International Economics*, and the *Journal of Financial Intermediation*.



Marco Di Maggio

**Assistant Professor of Business Administration, Finance Unit
Harvard Business School, and
Faculty Research Fellow
National Bureau of Economic Research**

Marco Di Maggio is an assistant professor of business administration in the finance unit at Harvard Business School and a faculty research Fellow at the National Bureau of Economic Research. Before joining Harvard in 2016, he was a professor of finance and economics at Columbia Business School. Di Maggio's current research focuses on financial intermediation, including the intersection of macroeconomics and finance. His work has been published in the *American Economic Review*, the *Journal*

Biographies

of *Financial Economics*, *The Review of Financial Studies*, and *Management Science*, and cited by the *Wall Street Journal*, *The Economist*, Bloomberg, *Institutional Investor*, and *Forbes*. In 2016, Poets and Quants named him to its list of the Best 40 Under 40 Business School Professors; he was also recently awarded the 2018 AQR Asset Management Institute Young Researcher Award, which “recognizes talented new academics producing relevant, innovative and impactful research, who have made a significant contribution to the field of asset management.” His paper with Amir Kermani, “Credit-Induced Boom and Bust,” won the 2018 RFS Rising Scholar Award from *The Review of Financial Studies*.

Di Maggio has a Ph.D. in economics from the Massachusetts Institute of Technology and a bachelor’s degree in economics from the University of Naples Federico II.



Gerald Fahner

**Analytic Science/Senior Principal Scientist
FICO**

Gerald Fahner is senior principal scientist in FICO’s Scores division. He specializes in innovative algorithms that turn data and domain knowledge into superior insights, predictions, and decisions. Fahner is also responsible for the core algorithms underlying FICO’s Scorecard development platform. His work on causal modeling won the best paper award at the Credit Scoring and Credit Control XI conference and was awarded a patent. Fahner also has patents in marketing analytics and analytic value chain modeling. He was most recently awarded a patent for “Coupon Effectiveness Indices,” a scalable, automated, causal modeling-based technique to characterize customers by their differential and multidimensional responses to personalized coupon offerings. Before joining FICO in 1996, he was a researcher in artificial intelligence, neural networks, and robotics at the International Computer Science Institute in Berkeley. Fahner has a Ph.D. in computer science from the University of Bonn.



Christopher Feeney

**Executive Vice President
Bank Policy Institute**

Christopher Feeney is an executive vice president at the Bank Policy Institute (BPI) and president of BITS, the technology policy division of BPI. Previously, he was

interim CEO of Financial Services Roundtable. As president of BITS, Feeney collaborates with the nation's largest financial institutions, the administration, regulators, and policymakers to promote effective cybersecurity and operating practices and to develop and shape the industry's use of emerging technologies. Feeney has more than 30 years of experience in executive management, technology, business/sales management, and operating roles at software companies, banks, broker dealers, and investment management firms. His background includes founding a strategic advisory firm; consulting on behalf of boards, CEOs, and leadership teams; and managing director and CIO at LPL Financial. Over his career, he has developed the ability to lead transformations and establish firms for success. He has been CEO and president, and in executive roles at Thomson Financial, Bank of America, Telerate, Multex, and Broadridge Financial.

Feeney is a board and operating management member of fTLD Registry Services, a board member and executive committee member of Sheltered Harbor, a board advisor at Quovo, Inc., and an executive committee member of the Financial Services Sector Coordinating Council and cochair of its Policy Committee. He was recently a board director at Scottrade, Inc. and Scottrade Bank before its sale to TD Ameritrade and TD Bank, where he was the Risk Committee chair. He is also a National Association of Corporate Directors Governance Fellow.



Arlen W. Gelbard

**Executive Vice President, General Counsel
Cross River Bank**

Arlen W. Gelbard is executive vice president and general counsel at Cross River Bank. He has an extensive portfolio of expertise advising, managing, and operating in dynamic and complex legal and regulatory environments for global, publicly traded financial institutions, and smaller private entities. Before joining Cross River, Gelbard was senior adviser at Treliant Risk Advisors, where he consulted on complex and sensitive compliance and risk management issues. He was president of E*TRADE Bank and later became general counsel and chief administrative officer of E*TRADE Financial Corporation, where he led diversification and growth.

Previously, Gelbard was general counsel of Acacia Federal Savings Bank, where he led the merger into Stifel Bank & Trust and became president of the mid-Atlantic region for Stifel. Gelbard was also chief administrative officer at Jefferson National Financial Corp., now part of Nationwide Insurance. He was

Biographies

also an executive adviser at Aquiline Capital Partners, a private equity investor. Previously, he was partner of the law firm Hofheimer Gartlir & Gross LLP in New York City.

