Francis E. Warnock

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CURRENT POSITIONS

Darden Graduate School of Business, University of Virginia, Charlottesville VA

James C. Wheat, Jr. Chair, Global Economies and Markets Area

Courtesy Appointment at UVA's Economics Department

Board of Governors of the Federal Reserve System, International Finance Division, Washington DC

Senior Research Advisor (long-term Visiting Scholar)

World Bank, Washington DC, Short-term Consultant

National Bureau of Economic Research. Research Associate, International Finance and Macroeconomics

Journal of International Money and Finance, Editorial Board Member

CW Economics Group, Principal

EDUCATION

University of North Carolina at Chapel Hill 1994-1999 Ph.D. in Economics

Johns Hopkins University 1984-1989 B.A. in Quantitative Studies

Minor in German

Universtität Wien 1987-1988 Goethe Institut (Prien am Chiemsee) Summer 1987

EMPLOYMENT HISTORY

ACADEMIC

Darden Graduate School of Business, University of Virginia, Charlottesville VA

James C. Wheat, Jr. Professor, 2013-present (without term).

Paul M. Hammaker Research Chair, 2009-2013.

Professor, 2012-present. Associate Professor (with tenure, 2009-2012, pre-tenure 2005-2009).

Visiting Associate Professor, 2004 – 2005.

Awards:

University of Virginia All-University Teaching Award (2017)

Outstanding Faculty Award (voted by MBA students) 2008, 2021

Darden Multi-year Teaching Award (2011, 2015, 2019)

Recognition for Outstanding Teaching (received 20+ times)

Triennial Wachovia Award for Research Excellence in Peer-Reviewed Journal 2010, 2013

Triennial Wachovia Award for Research Excellence in Practitioner Outlet 2013

Darden Multi-year Research Award 2015

Designed, wrote all content for, and teach the various <u>Global Financial Markets</u> (GFM) courses. GFM, offered since 2006, provides MBA students with macro-finance training. Advanced GFM, offered when my calendar permits, is an intensive student-led capstone course on some of the biggest issues in international finance.

Co-designed and co-lead, with Veronica Cacdac Warnock, the MBA course <u>Transforming Societies</u> and the related Spring 2013 'field experience' course, <u>Global Sustainability in Practice</u>.

Co-designed and co-led, with Saras Sarasvathy and Veronica Cacdac Warnock, the MBA 'group incubator' course, Markets in Human Hope, in which students seek to build innovations that use business and markets as viable tools in promoting human development and transforming societies by creating products, services, business methods, organizational forms, financial instruments or market-based mechanisms that address pressing issues in economic development and social well-being.

Course Head of, and have written much material for, the required MBA international macro course Global Economies and Markets II.

National University Singapore, Institute of Real Estate Studies. Visiting Scholar. November 2015.

Trinity College Dublin, Dublin Ireland. PhD course on international capital flows, November 2013.

Asian Institute of Management, Manila Philippines. Visiting Professor. Fall 2010. Rated #1 of 25 professors.

Institute of Shipboard Education/University of Virginia, MV Explorer, Fall 2008 Semester at Sea voyage.

Professor. Courses: COMM 470Z International Investments and COMM 472Z International Finance

Georgetown University, Washington DC. Adjunct Assistant Professor. Walsh School of Foreign Service, 2001-2004. Economics Department, 2000.

Department of Economics, UNC Greensboro, Greensboro NC. Lecturer, 1997-1998

Department of Economics, University of North Carolina at Chapel Hill, Chapel Hill NC. Senior Teaching Fellow, 1996 - 1998. Graduate Assistant, 1995 - 1996. Instructional Assistant, 1994-1996. Best Teaching Assistant Award, 1996.

NON-ACADEMIC

Board of Governors of the Federal Reserve System, International Finance Division, Washington DC

Division: International Finance Specialization: International Capital Flows

Senior Economist, October 2004 – September 2005. Economist, May 1999 - October 2004.

Dissertation Fellow, September 1998 - December 1998.

Senior Research Advisor (long-term Visiting Scholar), April 2020 – present.

Friends of Malawi, Treasurer, 2001-2004. FOM is a 1000-member NGO that funds small projects in Malawi.

A. Gary Shilling & Co., Springfield, NJ. Economist, 1993-1994

Thyolo Secondary School, Thyolo, Malawi (East Africa). Peace Corps Volunteer/Teacher, 1991-1993

Haver Analytics, Inc., New York NY. Database Manager, 1990-1991

Friedberg Mercantile Group, New York NY. Commodity Trading Advisor, 1988-1989

CONSULTANT/SHORT-TERM RESEARCH POSITIONS

World Bank, Washington DC, Short-term Consultant, 2024-present.

Hong Kong Monetary Authority, Hong Kong. Research Fellow, March/April 2019 and 2006 Q4. Topics: Developing KF*, "Markets and Housing Finance" (later published in *Journal of Housing Economics*).

South East Asian Central Banks (SEACEN) Research and Training Centre, Kuala Lumpur Malaysia. Research Fellow, April 2019.

Bloomberg LC. Consultant, Financial Products Group, 2016-17.

