

## PhD Topics in Macroeconomics (aka “Advanced Studies in Economics 2”)

July 2014

*Chris Edmond*

Office hours: by appointment	Office: Business & Economics 423
	Phone: 8344 9733
	Email: <a href="mailto:cedmond@unimelb.edu.au">cedmond@unimelb.edu.au</a>

### Course description

This is a second year graduate course in macroeconomics. The focus is on the aggregate implications of quantitative models of producer heterogeneity, with applications to firm dynamics, innovation and aggregate growth, cross-country income differences, and international trade.

Time permitting, we will also briefly discuss facts about wealth inequality and some models of wealth inequality dynamics.

### Course organisation

The course will meet twice a week, Mondays 9:00–11:00am and Wednesdays 9:00–10:00am in Business & Economics room 605 (the Melbourne Institute seminar room). The course will begin meeting on Monday July 28. Copies of the readings and other course materials will be posted to the LMS.

### Course requirements

<i>Task</i>	<i>Due date</i>	<i>Weight</i>
Problem set #1	in class, Monday August 18th	10%
Problem set #2	in class, Monday September 1st	10%
Problem set #3	in class, Monday September 15th	10%
Problem set #4	in class, Monday October 6th	10%
Referee reports (two)	in class, Monday October 20th	10% each
Research proposal presentation	week beginning Monday October 27th	40%

Your problem sets can be done either individually or in pairs. For each of the mock referee reports you choose (in consultation with me) a recent paper related to the course material. For the research proposal, your goal is (i) to develop and motivate a substantial research question inspired by this course, and (ii) to explain how that question can be answered.

***Firm dynamics: basic models (4 Lectures, beginning July 29).***

Introduction and course overview. Motivating facts about the firm size distribution and firm dynamics. Hopenhayn's industry equilibrium model with entry and exit (firm turnover) but stationary firm distribution. General equilibrium versions of the Hopenhayn model.

- ◇ HOPENHAYN (1992): Entry, exit and firm dynamics in long run equilibrium, *Econometrica*.
- ◇ HOPENHAYN AND ROGERSON (1993): Job turnover and policy evaluation: A general equilibrium analysis, *Journal of Political Economy*.

Reminder: problem set #1 due in class Monday August 18th, based on lectures 1–4.

***Innovation and firm dynamics (4 Lectures, beginning August 11).***

Review of quality ladder models and background on Poisson processes (as required). Integrated treatment of firm dynamics, quality-ladder innovation, and aggregate growth. Explaining the skewed firm size distribution. Growth through turnover and reallocation. Technological diffusion, learning and growth transitions.

- ◇ GROSSMAN AND HELPMAN (1991): *Innovation and Growth in the Global Economy*, MIT Press.
- ◇ KLETTE AND KORTUM (2004): Innovating firms and aggregate innovation, *Journal of Political Economy*.
- ◇ LENTZ AND MORTENSEN (2005): Productivity growth and worker reallocation, *International Economic Review*.
- ◇ LENTZ AND MORTENSEN (2008): An empirical model of growth through product innovation, *Econometrica*.
- ◇ ATKESON AND KEHOE (2007): Modeling the transition to a new economy: Lessons from two technological revolutions, *American Economic Review*.

Reminder: problem set #2 due in class Monday September 1st, based on lectures 4–8.

***Misallocation (4 Lectures, beginning August 25).***

Productivity and welfare consequences of micro distortions. Evidence on the importance of misallocation. Implications for aggregate productivity and cross-country income differences. Mechanisms for endogenous misallocation. Financial frictions and misallocation.

- ◇ RESTUCCIA AND ROGERSON (2008): Policy distortions and aggregate productivity with heterogeneous establishments, *Review of Economic Dynamics*.
- ◇ HSIEH AND KLENOW (2009): Misallocation and manufacturing TFP in China and India, *Quarterly Journal of Economics*.
- ◇ PETERS (2013): Heterogeneous mark-ups, growth and endogenous misallocation, LSE working paper.