Gelbard is a member of the New York State and District of Columbia bars. He previously was on Operation Hope's Global board of directors and is on the Northeast Regional Board, where he provides the management team with leadership and guidance. Gelbard has a J.D. and M.B.A. from Boston University and an A.B. (cum laude) in politics from Brandeis University.



Al Goldstein

Chairman and CEO, Avant Holding Co.;
CEO, Avant

Al Goldstein is chairman and CEO of Avant Holding Co., a provider of credit alternatives to middle-income consumers in the U.S., and CEO of Avant. Avant also offers its technology solutions to large financial institutions via its Powered by Avant global technology solution. Goldstein calls himself a serial entrepreneur who has built multiple companies throughout his professional career, creating over 2,500 jobs and over \$4 billion of enterprise value.

Prior to Avant, Goldstein cofounded Pangea Properties, a real estate platform that uses its operational strength, technology, data analytics, and investment capability to institutionalize previously inaccessible real estate assets, and is chairman. Since 2009, Pangea has expanded to 15,000-plus apartment units in multiple markets and launched a commercial real estate lending and credit business, Pangea Mortgage Capital. Goldstein is also chairman of Eligo Energy, a retail electricity supplier based in Chicago, and is a board member of Spring Labs, which is building a decentralized network for identity and credit to serve as the foundation for a more efficient delivery of financial services. Goldstein is actively involved in various charitable and civic organizations focused on entrepreneurship, urban community improvement, and global peace including AIPAC, iVenture at the University of Illinois and Pangea Cares.



Itay Goldstein

Joel S. Ehrenkrantz Family Professor, Finance Department
The Wharton School of the University of Pennsylvania

Itay Goldstein is the Joel S. Ehrenkrantz Family Professor in the Finance Department at the Wharton School of the

University of Pennsylvania. He is also the coordinator of the Ph.D. program in finance. He holds a secondary appointment as a professor of economics at the University of Pennsylvania.

Goldstein has been on the faculty of the Wharton School since 2004. He is an expert in the areas of corporate finance, financial institutions, and financial markets, focusing on financial fragility and crises and on the feedback effects between firms and financial markets. His research has been published in many top academic journals and featured in the popular press. Goldstein is the executive editor of *The Review of Financial Studies* and was an editor of the Finance Department in *Management Science* and the *Journal of Financial Intermediation*. He has been an academic adviser at the Federal Reserve Banks of New York, Philadelphia, and Richmond, the Bank of Canada, and the Committee for Capital Markets Regulation. He was the cofounder and the first president of the Finance Theory Group. He is a director of the American Finance Association and the Western Finance Association and has been a director of the Financial Intermediation Research Society. Before joining Wharton, Goldstein was on the faculty of Duke University's Fuqua School of Business. He has also worked in the research department of the Bank of Israel. Goldstein has a Ph.D. in economics from Tel Aviv University.



Jason Gross

**Cofounder and CEO
Petal**

Jason Gross is cofounder and CEO of Petal, a new type of credit card company to make credit honest, simple, and accessible. Petal is reinventing the credit card, using more financial data to democratize credit scoring and employing clean, intuitive design to make credit transparent and easier to use responsibly. Petal has raised over \$50 million from VCs, investment banks, and impact investors, and today offers a Visa credit card designed for underserved consumers. Gross is on the Consumer Advisory Board of the Bureau of Consumer Financial Protection (BCFP), has submitted multiple comment letters to the BCFP, and has been a speaker and guest lecturer on topics ranging from financial inclusion to regulatory innovation. Before Petal, Gross worked at Arbor and practiced law at Sullivan & Cromwell and Gunderson Dettmer, where he represented financial institutions, technology companies, and venture capitalists. Gross has a J.D. from Harvard Law School and a B.A. from the University of Florida.

Biographies



Paul Gu

**Cofounder
Upstart**

Paul Gu, a cofounder of Upstart, built its original predictive models and now leads the company's product and data science efforts. Gu dropped out of the economics and computer science program at Yale University after being selected for Peter Thiel's 20 Under 20 Fellowship. He built his first profitable trading algorithms while in college and briefly worked in risk analysis at the D.E. Shaw Group. Upstart is the first U.S. lending platform to fully leverage machine learning to price credit and automate the borrowing process. This technology identifies high-quality borrowers misunderstood by the FICO system. In addition to its direct-to-consumer lending platform, Upstart provides technology to banks and other partners via Powered by Upstart.



