JOHN V. DUCA

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EDUCATION:

Ph.D. Economics, Princeton University, 1986. Fields: macro, international, development. B.A. (Economics), Yale University, 1982, *Summa Cum Laude*, *Phi Beta Kappa*.

AREAS OF RESEARCH: Macroeconomics, Credit, Housing, Money, and Finance.

LANGUAGES: English, German (limited).

PERSONAL: married with two (adult) children, born in New York City.

EMPLOYMENT:

Danforth/Lewis Chair Professor (February 2018-), Oberlin College. Teach advanced and intermediate macroeconomics, as well as money & banking to undergraduates. Co-Chair, Business Integrative Concentration
Temporary Department Chair (July 2021-June 2022)

Emeritus Economist (11/23-present, Vice President (part-time, (2/18-10/23), Associate Director of Research and Vice President (8/13-1/18), Vice President & Senior Policy Advisor (9/07-8/13), Senior Economist & Vice President (1/00-8/07), Assistant Vice President (1/97-12/99), Research Officer (1/94-12/96), Senior Economist & Policy Advisor (6/91-12/93), Federal Reserve Bank of Dallas. Research macroeconomics, real estate, credit, & financial crises. Led the macroeconomics group: 6 Ph.D. economists & 4 support positions; edited Working Paper series. 1 briefing of the FOMC, 28 pre-FOMC briefings of the Bank's President, 22 Board of Directors presentations, and 200 speeches.

Staff Economist, Division of Monetary Affairs, Board of Governors of the Federal Reserve System, September 1986 - May 1991. Research in credit, money, real estate, and banking. Major policy contributions: 13 Federal Reserve Board briefings, 6 FOMC greenbook money & banking sections, financial editor of the FOMC greenbook twice, co-author Feb. 1988 *Monetary Policy Report*, and two *Federal Reserve Bulletin* articles on bank profits.

Vice President, International Banking, Economics, & Finance Association, 2016-2019. Executive Director, International Banking, Economics, & Finance Association, 2013-15. Adjunct Professor, Southern Methodist University, 2005-2017, taught money & banking. Professors of Excellence Award, Southern Methodist University, February 2015. Visiting Academic, Oxford University, June 2023, June 2019, June 2013, October/Nov. 2011, March/April 2011, March 2010, September 2008, Nov. 2007, and June 2007. Visiting Scholar, European University Institute, Spring 2005.

Lecturer, University of Maryland, Business School, 1990, intermediate macro for MBAs.

DISSERTATION:

"Credit Rationing and Trade Credit as an Alternative Source of Short-Term Credit," (October 1986).

PUBLICATIONS IN REFEREED JOURNALS:

- "Using Deep (Machine) Learning to Forecast U.S. Inflation in the COVID-Era," with David Stoneman. **Journal of Forecasting**, forthcoming.
- "How the New Fed Municipal Bond Facility Capped Muni-Treasury Yield Spreads in the Covid-19 Recession," with Michael Bordo, **Journal of the Japanese and International Economies**, March 2023.
- "How New Fed Corporate Bond Programs Cushioned the Covid-19 Recession," with Mike Bordo, **Journal of Banking and Finance**, March 2022.
- "Media Fragmentation and the Polarization of the American Public," with Jason Saving, **Applied Economics Letters,** February 2022.
- "An Overview of The Fed's New Credit Policy Tools and Their Cushioning Effect on the COVID-19 Recession." with Mike Bordo, **Journal of Government and Economics**, September 2021.
- "What Drives House Price Cycles? International Experience and Policy Issues," with John Muellbauer and Anthony Murphy, **Journal of Economic Literature**, September 2021.
- "The Resilience and Realignment of House Prices in the Era of Covid-19," with Martin Hoesli and Joaquim Montezuma. **Journal of European Real Estate Research**, April 2021.
- "Can Machine Learning on Economic Data Better Forecast the Unemployment Rate?" with Aaron Kreiner, **Applied Economics Letters**, October 2020.
- "Making Sense of Increased Synchronization in Global House Prices," **Journal of European Real Estate Research**, April 2020.
- "The Other (Commercial) Real Estate Boom and Bust: The Effects of Risk Premia and Regulatory Capital Arbitrage," with David Ling, **Journal of Banking and Finance**, March 2020.
- "Conference on Financial Services Indices, Liquidity, and Economic Activity," with Richard Anderson, **Journal of Financial Stability**, June 2019.