- ◇ BUERA AND SHIN (2013): Financial frictions and the persistence of history: A quantitative exploration, *Journal of Political Economy*.
- ◇ MIDRIGAN AND XU (2014): Finance and misallocation: Evidence from plant-level data, *American Economic Review*.

Reminder: problem set #3 due in class Monday September 15th, based on lectures 9–12.

### ***Heterogeneous firms and trade (6 Lectures, beginning September 8).***

Monopolistic competition and intraindustry trade. Selection and aggregate productivity. Exporters vs. non-exporters. Implications for trade flows. Margins of adjustment. Ricardian models. Oligopolistic competition.

- ◇ KRUGMAN (1980): Scale economies, product differentiation, and the pattern of trade, *American Economic Review*.
- ◇ MELITZ (2003): The impact of trade of intra-industry reallocations and aggregate industry productivity, *Econometrica*.
- ◇ CHANEY (2008): Distorted gravity: The intensive and extensive margins of international trade, *American Economic Review*.
- ◇ EATON AND KORTUM (2002): Technology, geography and trade, *Econometrica*.
- ◇ BERNARD, EATON, JENSEN AND KORTUM (2003): Plants and productivity in international trade, *American Economic Review*.
- ◇ EATON, KORTUM AND KRAMARZ (2011): An anatomy of international trade: Evidence from French firms, *Econometrica*.

Reminder: problem set #4 due in class Monday October 6th, based on lectures 13–18.

### ***Aggregate gains from trade (3 Lectures, beginning October 6).***

Gravity equations. Gains from international trade in standard trade models. Endogenous markups and pro-competitive effects. Connection to misallocation. Importance of the joint distribution of markups and market shares.

- ◇ ARKOLAKIS, COSTINOT AND RODRÍGUEZ-CLARE (2012): New trade models, same old gains? *American Economic Review*.
- ◇ ARKOLAKIS, COSTINOT, DONALDSON AND RODRÍGUEZ-CLARE (2012): The elusive pro-competitive effects of trade. MIT working paper.
- ◇ EDMOND, MIDRIGAN AND XU (2014): Competition, markups, and the gains from international trade. University of Melbourne working paper.

---

**‘Thoughts on Piketty’ (3 Lectures, beginning October 15).**

Time-series and cross-country facts about wealth inequality, concentration. The Pareto connection. Implications of  $r - g$  and all that. Some models of wealth inequality dynamics including background on Kolmogorov equations etc (all time permitting).

- ◇ Piketty (2014): *Capital in the Twenty-First Century*. Harvard University Press.
- ◇ Atkinson, Piketty, and Saez (2011): Top incomes in the long run of history, *Journal of Economic Literature*.
- ◇ Piketty and Zucman (2014): Wealth and inheritance in the long run, *Handbook of Income Distribution*.
- ◇ Benhabib, Bisin and Zhu (2013): The wealth distribution in Bewley models with investment risk, NYU working paper.

(and other notes to be distributed)

Both referee reports due by Monday October 20th.

Research proposal presentations to be scheduled for week beginning Monday October 27th.