Hanna Halaburda

**Visiting Professor, NYU Stern School of Business, and
Senior Economist, Bank of Canada**

Hanna Halaburda is a visiting professor at NYU Stern School of Business and a senior economist at the Bank of Canada. Before joining Stern, she was an assistant professor at the Harvard Business School. In her research, Halaburda studies how technology influences network effects and interactions in the marketplace and how technology affects business models. Much of her work focuses on the competition between platforms including Apple's iPhone versus Android or eHarmony versus Match. Her research also included the development of digital currencies and blockchain technologies. Halaburda's work has been published in *Management Science*, the *American Economic Journal*, *Games and Economic Behavior*, and other academic journals. She also wrote *Beyond Bitcoin: The Economics of Digital Currency* (with Miklos Sarvary), a book on digital currencies.



Patrick T. Harker

**President and CEO
Federal Reserve Bank of Philadelphia**

Patrick T. Harker took office on July 1, 2015, as the 11th president and CEO of the Federal Reserve Bank of Philadelphia. In this role, Harker participates on the Federal Open Market Committee, which formulates the nation's monetary policy.

Before taking office at the Philadelphia Fed, Harker was the 26th president of the University of Delaware. He was also a professor of business administration at the university's Alfred Lerner College of Business and Economics and a professor of civil and environmental engineering at the College of Engineering. Before joining the University of Delaware in 2007, Harker was dean and Reliance Professor of Management and Private Enterprise at the Wharton School of the University of Pennsylvania. Before being appointed dean in 2000, Harker was the Wharton School's interim dean and deputy dean as well as the chair of its operations and information management department. In 1991, he was the youngest faculty member in Wharton's history to be awarded an endowed professorship as UPS Transportation Professor of the Private Sector. He has published/edited nine books and more than 100 professional articles. From 1996 to 1999, he was editor-in-chief of the journal *Operations Research*. In 2012, Harker was named a Fellow of the Institute for Operations Research and the Management Sciences (INFORMS) and a charter fellow of the National Academy of Inventors. He was also named a White House Fellow by President George H. W. Bush in 1991 and was a special assistant to FBI Director William S. Sessions from 1991 to 1992. Harker has a Ph.D. in civil and urban engineering, an M.A. in economics, and an M.S.E. and B.S.E. in civil engineering, all from the University of Pennsylvania.



Patricia Hasson

**President and CEO
Clarifi**

In her 20 years as Clarifi president, Patricia Hasson has become a recognized thought leader in financial capability and inclusion. Leveraging that knowledge, she has sharpened Clarifi's impact, creating pathways to lifelong financial wellness for clients and communities. Clarifi has earned a national reputation under Hasson's guidance, operating at a regional level in and around Philadelphia with 15 offices in three states. In 2016, the Philadelphia Fed appointed Hasson as a Class B member of its board of directors. She is on the Oversight Board for the Philadelphia Mayor's Office of Community Empowerment and Opportunity and is a member of the Forum of Executive Women. Previously, she was on the board of directors for the Greater Philadelphia Chamber of Commerce. Hasson served three-year terms on both the inaugural Consumer Advisory Board of the Consumer Financial Protection Bureau and the Federal Reserve Board Consumer Advisory Council. Before being appointed to the Philadelphia Fed's board, she was on a number of regional and national bank community development advisory boards. She frequently provides expert commentary on financial and consumer trends to journalists

Biographies

and media organizations nationwide. She also imparts insights to community organizations as a mentor for a new generation of consumer advocates. Before joining Clarifi, Hasson spent more than 12 years as a banking executive with a diverse consumer and commercial lending background spanning credit cards, education finance, and auto finance. Hasson has an M.B.A. from Villanova University and B.S. in finance from the University of Dayton.



Richard J. Herring

Jacob Safra Professor of International Banking, Professor of Finance

The Wharton School of the University of Pennsylvania

Richard J. Herring is Jacob Safra Professor of International Banking and Professor of Finance at The Wharton School of the University of Pennsylvania, where he is director and cofounder of the Wharton Financial Institutions Center. He was also vice dean and director of the Wharton Undergraduate Division and director of the Lauder Institute. He is the author of more than 150 articles, monographs, and books on financial regulation, international banking, and international finance. His research has been funded by grants from the National Science Foundation, the Ford Foundation, and the Sloan Foundation. Outside the university, he was cochair of the U.S. Shadow Financial Regulatory Committee and executive director of the Financial Economist's Roundtable; he is currently a member of the FDIC Systemic Risk Advisory Committee and the Systemic Risk Council. He is also an independent director of the Deutsche Asset Management Mutual Fund Family, the Aberdeen Japan and Singapore Funds, and Barclays Bank Delaware.