- "New Monetary Services (Divisia) Indexes for the post-war U.S.," with Richard Anderson, Adrian Fleissig, and Barry Jones, **Journal of Financial Stability**, June 2019.
- "Venture Capital Restrained After Sarbanes-Oxley," with Tyler Atkinson, **Economics** Letters, February 2019.
- "Real Estate and the Great Crisis: Lessons for Macro-Prudential Policy," with Lilit Popoyan and Susan Wachter, **Contemporary Economic Policy**, January 2019.
- "What Drives Economic Policy Uncertainty in the Long and Short Runs: European and U.S. Evidence over Several Decades," with Jason Saving, **Journal of Macroeconomics**, January 2018.
- "How Taxes and Required Returns Drove Commercial Real Estate Valuations over the Past Four Decades," with David Ling and Patric Hendershott, **National Tax Journal**, September 2017.
- "The Great Depression Versus the Great Recession in the U.S.: How Fiscal, Monetary, and Financial Policies Compare," **Journal of Economic Dynamics and Control**, August 2017.
- "Money and Velocity During Financial Crises: From the Great Depression to the Great Recession," with Richard Anderson and Michael Bordo, **Journal of Economic Dynamics and Control**, August 2017. *NBER Working Paper* No. 22100.
- "Income Inequality, Media Fragmentation and Increased Political Polarization," with Jason Saving, **Contemporary Economic Policy**, April 2017.
- "Economic Policy Uncertainty and the Credit Channel: Aggregate and Bank Level U.S. Evidence over Several Decades," **Journal of Financial Stability,** with Michael Bordo and Chris Koch, October 2016. Also appeared as: *NBER Working Paper* No. 22021, http://www.nber.org/papers/w22021
- "How Capital Regulation and Other Factors Drive the Role of Shadow Banking in Funding Short-Term Business Credit," **Journal of Banking and Finance**, August 2016.
- "Income Inequality and Political Polarization: Time Series Evidence Over Nine Decades," **Review of Income and Wealth**, with Jason Saving, September 2016.
- "How Mortgage Finance Reform Could Affect Housing," **American Economic Review**, with John Muellbauer and Anthony Murphy, May 2016.

- "A Conference on Housing, Stability, and the Macroeconomy: International Perspectives," **Journal of Money, Credit, and Banking,** with R. Arezki, T. Beck, R. DeYoung, P. Lougani, and A. Murphy. March/April 2015.
- "Financial Literacy and Mortgage Equity Withdrawal," **Journal of Urban Economics**, with Anil Kumar, March 2014.
- "Did the Fed's Commercial Paper Funding Facility Prevent a Great Depression Style Money Market Meltdown?" **Journal of Financial Stability**, December 2013.
- "Would a Bagehot Style Corporate Bond Backstop Have Helped Counter the Great Recession?" **Economics Letters**, with Anthony Murphy, June 2013.
- "The Money Market Meltdown of the Great Depression," **Journal of Money, Credit, and Banking**, March-April 2013.
- "Credit, Housing Collateral and Consumption: Evidence from Japan, the UK, and the U.S.," **Review of Income and Wealth**, with Janine Aron, John Muellbauer, Keiko Murata and Anthony Murphy, September 2012. Kendrick Prize for best macroeconomic paper in the **Review of Income and Wealth** over 2012-13.
- "House Prices and Credit Constraints: Making Sense of the U.S. Experience," **Economic Journal**, with John Muellbauer and Anthony Murphy, May 2011.
- "Housing Markets and the Financial Crisis of 2007-09: Lessons for the Future," **Journal of Financial Stability**, with J. Muellbauer and A. Murphy, December 2010.
- "Regulation and the Neo-Wicksellian Approach to Monetary Policy," **Journal of Money,** Credit, and Banking, with Tao Wu, May 2009.
- "Stock Ownership and Congressional Elections: The Political Economy of the Mutual Fund Revolution," with Jason Saving, **Economic Inquiry**, July 2008.
- "Mutual Funds and the Evolving Long-Run Effects of Stock Wealth on U.S. Consumption," **The Journal of Economics and Business**, May/June 2006.
- "Why Have Households Increasingly Relied on Mutual Funds to Own Equity?" **The Review of Income and Wealth**, September 2005.
- "Recent Developments in Understanding the Demand for Money," with David VanHoose, **Journal of Economics and Business**, July/August 2004.
- "The Rise of Goods Market Competition and the Fall of Nominal Wage Contracting," with David VanHoose, **Journal of Macroeconomics**, Winter 2001.

