

Macroeconomic Theory I: Intertemporal Choice

Professor Christopher D. Carroll

Office Hours: **Make An Appointment Yourself** (read the “rules” link)

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If you’re a Google Calendar user, you should be able to subscribe to the course calendar using the following Calendar ID (after logging into your Google account, copy and paste the text into the “Other Calendars” box in <http://calendar.google.com>):

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This course presents theory and evidence about the dynamic behavior of households, firms, and the macroeconomy as a whole. We will begin with a thorough discussion of the consumption/saving problem of households, including the role of uncertainty, and then discuss investment behavior of firms, including the relationship between financial markets and firm behavior. We move next to a discussion of the application of dynamic models of firms and households to the process of economic growth, and conclude by studying aggregate macroeconomic models with dynamically optimizing firms and households.

This syllabus contains required and recommended readings for each topic. Required readings are indicated by a *.

You should own a copy of the texts by Blanchard and Fischer (1989), Deaton (1992), Romer (2011) and Sargent and Ljungqvist (2012).

Students from other departments are welcome to take the course, but they should be prepared for regular use of higher mathematics (multivariate calculus, probability and statistics, functional analysis) which will be employed later in the course.

Course handouts are available at:

<http://www.econ2.jhu.edu/people/ccarroll/courses/Choice/LectureNotes>

1 Course Intro: Methodology for Macroeconomists

Bib: `Method.bib`

Handouts: `CourseIntro`

Readings:

- * Summers (1991)
- * Acemoglu (2009)
- * Krugman (2012)
- * Caballero (2010)
- * Barbera (2010)
- * Romer (2016)

2 Consumption

Bib: `Consumption.bib`

Handouts: `Consumption`

Readings:

2.1 Introduction and Overview

- * Friedman (1957), Chapters I, II, III
- * Deaton (1992), Preface; pp. 76-81

2.2 The Life Cycle and Overlapping Generations Models

- * Deaton (1992), pp. 1-6
- * Blanchard and Fischer (1989), Chapter 3: Introduction, pp. 91-113
- Diamond (1965)
- Feldstein (1974)
- * Modigliani (1986)

Summers (1981)

Pemberton (1997)

* Carroll and Summers (1991)

2.3 The Infinite Horizon Representative Agent Model

* Deaton (1992), Chapter 3

* Hall (1978)

Flavin (1981)

Campbell and Deaton (1989)

* Campbell and Mankiw (1989)

Hall (1988)

Carroll, Fuhrer, and Wilcox (1994)

2.4 Consumption with Uncertainty and/or Liquidity Constraints

* Deaton (1992), Chapter 6

Zeldes (1989)

Caballero (1990)

Deaton (1991)

Toche (2005)

* Carroll (2001b)

* Carroll and Kimball (2007)

* Carroll and Summers (1991)

Carroll (2022)

Carroll (2001a)

2.5 Consumption Based Asset Pricing

- * Lucas (1978)
- * Mehra and Prescott (1985)
- Blanchard (1989)
- Carroll (2008)

3 Investment

Bib: `Investment.bib`

Handouts: `Investment`

Readings:

- * Blanchard and Fischer (1989), Chapter 2, pages 58–69; Chapter 6, pp 291–302
- Hall and Jorgenson (1967)
- * Hayashi (1982)
- * Eberly and Abel (1994)
- * Cummins, Hassett, and Hubbard (1994)

4 Growth

Bib: `Growth.bib`

Handouts: `Growth`

- * Blanchard and Fischer (1989), Chapter 2, pp 37-57
- * Deaton (2013)
- * Sala-i Martin (1990)
- King and Rebelo (1993)
- Phelps (1961)

5 Real Business Cycle Models

Bib: `DSGEModels.bib`

Handouts: `DSGEModels`

- * Blanchard and Fischer (1989), Chapter 1
- * Blanchard and Fischer (1989), Chapter 7
- * Prescott (1986)
- * Summers (1986)

Readings (click to download .bib file)