Nathaniel Hoopes

**Executive Director
Marketplace Lending Association**

Nathaniel Hoopes is the executive director of the Marketplace Lending Association (MLA). He joined the MLA after his role as executive director at the Financial Services Forum in Washington D.C., where he worked on policy issues affecting the nation's largest financial firms. He has spent more than a decade working in financial services and public policy. He also played a key policy role on Capitol Hill after the financial crisis, including in the development and bipartisan negotiation of major amendments to the 2010 Dodd–Frank Wall Street Reform and Consumer Protection Act. Hoopes also worked on developing legislation to expand opportunities for small businesses and start-ups through equity

crowdfunding as part of the Jumpstart our Business Startups (JOBS) Act. Hoopes' prior experience includes time as a private equity investor where he focused on middle market buyouts.



Joseph P. Hughes

**Profession of Economics
Rutgers University**

Joseph P. Hughes is a professor of economics at Rutgers University. He has been a Fellow of the Wharton Financial Institutions Center and a visiting scholar at the Federal Reserve Bank of Cleveland, the Federal Reserve Bank of Philadelphia, the Federal Reserve Bank of New York, and the Office of the Comptroller of the Currency. His research has been published in such journals as the *American Economic Review*; the *Journal of Banking and Finance*; the *Journal of Economic Theory*; the *Journal of Financial Intermediation*; the *Journal of Financial Services Research*; the *Journal of Money, Credit, and Banking*, and the *Review of Economics and Statistics*.

Hughes' research on banking cost uncovers evidence of large economies of scale across banks of all sizes with the largest economies at the largest financial institutions — a result that suggests proposed restrictions to limit the size of financial institutions, if effective, may put large banks at a competitive disadvantage in global markets where competitors are not similarly constrained. He has also examined the role of the too-big-to-fail policy in contributing to measured scale economies at the largest financial institutions. He has applied stochastic frontier techniques to estimate potential market value and the systematic failure to achieve it: market-value inefficiency, which he has applied to financial institutions to evaluate the efficiency of their investment strategies and capital structure. Hughes has a Ph.D. from the University of North Carolina at Chapel Hill.



Mark Jackson

**Scientific Lead
Cambridge Quantum Computing**

Mark Jackson is scientific lead at Cambridge Quantum Computing, part of the adjunct faculty at Singularity University, and a director of the BoldlyGo Institute. He spent 10 years researching superstring theory and cosmology, coauthoring almost 40 technical articles. To promote the public understanding of science, he founded the science crowdfunding platform Fiat Physica and nonprofit Science Partnership Fund. Jackson has a Ph.D. in theoretical physics from Columbia University.

Biographies



Julapa Jagtiani

**Senior Special Advisor
Federal Reserve Bank of Philadelphia**

Julapa Jagtiani is senior special advisor at the Federal Reserve Bank of Philadelphia and a Fellow member of the Wharton Financial Institutions Center. She joined the Philadelphia Fed as a special advisor in the Supervision, Regulation, and Credit Department in 2008. In this role, she has conducted research and participated in several supervisory policy and implementation projects, including serving on the Federal Reserve Fintech Task Force and a member of the Risk Council Fintech Subgroup. Previously, Jagtiani was a senior economist at the Chicago Fed and the Kansas City Fed, and before that, she was associate professor in the Finance Department at Baruch College, the City University of New York. She has published articles in top finance journals, including the *Journal of Financial Economics*; the *Journal of Money, Credit, and Banking*; and the *Journal of Banking and Finance*. Her recent research has focused on issues related to fintech, use of alternative data and artificial intelligence/machine learning in credit decisions, small business lending, and community bank mergers. Outside the Federal Reserve System, Jagtiani is on the Leadership Council Board of Directors for the American Red Cross. She was a Rockefeller Foundation Fellowship recipient. Jagtiani has a Ph.D. and M.B.A. from New York University's Stern School of Business.



Cory Kampfer

**Head of Operations and Chief Legal Officer
OnDeck**

Cory Kampfer is the head of operations and chief legal officer for OnDeck, the world's largest nonbank online lender to small business. He joined OnDeck in 2011 as chief legal officer in the company's New York office. He helped lead OnDeck's IPO in 2014 and was named the company's head of operations in 2017. Before OnDeck, Kampfer was an associate at Paul, Weiss, Rifkind, Wharton & Garrison LLP from 2007 to 2011. Kampfer has a J.D. from the Duke University School of Law, an M.B.A. from Duke University's Fuqua School of Business, and a B.B.A. in international business from the University of Georgia, where he graduated first in class.



