Curriculum Vitae

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NINA BOYARCHENKO

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CURRENT APPOINTMENTS AND AFFILIATIONS

Head of Macrofinance Studies, Federal Reserve Bank of New York

• Previous: Officer financial economist (2019-2022); Senior financial economist (2017-2019), financial economist (2011-2017) in the Capital Markets Function

Research Fellow, Asset Pricing, Center for Economic Policy and Research (CEPR)

Fellow, CESIfo Research Network

Practitioner Director, FMA (2023-2025)

EDUCATION

University of Chicago, Booth School of Business and Department of Economics Joint PhD in Finance and Economics 2011

University of Texas at Austin, Austin, TX

B.S. (Mathematics: Applied) with high honors 2006

Foundations of Business Certificate with high honors 2006

RESEARCH INTERESTS

Financial stability, fixed income, credit risk, institutional demand

RESEARCH

Published Papers

- "The Overnight Drift", (joint with L. Larsen and P. Whelan), Forthcoming, *Review of Financial Studies*
 - o Press coverage: <u>Bloomberg</u>, <u>FT</u>
- "It's What You Say and What You Buy: A Holistic Evaluation of the Corporate Credit Facilities", (joint with A. Kovner and O. Shachar), *Journal of Financial Economics*, 144:3 (2022), pp. 695-731.
- "Comment on A New Approach to Measuring Banks' Risk Exposure by Juliane Begenau", In Leveraged: The New Economics of Debt and Financial Fragility, ed. M. Schularick, Chicago University Press, 2022.
- "Comment on Central bank policy and the concentration of risk: Empirical estimates by <u>Nuno Coimbra, Daisoon Kim and Hélène Rey</u>", *Journal of Monetary Economics*, 125(C) (2022), pp. 199-201

- "COVID Response: The Primary and Secondary Corporate Credit Facilities", (joint with C. Cox, R. Crump, A. Danzig, A. Kovner, O. Shachar, and P. Steiner), Economic Policy Review, 28 (1) (2022).
 - o Press coverage: Faculti interview
- "COVID Response: The Commercial Paper Funding Facility", (joint with R. Crump, A. Kovner and D. Leonard), *Economic Policy Review*, **28** (1) (2022).
- "Forecasting Macroeconomic Risks", (joint with P. Adams, T. Adrian and D. Giannone), *International Journal of Forecasting*, **37**:3 (2021), pp. 1173-1191
- "<u>Multimodality in Macro-financial Dynamics</u>", (joint with T. Adrian and D. Giannone), *International Economic Review*, **62**:2 (2021), pp. 861-886
- "Taking Orders and Taking Notes: Dealer Information Sharing in Financial Markets", (joint with D. Lucca and L. Veldkamp), Journal of Political Economy, 129:2 (2021), pp. 607-645
 - o Press coverage: FT Alphaville
- "The Long and Short of It: A Primer on Corporate CDS Positions Data", (joint with A. Costello and O. Shachar), *Economic Policy Review*, **26**:3 (2020)
- "Understanding Mortgage Spreads", (joint with A. Fuster and D. Lucca), Review of Financial Studies, 32:10 (2019), pp. 3799-3850.
- "Vulnerable Growth", (joint with T. Adrian and D. Giannone), *American Economic Review*, **109**:4 (2019), pp. 1-27
- "Trends in Credit Basis Spreads", (joint with P. Gupta, N. Steele, and J. Yen), *Economic Policy Review*, **24**:2 (2018), pp. 15-37
- "Negative Swap Spreads", (joint with P. Gupta, N. Steele, and J. Yen), *Economic Policy Review*, **24**:2 (2018), pp. 1-14
- "Liquidity Policies and Systemic Risk", (joint with T. Adrian), Journal of Financial Intermediation, 35:B (2018), pp. 45-60
- "<u>Term structures of asset prices and returns</u>", (joint with M. Chernov and D. Backus), *Journal of Financial Economics*, **129**:1 (2018), pp. 1-23
- "Dealer Balance Sheets and Bond Liquidity Provision", (joint with T. Adrian and O. Shachar) Journal of Monetary Economics: Carnegie-NYU-Rochester Issue, 89:5 (2017), pp. 92-109
 - o Press coverage: Reuters, FT
- "Ambiguity Shifts and the 2007-2008 Financial Crisis", Journal of Monetary Economics: Carnegie-NYU-Rochester Issue, **59**:5 (2012), pp. 493-507
- "On errors and bias of Fourier Transform methods in Quadratic Term Structure Models" (joint with S. Levendorskii), International Journal of Theoretical and Applied Finance, 10:2 (2007), pp. 273-306
- "The eigenfunction expansion method in multi-factor Quadratic Term Structure Models" (joint with S. Levendorskiï), *Journal of Mathematical Finance*, **17**:4 (2007), pp. 503-539

