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GREGORY CASEY

Current Position:

Assistant Professor, Department of Economics, Williams College, 7/1/18 -- Present

Pre-Doctoral Studies:

M.S., Economic Development Policy, Sir Arthur Lewis Institute for Social and Economic Studies,
University of the West Indies, Mona, Jamaica, 2010
B.A., Economics and Mathematics, Hamilton College, Clinton, NY, 2009

Doctoral Studies:

Brown University, 2012 to 2018
Ph.D. in Economics
Thesis Title: "Essays in Economic Growth"

References:

Professor Oded Galor
Economics Department, Brown University
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401-863-2117

Professor David Weil
Economics Department, Brown University
david_weil@brown.edu
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Professor Lint Barrage
Economics Department &
Institute at Brown for Environment
and Society, Brown University
lint_barrage@brown.edu
203-506-9767

Teaching and Research Fields:

Research fields: Economic Growth, Environmental Macroeconomics

Teaching fields: Growth, Environmental, Macroeconomics, Trade, Development

Teaching Experience:

Primary Instructor

2014 -- 2016 Intermediate Macroeconomics, Brown University (x3)

Other Activities

2015-2016 Teaching Consultant, Sheridan Center for Teaching and Learning, Brown
University
2014-2015 Participant, Reflective Teaching Certificate Program, Sheridan Center for
Teaching and Learning, Brown University

Presentations:

2019 Scheduled: North American Winter Meeting of the Econometric Society (NAWM).

- 2018 Completed: Society for Economic Dynamics (SED), Sustainable Resource Use and Economic Dynamics (SURED), North American Summer Meeting of the Econometric Society (NASMES), Liberal Arts Macro Workshop (presenter and discussant), Amherst College, Brown University Growth Breakfast, Darden Business School, Hamilton College, Institute for International Economic Studies, SUNY Albany, University of Copenhagen, University of Warwick, Williams College. Scheduled: Williams College.
- 2017 Summer Meeting of the Association of Environmental and Resource Economists (AERE), Annual Meeting of the Agricultural and Applied Economics Association (AAEA), Annual Meeting of the Northeast Agricultural and Resource Economics Association (NAREA), Southern Economic Association (SEA; AERE student session), Brown University Macroeconomics Seminar, Brown University Macro Lunch (x2), Brown University Growth Breakfast
- 2016 Zeuthen Conference at the University of Copenhagen, Hamilton College, Brown University Macro Lunch (x2), Brown University Growth Breakfast
- 2015 Northeast Universities Development Consortium (NEUDC; presenter and discussant)
- 2014 Brown University Macro Lunch

Professional Activities:

- Referee Journal of Economic Growth (>10), Journal of Public Economics, Canadian Journal of Economics, Scandinavia Journal of Economics, Journal of Population Economics (x2), Environmental Research Letters (x2), Resource and Energy Economics, Marine Resource Economics, Energy Economics, Political Research Quarterly, German Economic Review, Scottish Journal of Political Economy, Plos One
- Member President's Task Force on Climate Change and Business and Investment Practices, Brown University, 2017-2018
- Organizer Brown University Macro Lunch, 2014

Honors, Scholarships, and Fellowships:

- 2018 George Borts' Economics Dissertation Prize, Brown University
- 2017-2018 Interdisciplinary Opportunity Fellowship, Watson Institute for International and Public Affairs
- 2015-2018 Student Affiliate, Institute at Brown for Environment and Society
- 2014-2018 Student Fellow, Spatial Studies in the Social Sciences
- Spring 2016 Graduate Student Teaching Award
- Fall 2015 Graduate Student Teaching Fellowship
- Spring 2015 Freiburg Fellowship in International Economics and Finance
- Spring 2015 Graduate Student Teaching Award
- Spring 2015 Third Year Paper passed with Distinction
- Fall 2014 Graduate Student Teaching Fellowship
- Spring 2014 Field Exams passed with Distinction
- Fall 2010 Most Outstanding Overall M.S. Student, SALISES, University of the West Indies
- Fall 2010 Most Outstanding M.S. Thesis, SALISES, University of the West Indies

Fall 2010 Most Outstanding M.S. Student in Economic Development Policy, SALISES,
University of the West Indies
2009-2010 Fulbright Scholarship to Jamaica, USA State Department

Publications:

“Is faster economic growth compatible with reductions in carbon emissions? The role of diminished population growth,” *Environmental Research Letters* (2017) 12: 014003. (with Oded Galor)

“Inequality and Fractionalization,” *World Development* (2014) 56: 32-50. (with Ann Owen)

“Good News, Bad News and Consumer Confidence,” *Social Science Quarterly* (2013) 94: 292-315. (with Ann Owen)

Working Papers:

“*Energy Efficiency and Directed Technical Change: Implications for Climate Change Mitigation*” Reject and Resubmit at the Review of Economic Studies (Job Market Paper)