Ami Kassar

**Founder and CEO
MultiFunding LLC**

Ami Kassar is the founder and CEO of MultiFunding LLC, a Philadelphia-based consulting firm that specializes in helping business owners across the country develop creative, cost-saving alternatives for their business debt needs and structure. He is the author of *The Growth Dilemma* and speaks nationally to entrepreneurs and C-level executives who desire to grow their companies, improve cash flow, and/or restructure debt. His interactive and timely presentations address the real-world cash-flow problems entrepreneurs face on a daily basis. For over 20 years, he has challenged people to think differently about their businesses and educated them on how to use leverage to create wealth responsibly. As the “go-to” thought leader in business financing, Kassar is frequently quoted in national media and is a sought-after speaker at business and industry events nationwide. He writes a weekly column for *Inc. Magazine* and has advised the White House, the U.S. Department of the Treasury, and the Federal Reserve Bank.



Brian King

**Chief Risk Officer, Digital Finance
Goldman Sachs**

Brian King is chief risk officer for digital finance at Goldman Sachs. In this role, King has the first line of defense responsibility for credit risk, business risk, fraud strategy, and collections strategy for Marcus by Goldman Sachs products. He joined Goldman Sachs in 2018 as a managing director. King has 25 years of consumer and small business banking and lending experience. He joined Goldman Sachs after working at JPMorgan Chase, where his responsibilities included his role as chief risk officer for card services and operational risk officer for the Consumer and Community Bank. King began his career at MBNA America Bank (acquired by Bank of America) where he held various risk, marketing, analytic, strategy, and operations leadership positions after beginning in their management development program.

King is a founding board member of the Survivor Summit Foundation, which supports cancer survivorship. He has a bachelor’s degree in business administration from Loyola University Maryland.

Biographies



Aaron Klein

**Policy Director
Center on Regulation and Markets
Brookings Institution**

Aaron Klein is a Fellow in economic studies and the policy director of the Center on Regulation and Markets at the Brookings Institution. He focuses on financial regulation and technology, macroeconomics, and infrastructure finance and policy. Previously, Klein directed the Bipartisan Policy Center's Financial Regulatory Reform Initiative and was deputy assistant secretary for economic policy from 2009–2012 at the U.S. Department of the Treasury. Before joining the Treasury Department, he was chief economist of the Senate Banking, Housing and Urban Affairs Committee for Chairman Chris Dodd (D-CT) and Paul Sarbanes (D-MD). He worked on financial regulatory reform issues including crafting and helping secure passage of the Dodd–Frank Wall Street Reform and Consumer Protection Act of 2010. He also played leading roles on housing finance reform, transportation, and infrastructure policy. Klein is a graduate of Dartmouth College and Princeton University.



Sanjoy Malik

**CEO
Urjanet**

Sanjoy Malik is the CEO of Urjanet, Inc., billed as the world's largest utility data network. He is a seasoned entrepreneur and experienced executive who has built and operated several successful technology businesses. In 1999, Malik founded Air2Web, a leader in mobile marketing services. Under his leadership, Air2Web grew from a pioneering wireless services provider to a market leader and global strategic mobile partner. Before Air2Web, Malik founded Synchronologic, a company that created the first enterprise-class data synchronization platform for mobile devices. He was responsible for raising venture capital, hiring the management team, and establishing partnerships with key industry leaders.



Bernardo Martinez

**U.S. Managing Director
Funding Circle**

As U.S. managing director at the Funding Circle, Bernardo Martinez is responsible for overseeing the overall strategic

direction and day-to-day operation of the firm in the United States. Before joining Funding Circle, Martinez was responsible for U.S. small business lending at PayPal. He has spent more than 20 years in financial services including working at Bank of America, where he was responsible for a number of functions with small business banking, and at Banco Dominicano del Progreso where he was the chief product and marketing officer. Throughout his career, he has focused on small business, payments, consumer, and business lending. Martinez has an M.B.A. from Duke University's Fuqua School of Business and a B.A. in economics from Universidad Católica Andrés Bello in Venezuela.