Bank for International Settlements Office for Asia and the Pacific, Hong Kong. Academic/External Advisor on Capital Flows (2013-14 and 2010-11) and on Property Markets and Financial Stability (2011-12).

Institute for International Integration Studies, Trinity College Dublin. Research Associate, 2005-2015.

Journal of International Money and Finance, Member, Editorial Board, 2013-present.

Journal of International Economics, Associate Editor, 2018-2022.

National Institute for Family Success, New Jersey, 2012-2014. Research/Business Consultant.

Board of Governors of the Federal Reserve System, International Finance Division, Washington DC. Visiting Scholar. April 2013.

European Central Bank, Frankfurt Germany. Consultant, International Policy Analysis Division. Intermittently 2007-present. Most recent consulting period: December 2012.

- Shorebank International, Washington DC, Dhaka Bangladesh, and Karachi Pakistan, 2011-2012.
 - Research/Business Consultant on Gates Foundation-funded projects on mobile money for the underbanked in Bangladesh and Pakistan.
- **Council on Foreign Relations**, Washington DC, 2010-2012. Adjunct Senior Fellow for International Finance. **Reserve Bank of New Zealand**, Wellington NZ. Visiting Scholar, March 2011.
- Monetary Authority of Singapore, Singapore. Consultant, November 2010.
- **Asian Development Bank,** Manila Philippines. Workshop on exchange rate determination (Dec 2010). Advisor on local currency bond markets (2014-15).
- Inter-American Development Bank, Washington DC.
 - External Advisor, 2009-2012, on the research program "Housing finance in Latin America: What is holding it back?" Co-led 9 research teams from the Latin America and Caribbean region.
 - Consultant, 2008-2009. Co-wrote "External capital structures for managing oil price volatility", which provides guidance to Trinidad and Tobago and Jamaica on how to manage international reserves so as to mitigate the impact of oil price volatility.
- **World Bank/IFC,** Washington DC. Consultant, 2007-2009. "External investor base and capital flows to EMEs: sources, instruments and challenges". Part of the Global Emerging Markets Local Currency Bonds (GEMLOC) initiative to develop local currency bond markets.
- **Development Innovations Group,** Bethesda MD. Consultant, 2007-2010. "Scoring the Newly Banked in South Africa". A large portion of the world's population are served by housing micro lenders (HMLs) who specialize in small, non-collateralized home loans. Can HMLs be profitable and sustainable? In this project, partially funded through the Gates Foundation, Veronica Cacdac Warnock and I—with partners Development Innovations Group, FinMark Trust, and lenders and government entities in South Africa—explored whether a non-standard credit scoring system can improve the risk assessment (and, by extension, profitability) of HMLs. For a description of the project, see Why Credit Scoring for Housing MicroLenders? in *Access Housing* 2007 No. 7 pgs. 6-7.
- **International Monetary Fund**, Washington DC. Consultant, 2005–2006. Wrote paper for Article IV Consultation for the United States. Contributed to the April 2006 *World Economic Outlook*. Project turned into "The Impact of a Disorderly Resolution of Global Imbalances on Global Wealth" (Warnock 2008).

RESEARCH PUBLICATIONS

Current Work in Progress

Tabova, A., and F. Warnock, 2024a. Preferred Habitats in the World's Safe Asset. NBER Working Paper 30722. (Previously circulated as Foreign Investors and U.S. Treasuries. NBER Working Paper 29313.)

Tabova, A., and F. Warnock, 2024b. Exorbitant Changes in Three Parts. Working Paper.

Burger, J., F. Warnock, and V. Warnock, 2025. KF* and Portfolio Flows around Global Shocks. Draft.

Peer-Reviewed Journal Articles

- Holland, S., S. Sarkissian, M. Schill, and F. Warnock, 2024. Nonlinearities and a Pecking Order in Cross-border Investment. *Journal of Banking and Finance*.
- Burger, J., F. Warnock, and V. Warnock, 2022. A Natural Level of Capital Flows. *Journal of Monetary Economics* 130: 1-16 (lead article).
- Forbes, K., and F. Warnock, 2021. Capital Flow Waves—or Ripples? Extreme Capital Flow Movements Since the Crisis. *Journal of International Money and Finance* 116: 1-24 (lead article).
- Burger, J., F. Warnock, and V. Warnock, 2018. Currency Matters: Analyzing International Bond Portfolios. *Journal of International Economics* 114: 376-388.
- Burger, J., F. Warnock, and V. Warnock, 2018. Benchmarking Portfolio Flows. *IMF Economic Review* 66(3): 527–563
- Burger, J., R. Sengupta, F. Warnock, and V. Warnock, 2015. U.S. Investment in Global Bonds: As the Fed Pushes, Some EMEs Pull. *Economic Policy* 30 (84): 729-766.