- "Financial Technology Shocks and the Case of the Missing M2," **Journal of Money, Credit, and Banking**, November 2000.
- "Has Greater Competition Restrained U.S. Inflation?" with David VanHoose, **Southern Economic Journal**, January 2000.
- "Goods Market Competition and Profit Sharing," with David VanHoose, **Journal of Economics and Business**, November/December 1998.
- "The Rise of Goods Market Competition and the Decline in Wage Indexation: A Macroeconomic Approach," with David VanHoose, **Journal of Macroeconomics**, Summer 1998.
- "Assessing Monetary Policy and Deposit Deregulation," **Journal of Economics and Business,** January/February 1998.
- "Deposit Deregulation and the Sensitivity of Housing," **Journal of Housing Economics** 5, 1996.
- "Inflation, Unemployment, and Duration," Economics Letters, September 1996.
- "Credit Cards and Money Demand," **Journal of Money, Credit, and Banking**, May 1995, with William Whitesell.
- "Should Bond Funds Be Included in M2?" **Journal of Banking and Finance**, May 1995.
- "Adding Bond Funds to M2 in the P-Star Model of Inflation," **Economics Letters**, October 1994, with Zsolt Becsi.
- "Borrowing Constraints and Access to Owner-Occupied Housing," **Regional Science** and Urban Economics, June 1994, with Stuart Rosenthal.
- "Do Mortgage Rates Vary Based on Household Default Characteristics? Evidence on Credit Risk Sorting and Credit Rationing," **Journal of Real Estate Finance and Economics**, March 1994, with Stuart Rosenthal.
- "Borrowing Constraints, Household Debt, and Racial Discrimination in Loan Markets," **Journal of Financial Intermediation**, October 1993, with Stuart Rosenthal.
- "RTC Activity and the 'Missing M2," **Economics Letters**, 41(1), 1993.

- "U.S. Business Credit Sources, Demand Deposits, and the 'Missing Money," **Journal of Banking and Finance**, June 1992.
- "Optimal Wage Indexation in a Multisector Economy," **International Economic Review**, November 1991, with David VanHoose.
- "Credit Rationing and the Demand for Owner-Occupied Housing," **Journal of Urban Economics**, July 1991, with Stuart Gabriel and Stuart Rosenthal.
- "An Empirical Test of Credit Rationing in the Mortgage Market," **Journal of Urban Economics**, March 1991, with Stuart Rosenthal.
- "Optimal Monetary Policy in a Multisector Economy with an Economy-wide Money Market," **Journal of Economics and Business**, Nov. 1990, with D. VanHoose.
- "Loan Commitments and Optimal Monetary Policy," **Journal of Money, Credit, and Banking**, May 1990, with David VanHoose.
- "The Impact of Mortgage Activity on Recent Demand Deposit Growth," **Economics** Letters, February 1990.
- "The Spillover Effects of Nominal Wage Rigidity in a Multisector Economy," **Journal of Money, Credit, and Banking**, February 1987.