Jelena McWilliams

Chairman

Federal Deposit Insurance Corporation

Jelena McWilliams is the 21st chairman of the Federal Deposit Insurance Corporation. Previously, she was executive vice president, chief legal officer, and corporate secretary at Fifth Third Bank in Cincinnati, OH. Before joining Fifth Third Bank, she worked in the U.S. Senate for six years, most recently as chief counsel and deputy staff director with the Senate Committee on Banking, Housing and Urban Affairs, and previously as assistant chief counsel with the Senate Small Business and Entrepreneurship Committee. From 2007 to 2010, McWilliams was an attorney at the Board of Governors of the Federal Reserve System. Before entering public service, she practiced corporate and securities law at Morrison & Foerster LLP in Palo Alto, CA, and Hogan & Hartson LLP (now Hogan Lovells LLP) in Washington, D.C. McWilliams has a law degree from the University of California, Berkeley, and a bachelor's degree in political science, with highest honors.



Jeffrey Meiler

Founder and CEO

Marlette Funding, Inc.

Jeffrey Meiler is founder and CEO of Marlette Funding, Inc., and has more than 20 years of executive experience in the financial services industry. Before Marlette Funding and Best Egg, Meiler founded Independence Energy. Before Independence Energy, he held various executive roles at Barclaycard US and Juniper Bank. Earlier in his career, he was a general manager of CitiGroup UK Credit Card Business and was CFO of the Associates, acquired by Citi. Meiler has an M.B.A. in finance from the University of South Carolina and a B.A. in economics from Franklin and Marshall.

Biographies



Richard H. Neiman

**Head of Regulatory and Government Affairs
LendingClub**

Richard H. Neiman is head of regulatory and government affairs for LendingClub, the online credit marketplace for connecting borrowers and investors. He joined LendingClub in 2014, after serving as vice chairman of the Global Financial Services Regulatory Practice at PricewaterhouseCoopers LLP (PwC) for three years. He was previously superintendent of banks from 2007–2011 for the State of New York, where he was responsible for the supervision of all state-chartered and licensed financial institutions, including banks, nonbank lenders, money transmitters, and the majority of foreign bank branches in the U.S. During his term as superintendent, Neiman was appointed by the U.S. Congress to serve on the five-member Congressional Oversight Panel for TARP. Earlier in his career, Neiman was executive vice president and general counsel of TD Waterhouse (now TD Ameritrade), and general counsel of the Global Equities Division at Citibank. He began his career with the Office of the Comptroller of the Currency in Washington, D.C., where he was staff attorney and then special assistant to the chief counsel.

Outside the office, Neiman advises the Bipartisan Policy Center’s Financial Regulatory Reform Initiative and cochairs its Regulatory Architecture Task Force. He is also on the advisory council of the Institute for Financial Market Regulation and on the advisory board of Columbia Business School’s Chinese Business Initiative. He is also on the Board of the Harlem Educational Activities Fund, a mentoring and college preparatory nonprofit, and on the Board of Henry Street Settlement, one of New York’s oldest social services organizations. Neiman has a J.D. from Emory University School of Law and a bachelor’s degree from the American University School of Government.



Scott Pearson

**Partner
Ballard Spahr, LLP**

Scott Pearson is a partner in the Los Angeles office of Ballard Spahr, LLP, where he focuses his practice on the defense of regulatory enforcement actions and class actions, other complex business litigation, and regulatory compliance counseling. In March 2018, Pearson was named a BTI Client Service All-Star for his client service, based on a national survey of in-house counsel.

Pearson works with matters involving bet-the-company exposure or extreme complexity, such as overlapping claims being pursued simultaneously in multiple jurisdictions by federal regulators, state attorneys general, and class-action plaintiffs. He also is a strategic business adviser, drawing on more than 20 years of experience. His clients include national banks and other financial services firms, institutional investors, sports and entertainment companies, retailers, and others.

Pearson leads Ballard Spahr's Marketplace Lending Team, which focuses on the representation of fintech companies and their business partners. He is widely recognized as one of the preeminent authorities on the unique issues facing that industry.



Jose N. Penabad

Cofounder, CIO
HCG Fund Management

Jose N. Penabad is the cofounder and CIO of HCG Fund Management. He has been managing third-party capital in both public and private markets since 2003. His experience includes coportfolio manager of a long/short portfolio, focused on financials and REITs; senior analyst on financials, REITs, and finance-related entities at SAB Capital Management; private equity Associate at JPMorgan Partners; and, banker in Morgan Stanley's Mergers & Acquisitions group. He is fluent in Spanish and has lived and worked in the U.S. and Latin America. Penabad has a B.A. in international finance and marketing and a B.A. in computer information systems from the University of Miami.