- Curcuru, S., C. Thomas, F. Warnock, and J. Wongswan, 2014. Uncovered Equity Parity and Rebalancing in International Portfolios. *Journal of International Money and Finance* 47: 86-99.
- Curcuru, S., C. Thomas, and F. Warnock, 2013. On Returns Differentials. *Journal of International Money and Finance* 36: 1-25 (lead article).
- Ammer, J., S. Holland, D. Smith, and F. Warnock, 2012. U.S. International Equity Investment. *Journal of Accounting Research* 50(5): 1109-1139 (lead article).
- Burger, J., F. Warnock, and V. Warnock, 2012. Emerging local currency bond markets. *Financial Analysts Journal* 68(4): 73-93.
- Forbes, K., and F. Warnock, 2012. Capital Flow Waves: Surges, Stops, Flight and Retrenchment. *Journal of International Economics* 88(2): 235-251.
- Cai, F., and F. Warnock, 2012. Foreign Exposure through Domestic Equities. *Finance Research Letters* 9(1): 8-20. Curcuru, S., C. Thomas, F. Warnock, and J. Wongswan, 2011, U.S. international equity investment and past and prospective returns. *American Economic Review* 101(7): 3440-3455.
- Rothenberg, A., and F. Warnock, 2011. Sudden Flight and True Sudden Stops. *Review of International Economics* 19(3): 509-524.
- Burger, J., A. Rebucci, F. Warnock, and V. Warnock, 2010. External Capital Structures for Managing Oil Price Volatility. *Journal of Business, Finance and Economics in Emerging Economies* 5(2): 1-37.
- Curcuru, S., T. Dvorak, and F. Warnock, 2010. Decomposing the U.S. External Returns Differential. *Journal of International Economics* 80: 22-32.
- van Wincoop, Eric, and Francis E. Warnock, 2010. Is Home Bias in Assets Related to Home Bias in Goods? *Journal of International Money and Finance* 29: 1108-1123.
- Warnock, Francis E., and Veronica Cacdac Warnock, 2009. International Capital Flows and U.S. Interest Rates, *Journal of International Money and Finance* 28: 903-919.
- Leuz, Christian, Karl Lins, and Francis E. Warnock, 2009. Do Foreigners Invest Less in Poorly Governed Firms?, *Review of Financial Studies* 22(8): 3245-3285.
- Kho, Bong-Chan, Rene M. Stulz, and Francis E. Warnock, 2009. Financial Globalization, Governance, and the Evolution of the Home Bias, *Journal of Accounting Research* 47: 597-635.
- Curcuru, Stephanie E., Charles Thomas, and Francis E. Warnock, 2009. Current Account Sustainability and Relative Reliability. in J. Frankel and C. Pissarides (ed) *NBER International Seminar on Macroeconomics* 2008. University of Chicago Press, pgs 67-109.
- Curcuru, Stephanie, E., Tomas Dvorak, and Francis E. Warnock, 2008. Cross-Border Returns Differentials, *Quarterly Journal of Economics* 123(4): 1495–1530.
- Warnock, Veronica Cacdac, and Francis E. Warnock, 2008. Markets and Housing Finance, *Journal of Housing Economics* 17: 239-251.
- Edison, Hali, and Francis E. Warnock, 2008. Cross-Border Listings, Capital Controls, and Equity Flows to Emerging Markets, *Journal of International Money and Finance* 27: 1013-1027.
- Warnock, Francis E., 2008. The Impact of a Disorderly Resolution of Global Imbalances on Global Wealth, *Economic Notes Review of Banking, Finance and Monetary Economics* 37(3): 345–379.
- Burger, John D., and Francis E. Warnock, 2007. Foreign Participation in Local-Currency Bond Markets, *Review of Financial Economics* 16: 291-304.
- Freund, Caroline, and Francis E. Warnock, 2007. Current Account Deficits in Industrial Countries: The Bigger They Are, The Harder They Fall? in R. Clarida, ed. *G7 Current Account Imbalances: Sustainability and Adjustment*. University of Chicago Press, 133-162.
- Burger, John D., and Francis E. Warnock, 2006. Local Currency Bond Markets, *IMF Staff Papers* 53: 115-132. Faucette, Jillian E., Alex Rothenberg, and Francis E. Warnock, 2005. Outflows-Induced Sudden Stops, *Journal of*
- Palicy Reform 8: 119-130.
- Ahearne, Alan, William Griever, and Francis E. Warnock, 2004. Information Costs and Home Bias: An Analysis of U.S. Holdings of Foreign Equities, *Journal of International Economics* 62: 313-336.
- Edison, Hali, and Francis E. Warnock, 2004. U.S. Investors' Emerging Market Equity Portfolios: A Security-Level Analysis, *Review of Economics and Statistics* 86: 691 704.

- Warnock, Francis E. and Chad Cleaver, 2003. Financial Centers and the Geography of Capital Flows, *International Finance* 6(1): 27-59.
- Warnock, Francis E., 2003. Exchange Rate Dynamics and the Welfare Effects of Monetary Policy in a Two-Country Model with Home-Product Bias, *Journal of International Money and Finance* 22: 343-363.
- Edison, Hali, and Francis E. Warnock, 2003. A Simple Measure of the Intensity of Capital Controls, *Journal of Empirical Finance* 10(1/2): 81-103.
- Holland, Sara, and Francis E. Warnock, 2003. Firm-Level Access to International Capital Markets: Evidence from Chilean Equities, *Emerging Markets Review* 4(1): 39-51.
- Warnock, Francis E., 2002. Home Bias and High Turnover Reconsidered, *Journal of International Money and Finance* 21: 795-805.
- Warnock, Francis E. and Molly Mason, 2001. The Geography of Capital Flows: What We Can Learn from Benchmark Surveys of Foreign Equity Holdings, *Emerging Markets Quarterly* 5(1): 15-29.