Working Papers

"800,000 Years of Climate Risk", 2022, (joint with T. Adrian, D. Giannone, A. Prasad,
 D. Seneviratne, and Y. Xiao), Federal Reserve Bank of New York Staff Report No. 1031

- "Financial Stability Considerations for Monetary Policy: Theoretical Mechanisms", 2022, (joint with A. Ajello, F. Gourio, A. Tambalotti), Federal Reserve Bank of New York Staff Report No. 1002
- "Financial Stability Considerations for Monetary Policy: Empirical Evidence and Challenges", 2022, (joint with G. Favara and M. Schularick), Federal Reserve Bank of New York Staff Report No. 1003
 - o Press coverage: WSJ Pro
- "Measuring Corporate Credit Dislocations", 2021, (joint with R. K. Crump, A. Kovner, and O. Shachar), Federal Reserve Bank of New York Staff Report No. 957
 - o Data: CMDI Interactive
 - o Press coverage: WSJ, Marketwatch, MNI, Reuters
- "Bank Capital and Real GDP Growth", 2020, (joint with D. Giannone and A. Kovner), Federal Reserve Bank of New York Staff Report No. 950
- "<u>Financing Choice</u>", (joint with P. Mueller), 2019, Federal Reserve Bank of New York Staff Report No. 895
- "<u>Flighty Liquidity</u>", (joint with D. Giannone and O. Shachar), 2018. Federal Reserve Bank of New York Staff Report No. 870
 - o Press coverage: <u>Bloomberg Opinion</u>
- "Credit Market Choice", (joint with A. Costello and O. Shachar), 2018. Federal Reserve Bank of New York Staff Report No. 863
- "Bank-Intermediated Arbitrage", (joint with T. Eisenbach, P. Gupta, O. Shachar, and P. Van Tassel), 2018, Federal Reserve Bank of New York Staff Report No. 858
 - o Press coverage: <u>Bloomberg Opinion</u>
- "<u>The Federal Reserve and Market Confidence</u>", (joint with V. Haddad and M. Plosser), 2016, Federal Reserve Bank of New York Staff Report No. 773
- "<u>The Cyclicality of Leverage</u>", (joint with T. Adrian and H. S. Shin), 2015, Federal Reserve Bank of New York Staff Report No. 743
- "Counterparty Risk in Material Supply Contracts", (joint with A. Costello), 2014, Federal Reserve Bank of New York Staff Report No. 694
- "Intermediary Balance Sheets", (joint with T. Adrian), 2013, Federal Reserve Bank of New York Staff Report No. 651
- "No Good Deals No Bad Models", (joint with M. Cerrato, J. Crosby, and S. Hodges), 2012, Federal Reserve Bank of New York Staff Report No. 589
- "Intermediary Leverage Cycles and Financial Stability", (joint with T. Adrian), 2012,
 Federal Reserve Bank of New York Staff Report No. 567
- "Information Acquisition and Financial Intermediation", 2012, Federal Reserve Bank of New York Staff Report No. 570
- <u>"Estimating equations for a class of time-irreversible multi-factor models"</u> (joint with S. Levendorskiï), Winter 2008, SSRN abstract #1088922
- "Are analysts right? Regime Switching in Quadratic Term Structure Models with macroeconomic and latent factors", Winter 2008, SSRN abstract #1094080
- "<u>Turning off the tap: determinants of expropriation in the energy sector</u>", Spring 2007, SSRN abstract # 963779
- "Asymptotic pricing in term structure models driven by jump-diffusions of Ornstein-Uhlenbeck type" (joint with S. Levendorskiï), Fall 2006, SSRN abstract # 890725