PUBLISHED COMMENTS ON ARTICLES IN PROFESSIONAL JOURNALS:

- "Comments on, 'Performance of Residential Mortgages in Low and Moderate Income Neighborhoods," by Edwin S. Mills and Luan' Sende Lubuele, **Journal of Real Estate Finance and Economics**, (November 1994), special issue on information and screening in real estate finance.
- "Comments on, 'The Importance of Relationships to the Availability of Credit," by Rebel A. Cole, **Journal of Banking and Finance 22**, (August 1998), special issue on the economics of small business finance.
- "Housing, Stability, and the Macroeconomy: International Perspectives," **Journal of Money, Credit, and Banking,** with R. Arezki, T. Beck, R. DeYoung, P. Lougani, and A. Murphy. Conference Volume joint with the IMF, March/April 2015.

BOOK OR CONFERENCE VOLUME PUBLICATIONS:

"Corporate Green Bonds and the Cost of Capital." With Wenling Li. Chapter in *Handbook of Environmental and Green Finance: Towards a Sustainable Future*.

BOOK OR CONFERENCE VOLUME PUBLICATIONS:

- "John Muellbauer (1944–)," in: Robert A. Cord (ed.), *The Palgrave Companion to Oxford Economics*, chapter 26, pp. 645-671, Springer Books, 2021.
- "Tobin LIVES: Integrating evolving credit market architecture into flow of funds based macro-models, by John V. Duca and John Muellbauer, in *A Flow-of-Funds Perspective on the Financial Crisis Volume II*, Palgrave-Macmillan, 2014, B. Winkler, A Van Riet, and P. Bull (eds.), pp. 11-39.
- "Credit standards and the bubble in US house prices: new econometric evidence," with J. Muellbauer and A. Murphy, in **Property Markets and Financial Stability**, 83-89, BIS paper no. 64, March 2012.http://www.bis.org/publ/bppdf/bispap64n.pdf
- "What Drives Shadow Banking: Evidence from Short-term Business Credit?" in *Shadow Banking: Within and Across National Borders*, Federal Reserve Bank of Chicago and International Monetary Fund, World Scientific Publishers, 2014, S. Claessens, D. Evanoff, G. Kaufman, and L. Laeven (eds.).
- Science and Cents: Exploring the Economics of Biotechnology, a conference volume edited by John V. Duca and M. K. Yucel, Federal Reserve Bank of Dallas, 2003.
- "An Overview of Science and Cents: Exploring the Economics of Biotechnology," with Mine Yücel, in **Science and Cents: Exploring the Economics of Biotechnology**, edited by John V. Duca & Mine K. Yucel, Federal Reserve Bank of Dallas, 2003.

ARTICLES PUBLISHED FOR THE FEDERAL RESERVE SYSTEM:

- "Increased Credit Availability, Rising Asset Prices Help Boost Consumer Spending," with Anthony Murphy and Elizabeth Organ, **Economic Letter**, Federal Reserve Bank of Dallas, April (2016). http://www.dallasfed.org/assets/documents/research/eclett/2016/el1603.pdf
- "Will Oil Decline Lead to a House Price Bust?" 2015 Annual Report Essay, Federal Reserve Bank of Dallas, http://www.dallasfed.org/microsites/fed/annual/2015/housing-prices.html
- "The Long-Awaited Housing Recovery," 2013 Annual Report, Federal Reserve Bank of Dallas, http://www.dallasfed.org/microsites/fed/annual/2013/assets/documents/ar13.pdf
- "The Subprime Mortgage Crisis," Federal Reserve System History Gateway Essay, November 2013, http://stage.federalreservehistory.org/Events/DetailView/55

ARTICLES PUBLISHED FOR THE FEDERAL RESERVE SYSTEM (continued):