Other Published Papers

- Burger, J., F. Warnock, and V. Warnock, 2023. KF* and Portfolio Inflows: A Focus on Latin America. in *Credibility of emerging markets, foreign investors' risk perceptions, and capital flows* edited by Álvaro Aguirre, Andrés Fernández, and Sebnem Kalemli-Öscan, Santiago, Chile, pgs. 185-204.
- Burger, J., F. Warnock, and V. Warnock, 2018. The Effects of U.S. Monetary Policy on Emerging Market Economies' Sovereign and Corporate Bond Markets. *Central Banking, Analysis, and Economic Policies Book Series* in: Enrique G. Mendoza & Ernesto Pastén & Diego Saravia (ed.), *Monetary Policy and Global Spillovers: Mechanisms, Effects, and Policy Measures*, edition 1, volume 25, chapter 3, pages 49-96 Central Bank of Chile.
- Curcuru, Stephanie E., Charles Thomas, and Francis E. Warnock, 2015. Cross-border portfolios: assets, liabilities, and nonflow adjustments. in <u>Cross-border financial linkages: challenges for monetary policy and financial stability</u> (BIS Papers 82): 7-24.
- Burger, J., F. Warnock, and V. Warnock, 2015. Bond Market Development in Developing Asia. in *From Stress to Growth: Strengthening Asia's Financial Systems in a Post-Crisis World*, edited by Marcus Noland and Donghyun Park. Peterson Institute for International Economics. Also ADB Economics Working Paper 448.
- Claessens, S., L. Stracca, and F. Warnock, 2016. International dimensions of conventional and unconventional monetary policy. *Journal of International Money and Finance* 67: 1-7.
- Forbes, K., and F. Warnock, 2014. Debt- and Equity-Led Capital Flow Episodes. in *Capital Mobility and Monetary Policy*, edited by Miguel Fuentes, Claudio Raddatz and Carmen M. Reinhart. Santiago: Central Bank of Chile. Working Paper version: NBER WP 18329.
- Warnock, F., 2013. Discussion of "Global Imbalances and Taxing Capital Flows". *International Journal of Central Banking* (June).
- Warnock VC and Warnock FE, 2012. Developing Housing Finance Systems. Proceedings of a Conference Held in Sydney on 20–21 August 2012. Editors: Alexandra Heath, Frank Packer, and Callan Windsor. Reserve Bank of Australia and Bank for International Settlements.
- Warnock, F., 2012. Global Imbalances: The Crisis That Did Not Occur...Yet. in *No Way Out: Persistent Government Interventions in the Great Contraction*. AEI.
- Warnock VC and Warnock FE, 2012. Mortgage Market Functioning. In: Susan J. Smith, Marja Elsinga, Lorna Fox O'Mahony, Ong Seow Eng, Susan Wachter, Kyung-Hwan Kim, editors. *International Encyclopedia of Housing and Home*, Vol 4 pp. 394–398. Oxford: Elsevier.
- Galindo, Arturo, Alessandro Rebucci, Francis E. Warnock, and Veronica Cacdac Warnock, 2012. Too Small to Thrive: Housing Finance Markets in Latin America and the Caribbean. IDB Working Paper and Chapter 7 in Room for Development: Housing Markets in Latin America and the Caribbean.
- Forbes, Kristin, and F. Warnock, 2011b. Capital Flow Waves. *Macroeconomic Review*, X(2), Monetary Authority of Singapore.
- Warnock, F., 2011. Review of Barry Eichengreen's "Exorbitant Privilege: The Rise and Fall of the Dollar and the Future of the International Monetary System", *Journal of International Economics* 85(2): 336-337.
- Warnock, F., 2011, Doubts About Capital Controls. Capital Flows Comment (April), Council on Foreign Relations.

- Warnock, F., 2010, Two Myths About the U.S. Dollar. *Capital Flows Quarterly* (September), Council on Foreign Relations.
- Warnock, F., 2010, How Dangerous Is U.S. Government Debt? The Risk of a Sudden Spike in U.S. Interest Rates. *Capital Flows Quarterly* (June), Council on Foreign Relations.
- Harvey, C., M. Lipson, and F. Warnock, 2008, Darden Conference Issue: Capital Raising in Emerging Economies (Guest Editorial). *Journal of Financial Economics* 88: 425-429.
- Burger, John D., Veronica Cacdac Warnock, and Francis E. Warnock, 2008, Ingredients of a Well-Functioning Capital Market, *Korea's Economy 2008* (Korea Economic Institute), vol. 24: 31-38.
- Warnock, Veronica Cacdac, and Francis E. Warnock, 2007, Why Credit Scoring for Housing Micro Lenders? *ACCESS Housing* No. 7: 6-7 (FinMark Trust).
- Burger, John D., and Francis E. Warnock, 2006, Foreign Participation in Emerging Asian Bond Markets, *Korean Economy* 2006 (Korea Economic Institute).
- "The Impact of Petrodollars on U.S. and Emerging Market Bond Yields," with Laura Kodres, in the IMF's April 2006 *World Economic Outlook* (Box 2.3).
- Warnock, Francis E., 2005, Drawing on American Experience: How Have U.S. Investors Fared with their Allocations to Foreign Equity? *Canadian Investment Review* (Summer 2005).
- Griever, William, Gary Lee, and Francis E. Warnock, 2001, The U.S. System for Measuring Cross-Border Investment in Securities: A Primer with a Discussion of Recent Developments, *Federal Reserve Bulletin* 87: 633-650.
- Warnock, Francis E., 2000, U.S. International Transactions in 1999, Federal Reserve Bulletin 86: 301-314.