 "Exit in duopoly with asymmetric market shares under jump-diffusion uncertainty", Fall 2006, SSRN abstract # 884438

Work in Progress

- "Credit Surface and Real Outcomes", 2020, (joint with R. K. Crump and O. Shachar)
- "Institutional Ownership and Issuance Fragmentation", 2019, (joint with O. Shachar)
- "Trade Credit Networks", 2019 (joint with A. Costello)
- Spectral Methods in Finance, Economics and Insurance FFT-based realizations of Fourier-Laplace transform and Wiener-Hopf factorization, and eigenfunction expansions, 2019, (joint with S. Levendorskii, S. Boyarchenko, M. Boyarchenko)
- "A Primer on Sovereign CDS Positions Data", 2018 (joint with A. Costello and O. Shachar)
- "Ambiguous Trade-Offs: An Application to Climate Change", 2016 (joint with M. Andries)
- "Investing in capacity: Long-run effects of rational inattention", 2012 (joint with F. Duarte)

TEACHING EXPERIENCE

- NYU ECON-UA 368 (Financial Economics), Spring 2018
- Teaching assistant to Prof. Jeff Russell
 - o GSBC 41203 (Financial Econometrics), Winter 2010
- Teaching assistant to Prof. John Heaton
 - o GSBC 35130 (Fixed Income Asset Pricing), Spring 2009, Winter 2010
- Teaching assistant to Prof. Pietro Veronesi
 - o GSBC 35130 (Fixed Income Asset Pricing), Fall 2008
 - o GSBC 35132 (Financial Engineering), Winter 2008

PRESENTATIONS OF WORK

- 2022: Texas A&M, WE_ARE_IN Macroeconomics and Finance Regulating Financial Markets Conference, CESifo Macro, Money, and International Finance Area Conference, HEC Montreal, SaMMF Lecture Series
- 2021: MIT Sloan, Bank of England Research Workshop on Procyclicality in Market-Based Finance, ESM-Uni.lu, Conference on Credit Risk over the Business Cycle, SITE workshop on Macro Finance and Computation, Society for Economic Dynamics, Bank of Spain, University of Wisconsin Madison, WE ARE Seminar
- 2020: John Hopkins Carey, SaMMF Liquidity in Fixed Income Markets Workshop, Western Finance Association
- 2019: ITAM, London Business School, Warwick Business School, BoE, CEPR, Imperial and LSE Second Conference on Non-bank Financial Sector and Financial Stability, European Economic Association Meetings (Manchester), SITE Asset Pricing, ESSFM Summer Symposium on Financial Markets, Society for Economic Dynamics (St. Louis), SITE Banks and Financial Frictions, 2nd Baltic Economic Association Annual Meetings, QED Frontiers in Macroeconomics, Chicago Booth Alumni Insight, Chicago Booth