- ACEMOGLU, DARON (2009): “The Crisis of 2008: Structural Lessons For and From Economics,” *Manuscript, MIT*, See also the discussion at <http://economistsview.typepad.com/economistsview/2009/01/acemoglu-the-mo.html>.
- BARBERA, ROBERT J. (2010): “If It Were a Fight, They Would Have Stopped It in December of 2008,” *The Economists’ Voice*, 7(2), 3, <http://EconPapers.repec.org/RePEc:bpj:evoice:v:7:y:2010:i:2:n:3>.
- BLANCHARD, OLIVIER, AND STANLEY FISCHER (1989): *Lectures on Macroeconomics*. MIT Press.
- BLANCHARD, OLIVIER J. (1989): “Speculative Bubbles, Crashes, and Rational Expectations,” *Economics Letters*, 3, 387–389, <http://ideas.repec.org/a/eee/ecolet/v3y1979i4p387-389.html>.
- CABALLERO, RICARDO J. (1990): “Consumption Puzzles and Precautionary Savings,” *Journal of Monetary Economics*, 25, 113–136, http://ideas.repec.org/p/clu/wpaper/1988_05.html.
- (2010): “Macroeconomics after the Crisis: Time to Deal with the Pretense-of-Knowledge Syndrome,” *Journal of Economic Perspectives*, 24(4), 85–102, <http://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.24.4.85>.
- CAMPBELL, JOHN, AND ANGUS DEATON (1989): “Why is Consumption So Smooth?,” *The Review of Economic Studies*, 56(3), 357–373, <http://www.jstor.org/stable/2297552>.
- CAMPBELL, JOHN Y., AND N. GREGORY MANKIW (1989): “Consumption, Income, and Interest Rates: Reinterpreting the Time-Series Evidence,” in *NBER Macroeconomics Annual, 1989*, ed. by Olivier J. Blanchard, and Stanley Fischer, pp. 185–216. MIT Press, Cambridge, MA, <http://www.nber.org/papers/w2924.pdf>.
- CARROLL, CHRISTOPHER D. (2001a): “Death to the Log-Linearized Consumption Euler Equation! (And Very Poor Health to the Second-Order Approximation),” *Advances in Macroeconomics*, 1(1), Article 6, <https://www.econ2.jhu.edu/people/ccarroll/death.pdf>.
- (2001b): “A Theory of the Consumption Function, With and Without Liquidity Constraints (Expanded Version),” *NBER Working Paper Number W8387*, <https://www.econ2.jhu.edu/people/ccarroll/ATheoryv3NBER.pdf>.

- (2008): “Recent Stock Declines: Panic or the Purge of ‘Irrational Exuberance’?,” *The Economists’ Voice*, 5, <https://www.econ2.jhu.edu/people/ccarroll/opinion/CampbellShillerReduxFinal.pdf>.
- (2022): “Theoretical Foundations of Buffer Stock Saving,” *Submitted*.
- CARROLL, CHRISTOPHER D., JEFFREY C. FUHRER, AND DAVID W. WILCOX (1994): “Does Consumer Sentiment Forecast Household Spending? If So, Why?,” *American Economic Review*, 84(5), 1397–1408.
- CARROLL, CHRISTOPHER D., AND MILES S. KIMBALL (2007): “Precautionary Saving and Precautionary Wealth,” *Palgrave Dictionary of Economics and Finance*, 2nd Ed., <https://www.econ2.jhu.edu/people/ccarroll/papers/PalgravePrecautionary.pdf>.
- CARROLL, CHRISTOPHER D., AND LAWRENCE H. SUMMERS (1991): “Consumption Growth Parallels Income Growth: Some New Evidence,” in *National Saving and Economic Performance*, ed. by B. Douglas Bernheim, and John B. Shoven. Chicago University Press, Chicago, <https://www.econ2.jhu.edu/people/ccarroll/papers/CParallelsY.pdf>.
- CUMMINS, JASON G., KEVIN A. HASSETT, AND R. GLENN HUBBARD (1994): “A Reconsideration of Investment Behavior Using Tax Reforms as Natural Experiments,” *Brookings Papers on Economic Activity*, 2, 1–59, Available at <http://ideas.repec.org/p/nbr/nberre/1946.html>.
- DEATON, ANGUS (2013): “Weak States, Poor Countries,” Available at [Project Syndicate](http://project-syndicate.org).
- DEATON, ANGUS S. (1991): “Saving and Liquidity Constraints,” *Econometrica*, 59, 1221–1248, <https://www.jstor.org/stable/2938366>.
- (1992): *Understanding Consumption*. Oxford University Press, New York.
- DIAMOND, PETER A. (1965): “National Debt in a Neoclassical Growth Model,” *American Economic Review*, 55, 1126–1150, <http://www.jstor.org/stable/1809231>.
- EBERLY, JANICE, AND ANDREW ABEL (1994): “A Unified Model of Investment Under Uncertainty,” *American Economic Review*, 84(5), 1369–1384, Available at <http://ideas.repec.org/a/aea/aecrev/v84y1994i5p1369-84.html>.
- FELDSTEIN, MARTIN S. (1974): “Social Security, Induced Retirement, and Aggregate Capital Formation,” *Journal of Political Economy*, 82(4), 905–926, Available at <http://www.jstor.org/stable/1829174>.