Unpublished Policy Pieces

"The Impact of East Asian Reserves Accumulation and U.S. Interest Rates," Testimony for the U.S-China Economic and Security Review Commission's Hearing "China's Financial System and Monetary Policies: The Impact on U.S. Exchange Rates, Capital Markets, and Interest Rates" (August 2006).

"Financial Globalization," prepared for G20/World Economic Forum/RBWF Forum (September 2007).

CASE STUDIES AND TECHNICAL NOTES

For the Transforming Societies course

Warnock, Veronica Cacdac, and Francis E. Warnock, 2015. BPI Globe BanKO and Financial Inclusion in the Philippines (UVA-GEM-0137).

Warnock, Veronica Cacdac, and Francis E. Warnock, 2018. Lifting Filipinos Out of Poverty: An NGO MFI Approach (UVA-GEM-0148).

Warnock, Veronica Cacdac, and Francis E. Warnock, 2018. Background Note on the Philippines and Financial Inclusion (UVA-GEM-0149).

For the Global Financial Markets course

Listed in the order I use them, many are updated each year.

Long-term interest rates

Warnock, Francis E., 2024. Fed Listens Meets an Inflation Surge (UVA-GEM-0210)

Warnock, Francis E., 2006. The Determinants of Interest Rates (UVA-BP-0489).

Warnock, Francis E., 2011 (updated each year with current data). Yield Curve and Growth Forecasts (UVA-GEM-0106, UVA-GEM-0106TN)

Warnock, Francis E., 2024. From Draghi's 'Whatever it takes' to Managing Fragmentation Risk (UVA-GEM-0212)

Warnock, Francis E., and Marc Chandler, 2024. The World's Next Reserve Currency (UVA-GEM-0211)

Exchange Rates

Warnock, Francis E., 2008. Exchange Rate Models (UVA-BP-0496)

Warnock, Francis E., 2011. Currency Crises in the United Kingdom and Hong Kong (UVA-GEM-0108, UVA-GEM-0108TN)

Global Asset Allocation

Warnock, Francis E., and Liz Wurster, 2024. Global Asset Allocation: Investing in a Time of Debt, Supply Shocks, and Quantitative Tightening (UVA-GEM-0215)

Warnock, Francis E., and Liz Wurster, 2015. Global Asset Allocation: Investing in a Time of Debt, Deficits, and Quantitative Easing (UVA-F-1738, UVA-F-1738TN)

Warnock, Francis E., 2011. Global Asset Allocation: All That Glitters? (UVA-F-1646, UVA-F-1646TN)

Warnock, Francis E., 2011. Global Asset Allocation: Crude Calculations (UVA-F-1647, UVA-F-1647TN)

For the Core GEM course

Kieran J. Walsh and Francis E. Warnock, 2023. Predicting the Next High Growth Economies (UVA-GEM-0207)

Kieran J. Walsh and Francis E. Warnock, 2023. Swatch Group and Francogeddon (abridged) (UVA-GEM-0206)

Warnock, Francis E., 2023. An Abridged User's Guide to the BPM6-Based BOP and IIP (UVA-GEM-0213) Warnock, Francis E., 2024. The 3P Model (UVA-GEM-0209)

Kieran J. Walsh and Francis E. Warnock, 2021. Exchange Rate Shocks in the UK and Switzerland (UVA-GEM-0172)

Kieran J. Walsh and Francis E. Warnock, 2023. Identifying Fragilities in the Global Economy (UVA-GEM-0208)

Warnock, Francis E., 2024. The Rainbow Nation at 30: South Africa's Quest for Balanced and Sustainable Economic Growth in South Africa (UVA-GEM-0224)

Warnock, Francis E., 2024. Whither the Euro Area? (UVA-GEM-0223)

Older materials, some still useful, that have been replaced by others in my courses

Warnock, Francis E., 2015. Janet Yellen: Navigating Uncharted Waters. (UVA-GEM-0134)

Warnock, Francis E., 2014. Yellen, Guidance, and the Exit Strategy. (UVA-GEM-0121)

Warnock, Francis E., 2013. Bernanke's Dilemma (UVA-GEM-0111, UVA-GEM-0111TN)

Warnock, Francis E., 2011. Greenspan's Conundrum and Bernanke's Nightmare (UVA-BP-0544, UVA-BP-0544TN).

