

**Central Bank of Malta**  
**Macroeconomics: Economic Cycles, Frictions and Policy**

**Alejandro Riaño**  
**(University of Nottingham, GEP, CFCM and CESifo)**

**Textbooks:**

Macroeconomics (5<sup>th</sup> Edition) Stephen D. Williamson, Pearson, 2014.

Introduction to Economic Growth (3<sup>rd</sup> edition) Charles I. Jones and Dietrich Vollrath, W. W. Norton, 2013.

Equilibrium Unemployment Theory (2<sup>nd</sup> edition) Christopher Pissarides, Cambridge MA: MIT Press, 2000.

## **Outline**

### **MONDAY 2<sup>nd</sup> September 2019**

**9.00 – 11.00 Lectures 1 & 2 [Lecture notes] Maths refresher**

Derivatives; the implicit function theorem; unconstrained maximisation; constrained maximisation with equality and inequality constraints; Markov chains; dynamic programming (deterministic and stochastic).

**11.00-11.30 Break**

**11.30 – 1.00 Lectures 1 & 2 [Williamson ch 6] A one-period model of the macro economy**

Optimisation problems of households and firms; definition of competitive equilibrium and Pareto optimality; comparative statics.

**Followed by Discussion:**

The potential and limitations of macroeconomic modelling.

- Chari, V. V. (2010) "[The promise and the limits of modern macroeconomic theory in providing advice for policy](#)", Testimony before the U.S. House of Representatives.
- Hansen, L. P. (2019) "[Purely evidence-based policy doesn't exist](#)" Chicago Booth Review.

**2.00 – 3.45 Reading & Private study.**

**3.45 – 4.00 Wrapping up.**

### **TUESDAY 3<sup>rd</sup> September 2019**

**9.00 – 11.00 Lectures 3 & 4 [Williamson ch 9 and 10] An inter-temporal model of consumption and savings**

Consumption and saving; solving the consumer's utility maximisation problem over a 2-period horizon with certainty; defining the Euler equation and the inter-temporal elasticity of substitution; extensions: the Permanent Income Hypothesis; credit market failure: asymmetric information and limited commitment.

**11.00-11.30 Break**

**11.30 – 1.00 Groups read different papers and summarise the viewpoint.**

Discussion: Is there empirical support for the Permanent Income Hypothesis? Competing views

- Gross, D. B. and N. S. Souleles (2002) "Do Liquidity Constraints and Interest Rates Matter for Consumer Behavior? Evidence from Credit Card Data," *Quarterly Journal of Economics* 117: 149-185.
- Hsieh, C.-T. (2003) "Do Consumers React to Anticipated Income Shocks? Evidence from the Alaska Permanent Fund," *American Economic Review* 93: 397-405

**2.00 – 3.45 Reading & Private study.**

**3.45 – 4.00 Wrapping up.**

## **WEDNESDAY 4<sup>th</sup> September 2019**

**9.00 – 11.00 Lectures 5 & 6 [Jones and Vollrath ch 2 and 5] Economic growth**

The Solow-Swan model of exogenous growth; deriving a law of motion for capita per worker and its properties; balanced growth path; comparative statics; empirical predictions; endogenous growth with horizontal and vertical innovation.

**11.00-11.30 Break**

**11.30 – 1.00 Replicating stylized facts of economic growth:**

Reproduce key stylized facts of economic growth using the [Penn World Table](#).

**Followed by Discussion: Can we keep growing forever?**

- Gordon, R. (2015) "[The Future of Economic Growth: Slowing to a Crawl?](#)" in In G. S. Morson and M. Schapiro *The Fabulous Future? America and the World in 2040*, Northwestern University Press, Evanston, 2015, pp. 5-21.
- Bloom, N., C. Jones, J. Van Reenen and M. Webb (2019) "[Are Ideas Getting Harder to Find?](#)" Manuscript, Stanford University.

**2.00 – 3.45 Reading & Private study.**

**3.45 – 4.00 Wrapping up.**

## **THURSDAY 5<sup>th</sup> September 2019**

**9.00 – 11.30 Lectures 7 & 8 Foundations of Dynamic Stochastic General Equilibrium: The Real Business Cycle (RBC) model**

The Real Business Cycle (RBC) model; the social planner's problem; competitive equilibrium; parametrization and calibration; impulse-response functions.

- King, R. and S. Rebelo (1999) "Resuscitating Real Business Cycle Models," in John Taylor and Michael Woodford, eds., *Handbook of Macroeconomics* vol. 1A. Amsterdam: Elsevier, Chapter 14.
- Prescott, E. (1986) "[Theory Ahead of Business Cycle Measurement](#)," *Federal Reserve Bank of Minneapolis Quarterly Review*.
- Summers, L. H. (1986) "[Some Skeptical Observations about Real Business Cycle Theory](#)," *Federal Reserve Bank of Minneapolis Quarterly Review*.

**11.30-12.00 Break**

**12.00 – 1.30 Calculating business cycle statistics: How similar are business cycle facts across countries?**

Filtering data using the Hodrick-Prescott filter and calculating the volatility, persistence and cross-correlation patterns of the cyclical component of key macroeconomic variables.

**2.00 – 3.45 Reading & Private study.**

**3.45 – 4.00 Wrapping up.**

**FRIDAY 6<sup>th</sup> September 2019**

**9.00 – 11.00 Lectures 9 & 10 [Pissarides ch 2] The Search & Matching Model of Unemployment**

Main assumptions; the Beveridge curve; the job creation curve; the wage bargaining curve; putting the three curves together; comparative statics.

**11.00-11.30 Break**

**11.30 – 1.00 Empirical applications of search & matching models**

- Daly, M. C., B. Hobijn, A. Sahin and R. G. Valleta (2012) “A Search and Matching Approach to Labor Markets: Did the Natural Rate of Unemployment Rise?” *Journal of Economic Perspectives* 26: 3-26.
- Bentolila, S., P. Cahuc, J. J. Dolado and T. Le Barbanchon (2012) “Two-Tier Labour Markets in the Great Recession: France versus Spain,” *Economic Journal* 122: F155-F187.

**2.00 – 3.45 Reading & Private study.**

**3.45 – 4.00 Wrapping up.**