

dc448@georgetown.edu

OFFICE CONTACT INFORMATION

dc448@georgetown.edu

<http://www9.georgetown.edu/faculty/dc448/>

910 M Street, NW

Macroeconomics Issues in Development Economics (graduate, MIT course 14.772),
Spring 2010
Teaching Assistant to Professors Abhijit Banerjee and Robert Townsend

Topics in Industrial Organization (graduate, MIT course 14.272), Spring 2010
Teaching Assistant to Professors Nancy Rose and Steve Ryan

Introduction to Macroeconomics (undergraduate, MIT course 14.01)
Teaching Assistant to Professors Francesco Giavazzi and Paul Willen, Fall 2008,
Spring 2009 and Spring 2010

Dynamic Programming (graduate, MIT course 14.451)
Teaching Assistant to Professor Ivan Werning, Fall 2008

Advanced Econometrics (undergraduate, MIT course 14.36)
Teaching Assistant to Professor Jerry Hausman, Spring 2008

Empirical Industrial Organization (graduate, MIT course 14.273)
Teaching Assistant to Professors Panle Jia and Sarah Ellison, Spring 2008

Mathematics for Economists (graduate, MIT course 14.102)
Lecturer, Fall 2007

RELEVANT POSITIONS Research Assistant to Professor Daron Acemoglu, MIT, Summer 2008
Research Assistant to Professor Ivan Werning, MIT, Summer 2007
Research Assistant to Professor Jerry Hausman, MIT, Summer 2007
Research Assistant to Professor Olivier Blanchard, MIT, Summer 2006
Intern, Investment Technology Group, Boston, Summer 2006
Intern, IXIS Asset Management, Paris, Summer 2005

FELLOWSHIPS, HONORS, AND AWARDS Robert Solow Fellowship, MIT 2006-2007
MIT Presidential Fellowship, MIT 2005-2006
Eiffel Fellowship, France 2002-2005
Silver Medal, International Mathematical Olympiad, South Korea 2000

PROFESSIONAL ACTIVITIES Referee for *American Economic Reviews*, *Econometrica*, *Journal of Economic Theory*, *Journal of International Economics*, *Journal of Monetary Economics*, *Review of Economic Studies*, *AEJ Macro*
AEA Annual Meeting, Denver, January 2011
NBER Conference in Mathematical Economics, NYU, November 2010
Stanford Society of Theoretical Economics (SITE), Stanford University, August 2010
Society of Dynamics Economics (SED), Montreal 2010, Montreal 2011, Cyprus 2012, Seoul 2013
Cowles Foundation Conference in General Equilibrium and its applications, Yale University, April 2010
Price Theory Summer Camp, Becker Center on Chicago Price Theory, University of Chicago, 2008

PUBLICATIONS: “Reconsidering Asset Allocation Involving Illiquid Assets,” (with Jerome Teiletch) *Journal of Asset Management*, December 2007.

“Racing under Uncertainty: A Boundary Value Problem Approach”
Journal of Economic Theory, 2014

“Innovation by Entrants and Incumbents” (with Daron Acemoglu, MIT)
Journal of Economic Theory, 2015

**RESEARCH
PAPERS:**

“Speculation and Financial Wealth Distribution under Belief Heterogeneity”

Under limited commitment that prevents agents from pledging their future non-financial wealth, agents with incorrect beliefs always survive by holding on their non-financial wealth. Friedman (1953)’s market selection hypothesis suggests that their financial wealth trends towards zero in the long run. However, in this paper, I construct an example in dynamic general equilibrium in which over-optimistic agents not only survive but also prosper by holding an increasingly larger share of a real asset and driving up the price of the asset: they prosper by speculation. The endogenous price dynamics implied by different beliefs is an essential ingredient to the mechanism.