- "When Will U.S. Housing Markets Stabilize?" with David Luttrell and Anthony Murphy, **Economic Letter**, Federal Reserve Bank of Dallas, August 2011. http://www.dallasfed.org/assets/documents/research/eclett/2011/el1108.pdf
- "Recovering from the Housing and Financial Crisis," with David Luttrell, **Economic Letter**, Federal Reserve Bank of Dallas, July 2010. < http://www.dallasfed.org/assets/documents/research/eclett/2010/el1007.pdf
- "Fed Confronts Financial Crisis By Expanding Its Role As Lender of Last Resort," with Danielle DiMartino and Jessica Renier, **Economic Letter,** Federal Reserve Bank of Dallas, February/March 2009.

http://www.dallasfed.org/assets/documents/research/eclett/2009/el0902.pdf
The prior article was recommended for further reading by the American Economic Association's *Journal of Economic Perspectives*.23, Summer, 2009.

- "From Complacency to Crisis: The Rise and Fall of Risk-Taking in the 21st Century," with Danielle DiMartino and Harvey Rosenblum, **Economic Letter**, Federal Reserve Bank of Dallas, December 2007.

 http://www.dallasfed.org/assets/documents/research/eclett/2007/el0712.pdf
- "The Rise and Fall of Subprime Mortgages," with Danielle DiMartino,

 Economic Letter, Federal Reserve Bank of Dallas, November 2007.

 http://www.dallasfed.org/assets/documents/research/eclett/2007/el0712.pdf
 This article was recommended for further reading by the American Economic Association's *Journal of Economic Perspectives*, vol. 22 (2), Spring, 2008.
- "On the Record: The Housing Market, After the Boom," with D'Ann Petersen, **Southwest Economy**, Federal Reserve Bank of Dallas, May/June 2007.

 http://www.dallasfed.org/assets/documents/research/swe/2007/swe0703e.pdf

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- "Making Sense of the U.S. Housing Slowdown," **Economic Letter**, Federal Reserve Bank of Dallas, Nov. 2006.
- "Making Sense of Elevated Housing Prices," **Southwest Economy**, Federal Reserve Bank of Dallas, October/November 2005.

 http://www.dallasfed.org/assets/documents/research/swe/2005/swe0505.pdf
- "Productivity Gains Showing Up in Services," with Richard Alm and W. Michael Cox, **Southwest Economy**, Federal Reserve Bank of Dallas, Nov./Dec. 2004.
- "How Vulnerable Are Housing Prices?" **Southwest Economy**, Federal Reserve Bank of Dallas, March/April 2004.

ARTICLES PUBLISHED FOR THE FEDERAL RESERVE SYSTEM (continued):

- "How Low Interest Rates Affect Financial Institutions," **Southwest Economy**, Federal Reserve Bank of Dallas, November/December 2003.
- "An Overview of Science and Cents: Exploring the Economics of Biotechnology," with Mine Yücel. **Economic and Financial Policy Review**, Federal Reserve Bank of Dallas, Vol. 1, Issue 3, 2002.
- "The Economic Impact of Biotechnology," with John Thompson and Mine Yücel. **Southwest Economy**, Federal Reserve Bank of Dallas, March/April 2002.
- "How Does the Stock Market Affect the Economy?" **Southwest Economy**, Federal Reserve Bank of Dallas, September/October 2001.
- "The Rise of Stock Mutual Funds," **Southwest Economy**, Federal Reserve Bank of Dallas, January/February 2001.

 http://www.dallasfed.org/assets/documents/research/swe/2001/swe0105b.pdf
- "The Democratization of America's Capital Markets: How Small Firms and Investors Gained Greater Access to U.S. Financial Markets," **Economic and Financial Review**, Federal Reserve Bank of Dallas, 2001 (Second Quarter).
- "An Overview of What Credit Market Indicators Tell Us," **Economic and Financial Review**, Federal Reserve Bank of Dallas, 1999:Q3. http://www.dallasfed.org/assets/documents/research/efr/1999/efr9903a.pdf>
- "A Fresh Look at the National Economy," with Evan Koenig, **Southwest Economy**, Federal Reserve Bank of Dallas, March/April 1999.
- "How Increased Product Market Competition May Be Reshaping America's Labor Markets," **Economic Review**, Federal Reserve Bank of Dallas, 1998:Q4.
- "The New Labor Paradigm," **Southwest Economy**, Federal Reserve Bank of Dallas, May/June 1998.
- "What Does the Asian Crisis Mean For the U.S. Economy?" with D. Gould and L.Taylor, **Southwest Economy**, Federal Reserve Bank of Dallas, March/April 1998.
- "Has Long-Run Profitability Risen in the 1990s?" **Economic Review**, Federal Reserve Bank of Dallas, 1997:Q4.
- "A Tale of Three Supply Shocks, National Inflation, and the Region's Economy," **Southwest Economy**, Federal Reserve Bank of Dallas, No. 2, 1997.