Warnock, Francis E., 2008. Greenspan's Conundrum (UVA-BP-0492).

Warnock, Francis E., 2009. Geithner and Bernanke Amid the Global Financial Crisis (UVA-BP-0540, UVA-BP-0540TN)

Rodriguez, Peter, and Francis E. Warnock, 2009. Whither the US Economy? (UVA-BP-0542, UVA-BP-0542TN) (updated slides available as UVA-BP-0542P and UVA-BP-0542X)

Warnock, Francis E., 2011. Prospective Capital Flows and Currency Movements: US Dollar v. Euro (UVA-BP-0545, UVA-BP-0545TN)

Warnock, Francis E., and Peter Debaere, 2011. Eurozone Convergence, Divergence...and Then What? (UVA-GEM-0107, UVA-GEM-0107TN). Final revision August 2012, superseded by "Draghi's Commitment" and/or "Eurozone at 15: A Monetary Union without Growth?"

Warnock, Francis E., and Marc Chandler, 2008. Long-term FX Strategies in 2008 (UVA-BP-0526). Superseded by "Whither the US Dollar?"

Warnock, Francis E., 2008. FX Strategies in 2008: Dollar v. Euro (draft)

Warnock, Francis E., 2006. FX Strategies in 2006: Dollar v. Yen (UVA-BP-0505, UVA-BP-0505TN)

Warnock, Francis E., 2006. FX Strategies in 2005: Dollar v. Euro (UVA-BP-0506, UVA-BP-0506TN)

Rodriguez, Peter, and Francis E. Warnock, 2008. Vietnam: A New Tiger Earns Its Stripes (UVA-G-0618)

Warnock, Francis E., and Patrick Conway, 1997. Post-Conflict Recovery in Uganda (World Bank Institute Case #37152)

Conway, Patrick, and Francis E. Warnock, 1997. Macroeconomic Stability and Income Inequality in Chile (Economic Development Institute)

Technical Notes:

The three primary technical notes I use are The Determinants of Interest Rates (UVA-BP-0489; 2006 revised 2015), Exchange Rate Models (UVA-BP-0496; 2008 revised 2015), and A User's Guide to the BOP and IIP (UVA-GEM-0154, 2018). Older technical notes include An Early Warning System of Currency Crises (UVA-BP-0497; 2008), A User's Guide to the BOP and IIP: The Transition from BPM5 to BPM6 (UVA-GEM-0135, 2015), A User's Guide to the BOP and IIP (UVA-BP-0523, 2008; this was for BPM5 standards), A Technical Note on the Open Economy ISLM (UVA-BP-0528, 2008), Yield Curve Basics (UVA-BP-0491, 2006), Inflation Targeting (UVA-BP-0495, 2006).

SERVICE AND LEADERSHIP (some items also appear elsewhere in this document)

UVA-Darden

Darden's Tenure and Promotion Committee (2014-2018), GEM Area Head (2014-2018), GEM Course Head (2018-2024).

Board of Governors of the Federal Reserve System, International Finance Division, Washington DC As a long-term Visiting Scholar (April 2020-present), I mentor many IF Division economists on research projects and research agendas.

Conference and Workshop Leadership

Washington Area International Finance Conference: Co-organizer (2020)

Symposium on Emerging Financial Markets: China and Beyond: Committee Member (2014, 2015)

Darden's International Finance Conference: Executive Director (2009/2010, 2010/2011), Program Committee (2005-2014)

Monetary Authority Singapore-BIS Conference for Property Markets and Financial Stability: External Advisor/Scientific Committee (Sept. 2011 conference)

Darden's Financial Economics Workshop: Co-creator and co-organizer

Darden's Junior Faculty Brown Bag: Co-creator and co-organizer

Program Committee: PFN Portuguese Financial Network 2006 Annual Conference, Financial Management Association Annual Meeting (2005-2007), FMA Europe 2005 Annual Meeting

Session Chair: Western Economic Association (2000), Southern Economic Association (2000)

Council on Foreign Relations, New York NY and Washington DC.

As Adjunct Senior Fellow for International Finance, wrote reports on sovereign and private capital flows that drew lessons from my research to inform current policy debates.

Inter-American Development Bank, Washington DC.

As External Advisor, guided nine research teams from the Latin America and Caribbean region in year-long projects around the general theme, "Housing finance in Latin America: What is holding it back?" Co-wrote a summary/policy chapter to published in IDB's flagship publication *Development in the Americas*.

Bank for International Settlements, Asia Office Hong Kong.

As External Advisor, provided guidance on international capital flows. As Academic Advisor, played a significant (external) role in the BIS Asia office's 2011-2012 research program on property markets and financial stability, serving on the scientific committee for its Sept 2011 conference at the Monetary Authority of Singapore as well as contributing a commissioned year-long study on housing finance and financial stability.

Federal Reserve Bank of Dallas, Dallas TX

As Senior Fellow in the Dallas Fed's Globalization and Monetary Policy Institute, provided guidance to the director and the research team, as well as contributed occasional research papers.

Other Central Banks and International Financial Institutions

Advised (through formal short-term appointments) the ECB, Fed, Monetary Authority Singapore, IMF, World Bank, Reserve Bank of New Zealand, and Asian Development Bank.

