

TOAN PHAN (Phan Vũ Toàn)

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PROFESSIONAL EXPERIENCE

Federal Reserve Bank of Richmond

Senior Economist, May 2019 - present

Economist, July 2017 - Apr 2019

Office of Financial Research, Department of the Treasury

Visiting scholar (Intergovernmental Personnel Act) Aug 2021 - present

5th National Climate Assessment: Economics chapter author

Assistant Professor in Economics, UNC Chapel Hill, July 2012 - June 2017

Research areas: Climate Economics, Climate Finance, Macroeconomics, International Economics

EDUCATION

Ph.D. in Economics, Northwestern University, Illinois, June 2012

Committee: Martin Eichenbaum, Lawrence Christiano, Matthias Doepke, Alessandro Pavan

M.A. in Economics, Northwestern University, IL, June 2007

B.A. in Mathematics (with minor in Studio Art), Bucknell University, PA, May 2006, *summa cum laude*

BIBLIOGRAPHY

1. “Bubbly Recessions,” with Sid Biswas and Andrew Hanson, *American Economic Journal: Macroeconomics*, 12(4), 2020, pp. 33-70
2. “Temperature and Growth: A Panel Analysis of the United States,” with Riccardo Colacito and Bridget Hoffmann, *Journal of Money Credit and Banking*, 51 (2-3), 2019, pp. 313-368
Mentioned in: Congress Joint Economic Committee’s 2019 Economic Report to the President, House Committee on the Budget hearing on the Costs of Climate Change, Wall Street Journal (3), Bloomberg (2), CNN, CBS, the Guardian, Business Insider, VoxEU, Think Progress, DevDiscourse, FRB SF Economic Letters, Governors’ Wind & Solar Energy Coalition
3. “Asset Bubbles and Global Imbalances,” with Daisuke Ikeda, *American Economic Journal: Macroeconomics*, 11(3), 2019, pp. 209-251
4. “Regressive Welfare Effects of Housing Bubbles,” with Andrew Graczyk, *Macroeconomic Dynamics*, 2019, pp. 1-26. doi:10.1017/S1365100519000981
5. “Time-Varying Skewness and Real Business Cycles,” with Lance Kent, *Economic Quarterly*, The Federal Reserve Bank of Richmond, 105(2), 2019, pp. 59-103
6. “Asset Pledgeability and Endogenously Leveraged Bubbles,” with Julien Bengui, *Journal of Economic Theory*, 177, 2018, pp. 280-314
7. “Bubbles, Wage Rigidity, and Persistent Slumps,” with Andrew Hanson, *Economic Letters*, 151(2), 2017, pp. 66-70
8. “Nominal Sovereign Debt,” *International Economic Review*, 58 (4), 2017, pp. 1303-1316
9. “Sovereign Debt Signals,” *Journal of International Economics*, 104, 2017, pp. 157-165
10. “A Model of Sovereign Debt with Private Information,” *Journal of Economic Dynamics and Control*, 83, 2017, pp. 1-17
11. “Toxic Asset Bubbles,” with Daisuke Ikeda, *Economic Theory*, 61(2) (special issue on Bubbles, Multiple Equilibria, and Economic Activities), 2016, pp. 241-271
12. “Information, Insurance and the Sustainability of Sovereign Debt,” *Review of Economic Dynamics*, 22, 2016, pp. 93-108
13. “Roots of the Derivative of the Riemann-Zeta Function and of Characteristic Polynomials,” with Dueñez E., Farmer D., Froehlich S., Hughes C., and Mezzadri F. *Nonlinearity*, IOP Publishing, 2010, vol 23, no 10

Working papers

14. “Leveraging the Disagreement on Climate Change: Theory and Evidence,” with Laura Bakkensen and Russell Wong, revise and resubmit at the Journal of Political Economy
15. “Severe Weather and the Macroeconomy,” with Hee Soo Kim and Christian Matthes, revise and resubmit at the American Economic Journal: Macroeconomics
16. “Pecuniary Externalities in Competitive Economies with Limited Pledgeability,” with V. Filipe Martins-da-Rocha and Yiannis Vailakis, submitted
17. “Climate Defaults and Financial Adaptation,” with Felipe Schwartzman, submitted
18. “Long-term Effects of Redlining on Environmental Risk Exposure,” with Clare Conzelmann, Arianna Salazar-Miranda, and Jeremy Hoffman
19. “Does information about flood risk increase willingness to migrate?,” with Laura Bakkensen, Quynh Nguyen and Paul Schuler
20. “The Transmission of Quasi-Sovereign Default Risk: Evidence from Puerto Rico,” with Ryan Leary and Anusha Chari, previous version distributed as NBER Working Paper 24108, revision resubmitted to the IMF Economic Review