“Technological Revolutions and Debt Hangovers: Is There a Causal Link?”
(with Jean-Paul L’Huillier, Einaudi Institute of Economics and Finance)

We look for historical evidence in favor or against the hypothesis that “technological revolutions” cause macroeconomic “debt hangovers”. We qualify as “technological revolution” a period of major technological innovation, as for instance the Information-Technology revolution of the 1990s. By “debt hangover” we have in mind long periods of economic stagnation caused by high levels of private debt. We write a business cycle model with news and noise about long-run productivity. In the model, a technological revolution causes an acceleration of productivity followed by a deceleration. Because of learning, the technological revolution implies that agents are overoptimistic when productivity decelerates, implying a large accumulation of debt, and a subsequent debt hangover. We estimate our model using data for three episodes: U.S., 1990--2010; Japan, 1975--2003; and U.S., 1919--1933. The estimation shows that an acceleration and a deceleration of long-run productivity is present in the three samples considered, and that agents were overconfident about long-run productivity before the economic stagnation. In the three cases considered, the acceleration and deceleration of productivity match well-known historical episodes of technological transformation. Altogether, our findings suggest that the Great Recession, the Japanese Crisis of the 1990s and the Great Depression were all three caused by technological revolutions.

“Amplification and Asymmetric Effects without Collateral Constraint” (with Guangyu Nie, Georgetown University)

The seminal contribution of Kiyotaki and Moore (1997) has spurred a vast literature on the importance of collateral constraint in propagating and amplifying shocks to the economy. However, collateral constraint implicitly assumes state-incontingent debt, i.e., markets are incomplete. It is possible that a large part of the amplification effect of collateral constraint is actually due to market incompleteness. We study a simple, calibrated model and solve it with and without collateral constraint and find that indeed market incompleteness by itself plays a quantitatively significant role in the amplified and asymmetric responses of the economy to exogenous shocks.

“Financial Frictions, Investment and Tobin’s Q” (with Guido Lorenzoni, Northwestern University, and Karl Walentin, Sveriges Riksbank)

We develop a model of investment with financial constraints and use it to investigate the relation between investment and Tobin’s q . A firm is financed partly by insiders, who control its assets, and partly by outside investors. When their wealth is scarce, insiders earn a rate of return higher than the market rate of return, i.e. they receive a quasi-rent on invested capital. This rent is priced into the value of the firm, so Tobin’s q is driven by two forces: changes in the value of invested capital, and changes in the value of the insiders’ future rents per unit of capital. This weakens the correlation between q and investment, relative to the frictionless benchmark. We present a calibrated version of the model, which, due to this effect, generates realistic correlations between investment, q , and cash flow.

“Dynamic Savings Choices with Wealth-Dependent Time Inconsistency” (with Ivan Werning, MIT)

We study a dynamic savings game where decision makers rotate in and out of power and disagree on the utility function. We offer two interpretations: a behavioral economics based one, featuring a single consumer with time-inconsistent preferences, and a political economy based one, where alternating parties value private benefits from spending while they are in power. When disagreement is uniform, so that utility functions are proportional to one another, our setup is equivalent to hyperbolic discounting. We consider more general specifications to allow the degree of disagreement to vary with the level of spending. We focus on Markov equilibria. As is well known, dynamic games with hyperbolic discounting may be ill behaved. Our first contribution is technical, showing that this is not the case for our continuous-time model. We prove existence by construction and characterization equilibria. Our second contribution is substantive, we show that when the time inconsistency problem varies with spending rich dynamics emerge: if the time inconsistency problem is stronger at when spending is low poverty traps emerge, if instead it is stronger when spending is high, then there is a stable interior steady state.

**RESEARCH IN
PROGRESS:**

“The Behavior of Consumption in the RBC Open Economy Model” (with Jean-Paul L’Huillier, Einaudi Institute of Economics and Finance)

The RBC open economy model has been extensively used in the literature. An incomplete list of recent influential papers that use this model include Schmitt-Grohe and Uribe (2003), Neumeyer and Perri (2004), Aguiar and Gopinath (2007), and Boz, Daude, and Durdu (2011). In this note we demonstrate a theorem stating that in this model, for the calibration usually adopted in this literature, consumption is almost entirely and solely determined by the long-run level of TFP: After an impulse to TFP, consumption jumps to a level determined by the long-run level of TFP and stays there. This result has important implications for the interpretation of the results in this literature.

“Wealth distribution and Asset Prices” (with Jinhui Bai, Washington State University)

We propose a model that explains the relationship between wealth distribution and asset prices over the business cycles. The model features an economy with a continuum of agents and with both idiosyncratic and aggregate shock a la Krusell and Smith (1998). However, we allow agents to trade in a long-lived asset in addition to state non-contingent bonds. We develop a numerical method to calculate wealth-recursive equilibrium in the economy and apply the method to examine quantitatively the relationship between wealth distribution and asset prices in the U.S. economy.