- FLAVIN, MARJORIE B. (1981): "The Adjustment of Consumption to Changing Expectations About Future Income," *Journal of Political Economy*, 89, 974–1009, <http://www.jstor.org/stable/1830816>.
- FRIEDMAN, MILTON A. (1957): *A Theory of the Consumption Function*. Princeton University Press.
- HALL, ROBERT E. (1978): "Stochastic Implications of the Life-Cycle/Permanent Income Hypothesis: Theory and Evidence," *Journal of Political Economy*, 96, 971–87, Available at <http://www.stanford.edu/~rehall/Stochastic-JPE-Dec-1978.pdf>.
- (1988): "Intertemporal Substitution in Consumption," *Journal of Political Economy*, XCVI, 339–357, Available at <http://www.stanford.edu/~rehall/Intertemporal-JPE-April-1988.pdf>.
- HALL, ROBERT E., AND DALE JORGENSON (1967): "Tax Policy and Investment Behavior," *American Economic Review*, 57, Available at <http://www.stanford.edu/~rehall/Tax-Policy-AER-June-1967.pdf>.
- HAYASHI, FUMIO (1982): "Tobin's Marginal Q and Average Q: A Neoclassical Interpretation," *Econometrica*, 50(1), 213–224, Available at <http://ideas.repec.org/p/nwu/cmsems/457.html>.
- KING, ROBERT G., AND SERGIO T. REBELO (1993): "Transitional Dynamics and Economic Growth in the Neoclassical Model," *American Economic Review*, 83(4), 908–931, Available at <http://ideas.repec.org/a/aea/aecrev/v83y1993i4p908-31.html>.
- KRUGMAN, PAUL (2012): "Economics in the Crisis," Commencement Address, University of Lisbon, <http://krugman.blogs.nytimes.com/2012/03/05/economics-in-the-crisis/>.
- LUCAS, ROBERT E. (1978): "Asset Prices in an Exchange Economy," *Econometrica*, 46, 1429–1445, Available at <http://www.jstor.org/stable/1913837>.
- MEHRA, RAJNISH, AND EDWARD C. PRESCOTT (1985): "The Equity Premium: A Puzzle," *Journal of Monetary Economics*, 15, 145–61, Available at <http://ideas.repec.org/a/eee/moneco/v15y1985i2p145-161.html>.
- MODIGLIANI, FRANCO (1986): "Life Cycle, Individual Thrift, and the Wealth of Nations," *American Economic Review*, 3(76), 297–313, Available at <http://www.jstor.org/stable/1813352>.

PEMBERTON, JAMES (1997): "The Empirical Failure of the Life Cycle Model with Perfect Capital Markets," *Oxford Economic Papers*, 49(1), 129–151, Available at <http://www.jstor.org/stable/2663734>.

PHELPS, EDMUND S. (1961): "The Golden Rule of Accumulation," *American Economic Review*, pp. 638–642, Available at <http://teaching.ust.hk/~econ343/PAPERS/EdmundPhelps-TheGoldenRuleofAccumulation-Afablefo>

PRESCOTT, EDWARD C. (1986): "Theory Ahead of Business Cycle Measurement," *Carnegie-Rochester Conference Series on Public Policy*, 25, 11–44, <http://ideas.repec.org/p/fip/fedmsr/102.html>.

ROMER, DAVID (2011): *Advanced Macroeconomics*. McGraw-Hill/Irwin, fourth edn.

ROMER, PAUL (2016): "The Trouble With Macroeconomics," Discussion paper, <http://paulromer.net>, Available at <https://paulromer.net/wp-content/uploads/2016/09/WP-Trouble.pdf>.

SALA-I MARTIN, XAVIER (1990): "Lecture Notes on Economic Growth II: Five Prototype Models of Endogenous Growth," *NBER Working Paper Number 3564*, <http://ideas.repec.org/p/nbr/nberwo/3564.html>.

SARGENT, THOMAS J., AND LARS LJUNQVIST (2012): *Recursive Macroeconomic Theory*. The MIT Press, Cambridge, MA.

SUMMERS, LAWRENCE H. (1981): "Capital Taxation and Accumulation in a Life Cycle Growth Model," *American Economic Review*, 71(4), 533–544, <http://www.jstor.org/stable/1806179>.

——— (1986): "Some Skeptical Observations on Real Business Cycle Theory," *Federal Reserve Bank of Minneapolis Quarterly Review*, 10, 23–27, <http://minneapolisfed.org/research/QR/QR1043.pdf>.

SUMMERS, LAWRENCE H. (1991): "The Scientific Illusion in Empirical Macroeconomics," *Scandinavian Journal of Economics*, 93(2), 129–48, http://www.econ.ucdavis.edu/faculty/kdsalyer/LECTURES/Ecn200e/summers_illusion.pdf.

TOCHE, PATRICK (2005): "A Tractable Model of Precautionary Saving in Continuous Time," *Economics Letters*, 87(2), 267–272.

ZELDES, STEPHEN P. (1989): "Consumption and Liquidity Constraints: An Empirical Investigation," *The Journal of Political Economy*, 97(2), 275–298, <http://userwww.service.emory.edu/~skrause/E511/Zeldes-1989.pdf>.