Work in progress

21. “Heterogeneous Bank Learning and Strategic Adaptation: Evidence from Hurricane Harvey,” with Dasol Kim and Luke Olson

Dormant projects

22. “Race and Environmental Worries,” with Ranie Lin and Lala Ma
23. “Country Size and Sovereign Debt,” with Mark Wright
24. “Political Consequences of Sovereign Default,” with Igor Livshits and Christoph Trebesch
25. “Risky Bubbles, Public Debt and Monetary Policy,” with Daisuke Ikeda and Tomohiro Hirano

Other (non-refereed) publications

26. “Historical Redlining and Unequal Environmental Risks,” FRB Richmond *Economic Brief*, Dec 2022
27. “Are Some Homebuyers Strategically Transferring Climate Risks to Lenders?” FRB Richmond *Economic Brief*, Apr 2022
28. “Pricing and Mispricing of Climate Risks in U.S. Financial Markets,” FRB Richmond *Economic Brief*, Dec 2021
29. “Climate Change and Financial Stability? Recalling Lessons from the Great Recession”, FRB Richmond *Economic Brief*, Aug 2021
30. “The impact of rising temperature on U.S. Economic Growth,” with Riccardo Colacito and Bridget Hoffmann. *World Science Encyclopedia of Climate Change: Finance, Economics and Policy*, World Scientific, 20201
31. “Social vulnerability to climate change in Cambodia, Lao PDR and Vietnam,” with Nguyen Huu Ninh, Luong Quang Huy, Philip Michael Kelly. *Sustainable Development: Asia-Pacific Perspectives*, Cambridge University Press, forthcoming
32. “The Impact of Higher Temperatures on Economic Growth,” with Riccardo Colacito, Bridget Hoffmann, Tim Sablik, FRB Richmond *Economic Brief*, August 2018
33. “The Roots of ‘Bubbly’ Recessions,” with Helen Fessenden, FRB Richmond *Economic Brief*, April 2018

PROFESSIONAL SERVICE

Invited presentations († denotes discussion, * conference presentation by a coauthor)

2023:

Conferences: Sveriges Riksbank’s conference on climate change and the financial system, Bundesbank Spring Conference on climate change†*, Cowles Conference on General Equilibrium and its Applications at Yale University*, Midwest Financial Association Meeting*, ASSA†.

Seminars: Bank of Canada, Office of Financial Research

2022:

Keynote: Vietnam Symposium in Banking and Finance, Annual Meeting of Hawaii State Bar Association

Conferences: Society for Economic Dynamics, Stanford Institute for Theoretical Economics, PHBS Sargent Institute Macro-Finance Workshop, OCC Symposium on Climate Risk in Banking and Finance, UVA-Duke-Richmond Fed jamboree, AERE Summer Conference, 2022 Asian Meeting of the Econometric Society, BOJ-IMES†, FRB System Climate Meeting†, Asian Meeting of the Econometric Society, European Commission's Sustainable Finance Research Forum launch event

Seminars: San Francisco Fed Virtual Seminar on Climate Economics, IMF Sovereign Debt Workshop, Associations of Vietnamese Scientists and Experts, Notre Dame University, Virtual East Asia Macroeconomic Seminar Series, FRB Chicago

2021:

Conferences: Cambridge University Mini-conference on Climate Change*, Econometric Models of Climate Change Conference, UCLA Climate Adaptation Symposium, China Meeting of the Econometric Society, IMF Climate-Related Natural Disasters: Macroeconomic Effects and Policy Responses†*, International Banking, Economics and Finance Association (IBEFA) Summer Meeting†

Seminars: FRB NY, FRB SF, FRB Richmond brown bag

2020:

Conferences: IMF OAP MOF PRI, GIC Drexel, IMF annual macro-financial research conference†, FRB Richmond Sovereign Debt Workshop, FRB Richmond Climate Economics Workshop

Seminars: FRB Richmond brown bag, Osaka University ISER, FRB CREST, Federal Reserve System brown bag

2019:

Conferences: Third Interdisciplinary Sovereign Debt Research and Management Conference (DebtCon 3), System Committee on International Economics Analysis†, Society for Economic Dynamics (SED)

Seminars: Georgetown University, Sao Paulo School of Economics (FGV), Office of Financial Research, FRB Richmond brown bag

2018:

Conferences: Society for Economic Dynamics (SED), Conference in honor of Carlstrom and Fuerst at University of Notre Dame, China International Conference in Macroeconomics (CICM), Tsinghua Workshop in Macroeconomics†, American Economics Association, Northwestern Macro Conference, Society for Nonlinear Dynamics and Econometrics, Southern Economic Association (SEA) meeting*, North American Summer meeting*, NBER IFM*

Seminars: University of Virginia, Bucknell University

2017:

Conferences: Canon Institute for Global Studies (CIGS) conference on Macroeconomic Theory and Policy 2017, CIGS End of Year Macroeconomics Conference, 19th Tokyo Annual Macroeconomics Conference, UCSB LAEF Conference on Bubbles, Midwest Finance Association Meeting, Federal Reserve Bank of Richmond and University of Virginia Jamboree, Midwest Macro*, Interdisciplinary Sovereign Debt Research and Management Conference (DebtCon)*

Seminars: University of Southern California, University of California Santa Cruz, University of Tokyo, Osaka University, Osaka Institute of Social and Economic Research (ISER), University of Texas A&M, Virginia Tech, Santa Clara University

2016:

Conferences: Barcelona GSE Summer Forum, American Economic Association meeting, Association of Environmental and Resource Economists*, Econometric Society*, Southern Economic Association*

Seminars: Federal Reserve Bank of St Louis, Federal Reserve Bank of Richmond, University of Tokyo, Kobe University, University of Illinois at Urbana Champaign, International Monetary Fund, University of Montreal

2015:

Conferences: American Economics Association, Econometric Society World Congress*, RIDGE Workshop*, NBER Summer Institute (EFBGZ*)

Seminars: Triangle Dynamic Macro at Duke, Amherst College, Triangle Resource and Environmental Economics (TREE), University of Illinois at Chicago Finance Department, University of Hawaii, University of Washington in Seattle, University of North Carolina

2014:

Conferences: Barcelona GSE Summer Forum, American Economics Association meeting, Chicago Fed Summer Workshop on Money Banking Payments and Finance, Vietnam Economist Association Meeting, Institute for New Economic Thinking[†], European meeting of the Econometric Society*, International Society for New Institutional Economics*

Seminars: University of Montreal, Duke University (political economy seminar)

2013:

Conferences: Asia Pacific Conference on Economic Dynamics, Vietnam Economist Association Meeting, Midwest Macroeconomics*, Southern Economics Association*

Seminars: Federal Reserve of Chicago, Federal Reserve Bank of Atlanta, Duke University, Princeton University (political science lunch seminar), Toulouse School of Economics, University of Munich, Collegio Carlo Alberto, Université Evry Val d'Essonne, Bank of Japan, University of Tokyo, National University of Singapore

2012:

Conference: Vietnam Economist Association Meeting

Seminars: University College of London, University of North Carolina, North Carolina State University, College of William and Mary, Ryerson University, Northwestern University

2011:

Conference: Stony Brook Game Theory Festival

Seminars: Federal Reserve Bank of Chicago, Northwestern University

Conference (co)organizer

[Virtual Seminar on Climate Economics](#) series (2020-present), hosted by San Francisco Fed
System Climate Meeting (2022 and 2023), hosted by San Francisco Fed

Climate Miniconference (2023), hosted by Richmond Fed

[OFR Climate Implications for Financial Stability](#) (2022), hosted by Office of Financial Research

[Climate Change Economics](#) conference (2020), hosted by Richmond Fed

Session (co)organizer

Session “Macroeconomics,” Southern Economic Association, Washington D.C. 2018

Session “Monetary Policy and Asset Bubbles: New Development,” American Economic Association 2018

Session “Inequality and Macroeconomic Instability,” American Economic Association 2016

Session “Sovereign Debt: Theory and Evidence,” American Economic Association 2015

Session “Documenting the Cost of Climate Change,” American Economic Association 2015