Gates Foundation

Along with Veronica Cacdac Warnock, have contributed to two Gates Foundation-funded projects in emerging markets. The first was the "Scoring the Newly Banked in South Africa" project, in which we helped housing micro lenders (HMLs) in South Africa to evaluate risk and created custom scoring models (which have been used in training in South Africa and Mexico). The second is a project on microsavings in Bangladesh and Pakistan, for which we advised on monitoring and evaluation metrics and reports as well as longer-term financial inclusion studies.

Institute for International Integration Studies, Trinity College Dublin, Dublin Ireland

As Research Associate, interacted with IIIS researchers, contributed occasional research papers and served on a dissertation committee. Taught PhD mini-course on international capital flows.

Asian Institute of Management, Manila Philippines

Visited AIM for 3 months in late 2010. In addition to teaching one course, conducted two (very) public seminars (one on currency wars, the other on housing and housing finance), assisted AIM management in their thinking about the research environment at AIM, and attempted to spur new research projects among AIM faculty. These attempts are ongoing. Veronica and I ran a follow-up housing symposium in September 2011 in Manila, at which time I also gave a public talk on currencies and bond markets.

Friends of Malawi

Served as Treasurer for FOM, a 1000-member non-profit that funds small development projects in Malawi. **Peace Corps Volunteer**, Thyolo Malawi

Taught high school math for two years in a government-run secondary school.

Dissertation Committees (committee member, not a primary supervisor)

Daniel Fried (UVA Econ 2013); Daniel McDowell (UVA Politics 2012; Svetlana Pashchenko (UVA Econ 2011); Aidan Corcoran (Trinity College Dublin 2010); Soyoung Lee (UVA Econ 2010); Esen Onur (UVA Econ 2007); William Craighead (UVA Econ 2006)

Referee Services. Referee for over 30 journals including AER, AER-I, QJE, JF, RFS, JFQA, JIE, JBF and JME. Member, Semester at Sea research review working group. Associate Editor, Journal of International Economics. Editorial Board Member, Journal of International Money and Finance.

Practitioner Talks (last updated in 2015)

- "Fed Liftoff: The View from Asia" University of Virginia Investment Conference (Nov. 2015)
- "Emerging Local Currency Bonds: A View from the US," Russia G20/Central Bank Turkey/Reinventing Bretton Woods Conference on Global Finance in Transition (Istanbul, May 2013)
- "Housing Finance and Financial Stability" Philippine Urban Consortium Events (World Bank, Manila office, March 2012)
- "Capital Flow Waves" Bank of Chile Conference on Monetary Policy and Financial Markets (commissioned paper) (Santiago Chile, Nov 2011)
- "Housing and Financial Stability" BIS/Monetary Authority of Singapore Workshop on Property Markets and Financial Stability (Singapore, Sept 2011)
- "Betting Your Bottom Dollar: Global Financial Markets, Today and Tomorrow" ADB-AIM Knowledge Hub for Trade and Investment (Manila Philippines, Sept 2011)
- "Housing Finance in Latin America and Caribbean" Inter-American Development Bank (June 2011)
- "Housing Finance around the World", Il Foro de Vivienda (the Banking Association of Colombia's annual conference on housing), Bogota Colombia (December 2010)
- "Capital Flow Waves", BIS Asia Office (Hong Kong), Monetary Authority of Singapore, Bangko Sentral ng Pilipinas, RBA, RBNZ
- "US International Equity Investment and Past and Prospective Returns", ECB, Hong Kong Monetary Authority, RBNZ, Dutch Central Bank, Dallas Fed, BIS
- "Currency Wars, Capital Flows, and EME Consequences" ADB-AIM Knowledge Hub (Manila Philippines) "China's Currency Policy and Global Imbalance" at Global HR Forum 2010 (Seoul Korea)
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Led a panel at Tibetan Social Business and Sustainable Entrepreneurship conference (UVA)

- "Financial Globalization and Local Currency Bond Markets" at Bundesbank/German Ministry of Finance Conference on "Bond Markets in Emerging Market Economies and Developing Countries Financial Globalisation, Vulnerabilities and Data Needs". Frankfurt Germany.
- "A Night at the Fed: The US Economy in Crisis". Houston Area Darden Tuck Alumni Group, Houston TX.
- "A Conversation on the Global Economy". Darden Reunion 2008. Charlottesville VA.
- Discussion of Lane and Shambaugh "Financial Exchange Rates and International Currency Exposure" at Deutsche Bundesbank and Institute for Monetary and Financial Stability Institute Conference on "Central Banks and Globalisation". Bundesbank's Training Centre, Eltville Germany.
- Panel on Key Challenges and Priorities for International and Domestic Investors at Gemloc Advisory Services Roundtable Conference and Workshop. World Bank, Washington DC.
- "The Impact of a Disorderly Resolution of Global Imbalances on Global Wealth" at Banca Monte dei Paschi di Siena conference on "The impact of Global Financial Imbalances". Siena, Italy.