- Finance Lunch, Financial intermediation, regulation, and economic policy: 50th anniversary of the Journal of Money, Credit and Banking; Bank of Finland Workshop on Empirical Macroeconomics, Copenhagen Business School, Macro Financial Modeling Winter 2019 Meeting, CEMLA-ECB-FRBNY-BCRP 2019 Conference on Financial Intermediation, Credit and Monetary Policy
- 2018: FinanceUC Conference, Annual Financial Market Liquidity Conference, 12th MacroFinance Society Workshop, LAEF Financing Macroeconomic Conference, CDI 7th Conference on Derivatives, European Economic Association Meetings (Cologne), ESSFM Summer Symposium on Financial Markets, Society for Economic Dynamics (Mexico City), Effects of Post-Crisis Banking Reforms, Annual 3rd CEPR Symposium
- 2017: Minnesota (Carlson), ESSFM Summer Symposium of Financial Markets, Western Finance Association (Whistler), Society for Economic Dynamics (Edinburgh), Conference on Regulating Financial Markets, Financial Intermediation Society Conference (Hong Kong), Swedish House of Finance, Rochester Simon, Conference on OTC Derivatives and Recent Regulatory Changes
- 2016: Zurich ETH, Annual Financial Market Liquidity Conference, Carnegie-Rochester-NYU Conference on Public Policy (Pittsburg), Bank of Canada, European Finance Association (Oslo), ESSFM Summer Symposium on Financial Markets, Macro Financial Modeling Summer Camp, Deutsche Bundesbank Spring Conference, Financial Intermediation Research Society (Lisbon), Baruch, Toulouse Financial Econometrics Conference, Copenhagen Business School, London School of Economics
- 2015: CFE-CMStatistics (London), HEC Lausanne, European Economic Association (Mannheim), European Finance Association (Vienna), Chicago Initiative in Theory and Empirics, ESSFM Summer Symposium on Financial Markets, Western Finance Association, Endogenous Financial Equilibrium Dynamics and Networks Conference, Society for Economic Dynamics (Warsaw), Financial Intermediation Research Society (Reykjavik), AQR, Columbia University Workshop on Systemic Risk, Federal Reserve Bank of Boston, New York University Stern School of Business CREFR seminar, IPAM Workshop on Systemic Risk and Financial Networks, BOC-BOJ Workshop
- 2014: Rutgers University, UCLA Anderson, IAQF/Thalesians Seminar (New York), European Finance Association (Lugano), Systemic Risk Models and Mechanisms Workshop (Isaac Newton Institute), ESSFM Summer Symposium on Financial Markets, Western Finance Association, Toulouse School of Economics
- 2013: Morgan Stanley, Western Finance Association (Lake Tahoe), Early Career Women in Finance Conference (ECWC), North American Meetings of Econometric Society (Los Angeles), CEPR-CIFRA Workshop on Micro Foundations for Macro Finance (Amsterdam), Bank of England, London School of Economics, SFS Cavalcade (Miami), 49th Annual Conference on Bank Structure and Competition, Lorentz Center Workshop on Complexity Models for Systemic Instabilities and Crises (Leiden), New York Area Macro Workshop, 23rd Annual Derivatives, Securities and Risk Management Conference (Washington D. C.), Workshop on Ambiguity and Robustness (Chicago)
- 2012: System Committee Meeting on Financial Structure and Regulation, Duke University (Fuqua), Chicago Institute for Theory and Empirics (CITE), American Finance Association (Chicago)
- 2011: Johns Hopkins University (Carey), Federal Reserve Board of Governors, Federal Reserve Bank of New York, Ohio State University (Fisher), Einaudi Institute for

Economics and Finance, Bocconi University, Boston University (School of Management), Society for Advancement of Economic Theory (Faro), European Finance Association Meetings (Stockholm), Carnegie-Rochester-NYU Conference on Public Policy (Pittsburg), Deutsche Bank/Chicago Booth Symposium (Chicago)

- 2010: Transatlantic Doctoral Business Conference
- 2009: American Finance Association (San Francisco), Université Paris Marne-la-Valle, University of Leicester, Transatlantic Doctoral Business Conference, Econometric Society Summer Meetings (Boston), Society of Economic Dynamics Meetings (Istanbul), European Meetings of the Econometric Society (Barcelona)
- 2008: Midwest Finance Association Meetings (San Antonio), Transatlantic Doctoral Business Conference, European Economic Association/ European Meetings of the Econometric Society (Milan)
- 2006: Amamef Conference on Numerical Methods in Finance (Inria-Rocquencourt), Econometric Society Summer Meetings (Minneapolis)

PROFESSIONAL ACTIVITIES

Discussions:

2022: *EFA:* D. Bonfim, C. Custodio, and C. Raposo: "Supporting small firms through recessions and recoveries"; *The Role of Central Banks in a Transforming World:* A.-C. Huser, C. Lepore, and L. Veraart: "How does the repo market behave under stress? Evidence from the COVID-19 crisis"; *SFS Cavalcade:* F. Gomes, R. Lewis and J. Nickerson: "Crowded Ratings: Clientele Effects in the Corporate Bond Market"; *19th Annual Macro Finance Society Workshop:* V. Haddad, A. Moreira and T. Muir: "Whatever It Takes? The Impact of Conditional Policy Promises"