I construct a putty-clay model of directed technical change and use it to analyze the effect of environmental policy on energy use in the United States. The model matches key data patterns that cannot be explained by the standard Cobb-Douglas approach used in climate change economics. In particular, the model captures both the short- and long-run elasticity of substitution between energy and non-energy inputs, as well as trends in final-use energy efficiency. My primary analysis examines the impact of new energy taxes. The putty-clay model suggests that tax-inclusive energy prices need to be 273% higher than laissez-faire levels in 2055 in order to achieve policy goals consistent with international agreements. By contrast, the Cobb-Douglas approach suggests that prices need only be 136% higher. To meet the same goals, the putty-clay model implies that final good consumption must fall by 6.5% relative to a world without intervention, which is more than three times the prediction from the standard model. In a second analysis, I find that policy interventions cannot achieve long-run reductions in energy use without increasing prices, implying that energy efficiency mandates and R&D subsidies have limited potential as tools for climate change mitigation. Finally, I use the model to analyze the long-run sustainability of economic growth in a world with non-renewable resources. Using two definitions of sustainability, the new putty-clay model delivers results that are more optimistic than the existing literature.

“*Growth, Unemployment, and Labor-Saving Technical Change*”

To examine the relationship between technological progress and unemployment, I study a model that features putty-clay production, directed technical change, and labor market bargaining. I have two primary goals. First, I aim to understand the forces that deliver a constant steady state unemployment rate in the presence of labor-saving technical change. The interaction between directed technical change and wage bargaining plays a crucial role in this process. Labor-saving technical change increases unemployment, which lowers wages and creates incentives for future investment in labor-using technologies. In the long run, this interaction generates a balanced growth path that is observationally equivalent to that of the standard neoclassical growth model, except that it also incorporates a steady state level of unemployment. Second, I investigate the effect of ‘technological breakthroughs’ that permanently lower the cost of creating new labor-saving technologies. Breakthroughs lead to faster growth in output per worker and wages but also yield higher long-run unemployment and a lower labor share of income. Surprisingly, they also lower output in the short-run,

because additional investment in labor-saving technologies is inefficient when workers are not scarce, as in the presence of technology-driven unemployment.

“Instrumental Variables in the Long Run” (with Marc Klemp)

In the study of long-run economic growth, it is common to use historical or geographical variables as instruments for contemporary endogenous regressors. We study the interpretation of these conventional instrumental variable (IV) regressions in a general, yet simple, framework. Our aim is to estimate the long-run causal effect of changes in the endogenous explanatory variable. We find that conventional IV regressions generally cannot recover this parameter of interest. To estimate this parameter, therefore, we develop an augmented IV estimator that combines the conventional regression with a separate regression estimating the degree of persistence in the endogenous regressor. Importantly, our estimator can overcome a particular violation of the exclusion restriction that can arise when there is a time gap between the instrument and the endogenous explanatory variable. We apply our results to estimate the long-run effect of institutions on economic performance and the long-run effect of Protestantism on human capital accumulation. In both cases, we find economically significant long-run effects that are smaller than those in the existing literature, demonstrating that our results have important quantitative implications for the field of long-run economic growth. We also use our framework to examine related empirical techniques. We find that two prominent regression methodologies -- using gravity-based instruments for trade and including ancestry-adjusted variables in linear regression models -- have related issues of interpretation. In the latter case, this problem can be overcome by including both unadjusted and adjusted measures in the regression model.

“Population Impacts of Climate Change and the Potential for Increased Inequity” (designated lead author, with Soheil Shayegh, Juan Moreno-Cruz, Martin Bunzl, Oded Galor, and Ken Caldeira)

We discuss various economic channels through which climate change could impact fertility. In addition, we quantitatively examine a specific mechanism, the quantity-quality trade-off, whereby economic damages caused by global climate change could lead to higher fertility in developing countries and lower fertility in developed countries. The quantity-quality trade-off captures the fact that prospective parents must decide how to allocate finite resources between having fewer children while investing more in each child or having a greater quantity of children, each of whom receives less investment. In our model, increases in global temperature affect agricultural and manufacturing sectors differently. Near the equator, where many poor countries are located, climate change has a larger negative effect on agriculture, leading to a labor reallocation into this sector. Since agriculture makes less use of skilled labor, climate damages decrease the return to acquiring skills, inducing parents to invest less resources in the education of each child and increase fertility. In the model, these patterns are reversed at higher latitudes. These results suggest that climate change may alter incentives, resulting in slower population growth in the richer northern countries and faster population growth in poorer tropical countries.

Work in Progress:

“A Multi-factor Uzawa Growth Theorem and Endogenous Capital-Augmenting Technological Change”
(with Ryo Horii)

“The Effects of Labor Reallocation and Directed Technical Change on the Social Cost of Carbon” (with Soheil Shayegh and Juan Moreno-Cruz)

“Distance, Trade, and Welfare: An Evaluation of Quantitative Trade Models” (with Lucas Scottini)