Session “Economics of Revolutions,” American Economic Association 2014

Professional journals refereed

Journal of Political Economy, Econometrica, American Economic Review, American Economic Review: Insights, Journal of Monetary Economics, American Economic Journal: Economic Policy, Economic Journal, International Economic Review, Journal of Economic Theory, Review of Economic Dynamics, Journal of Development Economics, Journal of International Economics, Management Science, Journal of Economic Growth, Journal of Economic Dynamics and Control, Economic Theory, Journal of Money Credit and Banking, Economic Letters, Journal of Banking and Finance, Economic Theory Bulletin, Macroeconomic Dynamics, Journal of Macroeconomics, Journal of Public Economic Theory, Contemporary Economic Policy, Economics of Governance, Japanese Economic Review, Economics of Transition, Emerging Markets Finance and Trade, Economic Quarterly

Previous short-term academic visits

Einaudi Institute for Economics and Finance (EIEF, June 2016), University of Tokyo (Oct 2013 and Oct 2016), Kobe University (July 2016), Federal Reserve Bank of St. Louis (Aug 2016), Federal Reserve Bank of Chicago (Sept 2013)

COVERAGE IN MEDIA AND POLICY DISCUSSIONS

1. "Climate change and the cost of inaction", *VoxEU.org*, 10/28/2016
2. "The bulk of Houston's clean energy innovation comes from oil and gas", *Houston Chronicle*, 4/26/2017
3. "Climate Change May Deeply Wound Long-Term U.S. Growth", *The Wall Street Journal*, 5/2/2018
4. "Global warming will depress economic growth in Trump country", *The Guardian*, 5/8/2018
5. "Trump voters hurt most by Trump policies, new study finds", *Think Progress*, 5/9/2018
6. "Climate change may hurt U.S.'s long-term growth — Fed study", *Governors' wind and solar coalition*, 5/4/2018
7. "Climate change could reduce the US growth of economy by one third", *Devdiscourse*, 5/5/2018
8. "El cambio climatico podria reducir la economia norteamericana en un tercio", *El Espectador*, 5/3/2018
9. "Il riscaldamento globale rallenta la crescita economica", *Quoted Business – Pillole di Economia Internazionale*, 6/7/2018
10. "Benefits of curbing climate change far outweigh costs", *Bulletin of the Atomic Scientists*, 6/10/2018
11. "US could lose a third of growth to climate change", *Central Banking*, 8/8/2018
12. "Richmond Fed says climate change could dampen economic growth", *Washington Examiner*, 8/8/2018
13. "Summer's record-high temperatures threaten to scorch the economy", *CBS Money Watch*, 8/13/2018
14. "Scorching Summers Melt Away America's Growth", *Financial Advisor*, 8/14/2018
15. "Scorching Summers Melt Away America's Growth", *Bloomberg*, 8/14/2018
16. "Economics of Climate Change: three recent takes", *BBN Times*, 8/15/2018
17. "Superhot Summers Are Hurting U.S. Businesses", *Barron's*, 8/15/2018
18. "Most economic forecasts have a big blind spot: Climate change", *CNN Money*, 8/17/2018
19. "El cambio climatico impacta no solo al medioambiente sino tambien a la economia", *Expansion*, 8/12/2018
20. "The Economic Impact of Climate Change Rattles the Oil Industry", *Capital & Main*, 8/28/2018
21. "We Can No Longer Afford A Fossil Fuel Economy – OpEd", *EurAsia Review*, 9/10/2018
22. "Francis X. Diebold's blog: Interesting papers of the moment", *No Hesitations*, 9/10/2018
23. "PG&E May Be the Business World's Biggest Climate-Change Casualty Yet", *Bloomberg*, 1/15/2019
24. "Climate Change and the Federal Reserve", *Federal Reserve Bank of San Francisco Economic Letter*, 3/25/2019
25. "Fed Policy Makers Take Notice of Climate Change's Implications for Economic Outlook," *The Wall Street Journal*, 4/17/2019
26. "Following in the Climate Footsteps of Global CEOs," *ClearPath*, 4/19/2019
27. "Default Risk Dangers: The Effect of Downgrades in Public Credit on the Economy," *Chicago Policy Review*, 2/4/2019
28. "2019 Economic Report to the President," Congress Joint Economic Committee, 7/18/2019
29. Statement of Solomon Hsiang, presented to the US House Committee on the Budget, hearing on "The Costs of Climate Change: Risks to the US Economy and the Federal Budget," 6/10/2019

PERSONAL INFORMATION

Married with one child and two dogs

Languages: Vietnamese (native); English (fluent)