2021: System Committee on Econometrics: D. Caldara, D. Cascaldi-Garcia, P. Cuba-Borda, and F. Loria: "Understanding Growth-at-Risk: A Markov Switching Approach"; 15th NY Fed/NYU Financial Intermediation Conference: E. Fahri and I. Werning: "Taming a Minsky Cycle"; JME Carnegie-Rochester-NYU Conference on Public Policy: Central Banking in the 2020s and Beyond: N. Coimbra, D. Kim, and H. Rey: "Central Bank Policy and the Concentration of Risk"; ECB-RFS Macro-Finance Conference: J. Breckenfelder and V. Ivashina: "Bank balance sheet constraints and bond liquidity"; AFA: T. Laartis: "Pre-Announcement Risk"

2020: Virtual Finance Workshop: Z. He, S. Nagel and Z. Song: "Treasury Inconvenience Yields During the COVID-19 Crisis"; 7th International Conference on Sovereign Bond Markets: P. Augustin, M. Chernov, L. Schmidt and D. Song: "Benchmark interest rates when the government is risky"; CESifo Area Conference on Macro, Money and International Finance 2020: M. Brunnermeier, S. Merkel, J. Payne and Y. Sannikov: "COVID crisis: Inflationary and Deflationary Pressures"

2019: *UVA Symposium on Financial Economics*: A. Babus and C. Parlatore – "Strategic Fragmented Markets"; *Advances in Fixed Income Macro-Finance Research*: W. Du, B. Hebert, and A. Wang – "Are Intermediary Constraints Priced?"; *Conference on Regulating Financial Markets*: J. Cai, F. Eidam, A. Saunders and S. Steffen – "Loan Syndication Structures and Price

Collusion"; *EFA*: N. Coimbra, H. Rey, and R. Jamilov – "The Cross-Section of Risk Taking and Stock Returns"; *UO Summer Finance Conference*: A. Anderson, B. Schlusche and W. Du – "Money Market Fund Reform and Arbitrage Capital"; *ESSFM*: S. Bryzgalova and C. Julliard – "Consumption in Asset Returns"; *INET Private Debt Initiative Conference*: J. Begenau – "How can we measure risk exposures of banks and credit markets?"; *WFA*: M. Hofmann and M. Uhrig-Homburg – "Volatility Noise"; *2nd Baltic Economic Association Annual Meetings*: I. Krohn, P. Mueller and P. Whelan – "FX Returns Around the Clock"; *SFS*: Y. Huh and Y. S. Kim – "The Real Effects of Secondary Market Trading Structure: Evidence from the Mortgage Market"; *Bundesbank-ECB Spring Conference*: Z. He and A. Krishnamurthy – "A Macroeconomic Framework for Quantifying Systemic Risk"; *NBER AP Spring*: I. Dew-Becker, S. Giglio and B. Kelly – "Hedging Macroeconomic and Financial Volatility and Uncertainty"; *AFA*: L. Benzoni, L. Garlappi, and R. Goldstein – "The Term Structure of Credit Spreads with Dynamic Debt Issuance and Incomplete Information"

2018: Annual Meeting of the System Committee on Financial Institutions, Regulations, and Markets: M. Kruttli, P. Monin, and S. Watugala – "Prime Broker Lending and Hedge Fund Exposures"; EFA, Warsaw: A. Orlik, I. Presno – "On Credible Monetary Policies under Model Uncertainty"; A. Cieslak – "Short-rate expectations and unexpected returns in Treasury bonds"; ESSFM Summer Symposium on Financial Markets: D. Greenwald, T. Landvoigt and S. Van Nieuwerburgh – "Financial Stability with SAM?"; Baltic Economic Conference: F. D'Acunto, D. Hoang, and M. Weber – "The Effect of Unconventional Fiscal Policy on Consumption Expenditure"; Frontiers of Finance: A. Lakdawala and M. Schaffer – "Federal Reserve Private Information and the Stock Market"; 11th Macro Finance Workshop: I. Zviadadze – "Term Structure of Risk in Expected Returns"; MFA: O. Boguth, V. Gregoire, and C. Martineau – "FOMC News, Price Discovery, and Price Undiscovery"; AFA: D. Aikman, S. Kapadia, and N. Wegner – "Narratives and networks: social and behavioral foundations for credit cycles"