Pre-2008 Presentations to Practitioners:

Bangko Sentral ng Pilipinas Roundtable on the Property Sector, ECB, Rural Housing Loan Fund Annual Workshop (Johannesburg, South Africa), World Economic Forum (Durban, South Africa), Federal Reserve Bank of New York, IMF Research Seminar, Federal Reserve Bank of Dallas, Banca d'Italia, Hong Kong Monetary Authority Research Seminar, South Africa Reserve Bank (twice), Banking Association of Colombia Annual Conference (Medellin, Colombia), FX Group of New York, Tudor Investment Corp (Greenwich CT), Vienna Research Circle for Asset Management (Vienna, Austria), Macroeconomic Advisers' Quarterly Outlook Conference (New York City), Anglo-American Real Property Institute (Keynote Address), Global Investment Conference (Whistler, Canada), NYSE, Board of Governors of the Federal Reserve System, NYSE Global Equities Conference, Chesapeake Area Economic Educators Meeting, NYSE Conference on Global Equity Markets in Transition

Pre-2008 Presentations to Student and Alumni Groups:

"Housing Microlending in South Africa" (UVA Global Development Organization); "The Life of a Fed Economist" (St. Mary's College, Omicron Delta Epsilon Economics Honor Society)

ACADEMIC TALKS

2008-present:

Reserve Bank of New Zealand (multiple), Trinity College Dublin (multiple), CEMLA/World Bank/Bank of Italy Conference on Macro-prudential Policies, Bank Negara Malaysia's Conference on Monetary Policy in the New Normal, BIS Consultative Council for the Americas Research Conference (at Central Bank of Chile), Bank Negara Malaysia, FRB, ECB (multiple), University of Auckland, Reserve Bank of Australia/BIS (Property Markets and Financial Stability conference), Vanderbilt, Notre Dame, Oxford (Household Behaviour in Mortgage and Housing Markets Conference), IJCB Annual Conference (at Central Bank of Chile), International Economics Association/Bank of Turkey Roundtable on Currency Flows, Koc University (Istanbul), NBER (multiple), San Francisco Fed (multiple), INSEAD, Johns Hopkins, AEAs, Georgetown University, City University Hong Kong, HKUST, University of Amsterdam, University of Oregon, INFINITI Conference (Dublin Ireland), Led a panel at Tibetan Social Business and Sustainable Entrepreneurship conference (UVA), University of North Carolina, Harvard, IMF Conference on International Macro-Finance, University of Wisconsin conference on "Current Account Sustainability", Conference for NBER International Seminar on Macroeconomics (Ljubljana, Slovenia), European University Institute (Fiesole, Italy), JAR Annual Conference (Chicago GSB), Asian Development Bank (multiple), Bangko Sentral ng Pilipinas (multiple), University of Tokyo, St. Andrews University, Cass Business School (Keynote), Seoul National University, Korea University, Bank of Japan, Ministry of Finance (Japan).

Pre-2008 Academic Presentations:

University of the Philippines, Nykredit Symposium on Housing, Mortgage, and Portfolio Choice (Copenhagen), ECB Conference on Asset Management, Private Equity Firms and International Capital Flows (Dublin), NBER International Finance and Macro Program Meeting (Fall 2007), Western Finance Association Annual Conference (2007), European University Institute, Ente "Luigi Einaudi", Wharton Impact Conference on International Corporate Governance (2007), HKMA/BIS/CEPR Conference on Bond Market Developments, IMF Annual Research Conference (2006), NBER IFM Meeting, ECB Conference on Financial Globalization and Integration, UVA Economics Seminar, Institute for International Integration Studies, Bank of Canada/UBC Conference on International Financial Markets, International AREUEA (2005), UC Berkeley Conference on Global Imbalances and Asian Financial Markets, NBER Conference on G7 Current Account Imbalances: Sustainability and Adjustment, Maryland Finance Conference, FMA Europe, IMF Workshop, NBER pre-conference on G7 Current Account Imbalances: Sustainability and Adjustment, University of Houston Conference on International Risk Sharing, Universidade do Porto, Universidade Católica Portuguesa, ISCTE Business School, Georgia Tech International Finance Conference, Darden Emerging Markets Finance Conference, Washington Area Finance Association, Kiel Institute/Bundesbank Conference on Multinationals and International Integration, University of Virginia, American Economic Association Annual Conference (2002), Arizona State, Utah, CEPR/Gerzensee Conference on International Capital Flows, IMF Research Seminar, UC Santa Cruz, IMF Global Linkages Conference, UCLA Anderson School (CIBER Brainstorming Conference on International Capital Flows), Kellogg (RFS Conference on Investments in Imperfect Capital Markets), World Bank Conference on Development Economics (2002), Trinity College Dublin, CEPR/London Business School Conference on International Capital Flows (2001), University of Virginia, University of North Carolina, University of North Carolina - Kenan-Flagler, Washington Area Finance Association, Tor Vergata Rome, Western Economic Association, Southern Economic Association

PERSONAL INFORMATION

Married to Veronica Cacdac Warnock (Professor of Practice and Batten Fellow, Darden Business School, University of Virginia; Principal, CW Economics Group, http://mvcwarnock.uvacreate.virginia.edu/home.html)