Brad Pennington

Chief Risk Officer
PayJoy

Brad Pennington is PayJoy's chief risk officer (CRO), responsible for PayJoy's risk and data functions. PayJoy's mission is to deliver affordable consumer finance to over 1 billion people worldwide who are not served by the existing financial system. Before joining PayJoy, Pennington was Prosper's CRO and built the Risk and Data Science organization during the company's growth. Pennington has a B.S. from the Wharton School of the University of Pennsylvania with minors in mathematics, operations research, statistics, and finance.

Biographies



Michael P. Perrone

**AI Partnerships Program Director
IBM Thomas J. Watson Research Center**

Michael P. Perrone is the IBM Thomas J. Watson Research Center's AI Partnerships Program director, responsible for building machine learning research collaborations with government, business, and academia. He drives research strategy for artificial intelligence planning, large-scale machine-learning system design, and business model development, identifying new research opportunities, managing the development of new technologies, and establishing and growing industry collaborations and alliances with key business partners.

Perrone has over 25 years of experience in computer science, including statistical machine learning, data science, high-performance computing, seismic imaging, reservoir modeling, business analytics, graph algorithms, network intrusion detection, financial data stream processing, high-speed text indexing, computational fluid dynamics, image processing, carbon sequestration, and bioinformatics. Perrone has won numerous awards, including being named an IBM Master Inventor. The teams he has led have won the international 2009 Platts Global Energy Award for Commercial Technology of the Year for the design, optimization, and provisioning of Repsol's Kaleidoscope supercomputer; won the international Graph500 First Place award five consecutive times; and developed groundbreaking computational algorithms. He is the author of 31 issued patents and over 70 technical publications. He has given numerous lectures at conferences, workshops, and universities.



Ken Rees

**CEO
Elevate**

Ken Rees is the CEO of Elevate, a fintech firm using technology and advanced analytics to disrupt the nonprime lending space. Elevate has originated \$5.9 billion in nonprime credit to more than 2 million nonprime consumers to date and has saved its customers more than \$4 billion versus the cost of payday loans. Its responsible, tech-enabled online credit solutions help customers build a brighter financial future. Rees was selected as a 2012 Entrepreneur of the Year by Ernst & Young.



Nick Rose

Senior Scientist
VantageScore Solutions

Nick Rose is a senior scientist at VantageScore Solutions, a credit scoring model developer. As an architect of the VantageScore credit scoring models, he has created and implemented advanced statistical models for the company using his skills in model design, decision analysis, data mining, and pattern recognition. He also is responsible for analyzing data sets from multiple sources and providing forecasts, market trend analysis, risk, and operating improvements. Specializing in research and modeling on consumers with sparse credit files and disparate impact, he most recently leveraged machine learning techniques to develop a highly predictive rank ordering capability for universe expansion population. With his business background, he has fueled a career in the research and analytics field for 15 years, empowering companies such as BAI Research, Intel and JPMorgan Chase. Rose has a Ph.D. in statistics from Texas A&M.



Paul Saltzman

Partner
White & Case LLP

Paul Saltzman is a partner in White & Case's global Banking and Financial Institutions Advisory practices. He has more than 30 years of experience in the financial services industry, with prior leadership roles ranging from president to COO to general counsel. Saltzman advises banks and financial services firms and their boards on regulatory and supervisory challenges, financial technology issues, and legislative, transactional, bank insolvency, litigation, and compliance matters. Over the course of his career, he has been an adviser to policymakers, senior C-suite officers, and boards of numerous financial institutions, helping them solve problems and manage complex legal and operational issues during times of significant financial stress and regulatory change.

Before joining White & Case, Saltzman was Deutsche Bank's Americas Head of Global Transaction Banking, where he helped to manage the firm's cash management, clearing, and trade finance businesses regionally. He initially joined Deutsche Bank in 2015 to oversee the bank's capital planning and stress testing efforts, and subsequently enhanced that role to lead the bank's regulatory remediation efforts in the U.S. Before Deutsche Bank, he was president and general counsel of The Clearing House Association, leading the

Biographies

financial services industry organization and payments company for more than five years in the postfinancial crisis era. He revitalized The Clearing House, the nation's oldest banking association, by establishing the TCH Annual Conference, other thought leadership events, and the *Banking Perspectives*, a monthly publication.



Travis Skelly

**Senior Vice President
Citi Ventures**

Travis Skelly joined the Citi Ventures' New York office in 2016 and is senior vice president. He supports the firm's "best of both worlds" corporate venture model of combining value-added strategic investing with venture capital best practices via investing in high-potential start-ups and driving engagement with Citi executives and clients. Skelly invests across Citi Ventures' five focus areas: fintech, data analytics and machine learning, ecommerce, enterprise IT, and customer experience and marketing. His portfolio includes Clarity Money (acquired by Goldman), HighRadius, PPRO (pending regulatory approval), ScaleFactor, Contguard, and SmartAsset.