2017: *Joint Central Bankers' Conference*: N. Coimbra and H. Rey – "Financial Cycles with Heterogeneous Information"; *ESSFM Summer Symposium on Financial Markets*: M. Croce, T. Nguyen, S. Raymond and L. Schmid – "Government Debt and the Returns to Innovation"; *WFA, Whistler:* P. Diep, A. Eisfeldt, and S. Richardson – "Prepayment Risk and Expected MBS Returns"; S. Sundaresan, Z. Wang, and W. Yang – "Dynamics of the Expectation and Risk Premium in the OIS Term Structure"; *Banks, Systemic Risk, Measurement and Mitigation*: M. Paddrik, S. Rajan, and H. P. Young – "Contagion in the CDS Market"

2016: *EFA, Oslo*: J.Dick-Nielsen, J. Gyntelberg and J. Lund – "Safe and liquid mortgage bonds: Evidence from the Danish housing crash of 2008"; N. Branger, C. Schlag and J. Thimme – "Does Ambiguity about Volatility Matter Empirically?"; *ESSFM Summer Symposium on Financial Markets*: P. Kondor and A. Zawadowski – "Learning in Crowded Markets"; *WFA, Park City*: Z. He, B. Kelly and A. Manela – "Intermediary Asset Pricing: New Evidence from Many Asset Classes"; *SFS, Toronto*: E. Siriwardane – "Concentrated Capital Losses and the Pricing of Corporate Credit Risk"; *Spring System Macro Meeting*: A. Ozdagli and M. Velikov – "Show Me the Money: The Monetary Policy Risk Premium"; *AFA, San Francisco*: W. Jiang – "Leveraged Speculators and Asset Prices"

2015: FIRS, Reykjavik: L. Iovino – "Sophisticated Intermediation and Aggregate Volatility"

2014: *EFA*, *Lugano*: A. Ajello, L. Benzoni, and O. Chyruk – "Core and 'Crust': Consumer Prices and the Term Structure of Interest Rates"; *Mid-Atlantic Research Conference*.

Discussed N. Light, D. Maslov and O. Rytchkov – "Aggregation of Information About the Cross-Section of Stock Returns: A Latent Variable Approach"

2012: *Macroeconomic Financial Modeling (MFM) Meeting* (Sep.). Discussed S. Gilchrist and E. Zakrajsek – "What Do We Learn from Credit Market Evidence"; *EFA, Copenhagen*: E. Morellec, J. Hugonnier and S. Malamud – "Credit Market Frictions and Capital Structure Dynamics"; R. Bansal, D. Kiku, I. Shaliastovich and A. Yaron – "Volatility, the Macroeconomy and Asset Prices"; R. F. Dittmar, J. Conrad and A. Hameed – "Cross-Market and Cross-Firm Effects in Implied Default Probabilities and Recovery Values"; N. Friewald, C. Wagner and J. Zechner – "The Cross-Section of Credit Risk Premia and Equity Returns"; *AFA, Chicago*: H. Hong and D. Sraer – "Quiet Bubbles"

Editor: Journal of Banking and Finance (Associate Editor); Journal of Money, Credit and Banking (Associate Editor)

Refereeing: Journal of Finance, Econometrica, American Economic Review, Review of Financial Studies, Review of Finance, Journal of European Economic Association, Mathematical Finance, Annals of Finance, International Economic Review, Management Science, Journal of Money, Credit and Banking, Journal of Macroeconomics, JFQA, Journal of Banking and Finance, Empirical Economics, NSF

Conference program: AMEC Symposium on Inflation: Risks, Implications and Policies, Financial Stability Considerations for Monetary Policy, Conference on Implications of Federal Reserve Actions in Response to the COVID-19 Pandemic, Conference on Credit Risk over the Business Cycle (2021), System Banking Conference (2021-2022), ECB-RFS Macro-Finance Conference, EEA (2019, 2021), Developments in Empirical Macroeconomics (2018-), Conference on Derivatives and Volatility (2017-), Conference on OTC Derivatives and Recent Regulatory Changes, EFA (2015-), SFS Cavalcade (2016-), MFA (2016-), FIRS (2017-), CITE (2015)