ARTICLES PUBLISHED FOR THE FEDERAL RESERVE SYSTEM (continued):

- "Can Mortgage Applications Help Predict Home Sales?" **Economic Review**, Federal Reserve Bank of Dallas, 1996:Q4.
- "Sources of Money Instability," **Economic Review**, Federal Reserve Bank of Dallas, 1995:Q4.
- "The Changing Meaning of Money," **The Southwest Economy**, Federal Reserve Bank of Dallas, No. 6, 1995.

 http://www.dallasfed.org/assets/documents/research/swe/1995/swe9506b.pdf
- "Would the Addition of Bond or Equity Funds Make M2 a Better Indicator of Nominal GDP?" **Economic Review**, Federal Reserve Bank of Dallas, 1994:Q4.
- "Monitoring Money: Should Bond Funds Be Added to M2?" **The Southwest Economy**, Federal Reserve Bank of Dallas, Special Issue/June 1993.
- "Mutual Funds and Monetary Policy," **Economic Review**, Federal Reserve Bank of St. Louis, November/December 1994.
- "Regulation, Bank Competitiveness, and Episodes of Missing Money," **Economic Review**, Federal Reserve Bank of Dallas, 1993:Q2.
- "The Case of the 'Missing M2," **Economic Review**, Federal Reserve Bank of Dallas, 1992:Q2.
- "Developments Affecting the Profitability and Practices of Commercial Banks in 1990," **Federal Reserve Bulletin**, July 1991, with Allan Brunner and Mary McLaughlin.
- "Developments Affecting the Profitability of Commercial Banks in 1989," **Federal Reserve Bulletin**, July 1990, with Mary McLaughlin.

PAPERS UNDER REVIEW OR WORKING PAPERS

- "Broad Divisia Money and the Recovery of Nominal GDP from the COVID-19 Recession," with Michael Bordo. *NBER Working Paper* 31304.
- "Why Has U.S. Stockownership Doubled Since the Early 1980s? Equity Participation Over the Past Half Century." With Mark Walker, Princeton Ph.D. student.
- "The Impact of the Dodd-Frank Act on Small Business," with Michael Bordo and Rebel Cole. *NBER Working Paper* No. 24501.

PAPERS UNDER REVIEW OR WORKING PAPERS (continued)

- "The Gig-Economy and Inflation: Have the Rise of Online Retailing and Self-Employment Disrupted the Phillips Curve?"
- "How Financial Innovations and Accelerators Drive U.S. Consumption Booms and Busts," with John Muellbauer and Anthony Murphy. **Best paper award, Financial Management Association 2013 European Conference.**
- "What Drives Corporate Private Equity? An Historical Perspective," with Franklin Sanchez-Colburn.

WORK IN PROGRESS:

- "Shifting Credit Standards and the Boom and Bust in U.S. House Prices: Time Series Evidence from the Past Three Decades," with John Muellbauer and Anthony Murphy, June 2012. **Best paper award in the field of investments, markets, and institutions, Financial Management Association 2012 Asia Conference.**
- "New Evidence on First-Time Downpayment Ratios and the Evolution of U.S. House Prices," with John Muellbauer and Anthony Murphy.
- "How Sarbanes-Oxley Has Altered Aggregate M&A Activity," with Mayanka Dahal.