Skelly started his career as a financial services consultant at Accenture before moving to a strategy role at HSBC. During graduate school, he cofounded Embarkly (a marketplace for pet owners). After graduating, he joined Nomura's Leverage Finance Group, where he executed debt transactions for financial sponsors and corporate clients. Most recently, he was an investor at FinTech Collective, a fintech-focused venture fund where he made over 20 early stage investments. Skelly has an M.B.A. from the University of Texas and a B.S. in finance and international business from Georgetown University.



William G. Spaniel

**Senior Vice President and Lending Officer
Federal Reserve Bank of Philadelphia**

William G. Spaniel is a senior vice president and lending officer at the Federal Reserve Bank of Philadelphia, overseeing the Bank's Supervision, Regulation, and Credit Department. Previously, Spaniel spent 25 years with the Board of Governors, where he advanced through staff and officer positions to associate director of the Division of Banking Supervision and Regulation (BSR). He joined the Board of Governors staff in 1990 as a supervisory financial analyst and advanced to assistant to the director for BSR before he was appointed assistant director in 2000. He was promoted to deputy associate director in 2003, to associate

director in 2006, and to senior associate director in 2008. Before joining the Federal Reserve, Spaniel was a senior consultant for KPMG, specializing in credit administration, profit improvement, and regulatory compliance. He began his career as a compliance officer for a \$1 billion savings and loan. Spaniel has a B.A. in economics from the College of William and Mary.



Sam Taussig

**Head of Global Policy
Kabbage**

Sam Taussig is Kabbage's head of global policy. He launched his career in the alternative credit sector in Zambia and has since worked around the world with nongovernmental organizations and the United Nations to support the intersection of finance and technology. Most recently, he was in Indonesia supporting big data microeconomic development and bilateral diplomacy. Taussig leads the company's interactions with state, federal, and foreign governments, research institutions, and community development organizations. He covers issues ranging from financial regulatory reform to artificial intelligence, privacy, data access, and corporate social responsibility. Taussig has a degree in economics from Sewanee: The University of the South with a concentration in econometrics and finance.



Kevin Werbach

**Professor of Legal Studies and Business Ethics
The Wharton School of the University of Pennsylvania**

Kevin Werbach is professor of legal studies and business ethics at the Wharton School of the University of Pennsylvania. A world-renowned expert on emerging technology, he examines business and policy implications of developments such as broadband, big data, gamification, and blockchain. Werbach was on the Obama administration's Presidential Transition Team, founded the Supernova Group (a technology conference and consulting firm), helped develop the U.S. government's approach to Internet policy during the Clinton administration, and created one of the most successful massive open online courses, with over 450,000 enrollments. His books include *For the Win: How Game Thinking Can Revolutionize Your Business* and the forthcoming *The Blockchain and the New Architecture of Trust*.

Biographies



John Wirth

**Vice President, Consumer Lending and Fintech
TransUnion**

John Wirth manages the long-term plan for TransUnion's consumer lending businesses, including unsecured lending, retail (noncard) finance, student lending, and products for small banks, credit union, and fintechs. Before joining TransUnion, Wirth cofounded HILD Asset, a Deutsche Bank- and Merrill Lynch-backed consumer finance business originating secured and unsecured loans across Eastern Europe. He has worked with early stage companies as a strategy consultant and a venture manager with a leading start-up accelerator. He has also taught entrepreneurship at Northwestern University and the Illinois Institute of Technology and has advised fintech companies in the U.S. and in Europe. Wirth has an M.B.A. from Cornell University and was an officer in the U.S. Army.



James Wu

**Founder and CEO
MonJa**

James Wu is the founder and CEO of MonJa, a loan underwriting platform and service provider of performance analytics and loan selection strategies for peer-to-peer loans. The MonJa platform combines automated underwriting, an AI-powered risk algorithm, and loan scoring functionality to create an end-to-end lending management solution for small business loans. Before he founded MonJa, Wu was the executive director of Risk Management Analytics at MSCI. He spent the last decade designing and selling investment tools for institutional investors. Wu comes from a family of entrepreneurs. He has an M.B.A. from University of California, Berkeley, and a B.S. in computer science from Columbia University.



FEDERAL RESERVE BANK OF PHILADELPHIA