## Further Reading (aka “Some Ideas for Referee Reports”)

- ACEMOGLU, AKCIGIT, BLOOM AND KERR (2013): Innovation, reallocation and growth. MIT working paper.
- ALLEN AND ARKOLAKIS (2013): Trade and the topography of the spatial economy, NBER working paper.
- ALVAREZ, BUERA AND LUCAS (2013): Idea flows, economic growth and trade, NBER working paper.
- ARKOLAKIS (2013): A unified theory of firm selection and growth, Yale working paper.
- ATKESON AND BURSTEIN (2010): Innovation, firm dynamics, and international trade, *Journal of Political Economy*.
- BARTELSMAN, HALTIWANGER AND SCARPETTA (2013): Cross-country differences in productivity: The role of allocation and selection, *American Economic Review*.
- BERNARD, REDDING AND SCHOTT (2010): Multiple-product firms and product switching, *American Economic Review*.
- BUERA, KABOSKI AND SHIN (2011): Finance and development: A tale of two sectors, *American Economic Review*.
- COLLARD-WEXLER AND DE LOECKER (2013): Reallocation and technology: Evidence from the US steel industry, NBER working paper.
- COSTINOT (2009): An elementary theory of comparative advantage, *Econometrica*.
- COSTINOT AND DONALDSON (2011): How large are the gains from economic integration? Theory and evidence from US agriculture, 1880–2002, MIT working paper.
- COSTINOT, DONALDSON AND KOMUNJER (2012): What goods do countries trade? A quantitative exploration of Ricardo’s ideas, *Review of Economic Studies*.
- CHATERJEE AND ROSSI-HANSBERG (2012): Spin-offs and the market for ideas, *International Economic Review*.
- DE BLAS AND RUSS. (2012): Understanding markups in the open economy, UC Davis working paper.
- DE LOECKER, GOLDBERG, KHANDLWAL AND PAVCNIK (2012): Prices, markups and trade reform, NBER working paper.
- DONALDSON. (2014): Railroads of the Raj: Estimating the impact of transportation infrastructure, *American Economic Review*.
- EECKHOUT AND KIRCHER (2012): Assortative matching with large firms, LSE working paper.
- EECKHOUT, PINHEIRO AND SCHMIDHEINY (2014): Spatial sorting, *Journal of Political Economy*.

- FOSTER, HALTIWANGER AND SYVERSON (2008): Reallocation, firm turnover, and efficiency: Selection on productivity or profitability? *American Economic Review*.
- GABAIX AND LANDIER (2008): Why has CEO pay increased so much? *Quarterly Journal of Economics*.
- GROSSMAN AND HELPMAN (2014): Growth, trade, and inequality, Princeton working paper.
- HOLMES, HSU AND LEE. (2013): Allocative efficiency, markups, and the welfare gains from trade, NBER working paper.
- HOLMES AND STEVENS. (2014): An alternative theory of the plant size distribution, with geography and intra- and international trade, *Journal of Political Economy*.
- HOTTMAN, REDDING AND WEINSTEIN. (2014): The sources of firm success, Columbia University working paper.
- HSIEH AND KLENOW (2014): The life-cycle of plants in India and Mexico, *Quarterly Journal of Economics*.
- HSIEH, HURST, JONES AND KLENOW (2013): The allocation of talent and US economic growth, NBER working paper.
- LAGAKOS AND WAUGH (2012): Selection, agriculture, and cross-country productivity differences, *American Economic Review*.
- LUCAS AND MOLL (2014): Knowledge growth and the allocation of time, *Journal of Political Economy*.
- LUTTMER (2007): Selection, growth and the size distribution of firms, *Quarterly Journal of Economics*.
- MAYER, MELITZ AND OTTAVIANO. Market size, competition, and the product mix of exporters, *American Economic Review*.
- MELITZ AND REDDING (2013): Firm heterogeneity and aggregate welfare, NBER working paper.
- OBERFIELD AND RACAL (2014): Micro data and macro technology, Princeton working paper.
- PERLA AND TONETTI. (2014): Equilibrium imitation and growth, *Journal of Political Economy*.
- PERLA, TONETTI AND WAUGH. (2014): Equilibrium technology diffusion, trade, and growth, UBC working paper.
- ROSSI-HANSBERG AND WRIGHT (2007): Establishment size dynamics in the aggregate economy, *American Economic Review*.
- SAMPSON (2013): Dynamic selection and the new gains from trade with heterogeneous firms, LSE working paper.
- SIMONOVSKA AND WAUGH (2014): Trade models, trade elasticities and the gains from trade. NYU working paper.
- TERVIO (2008): The difference that CEOs make: An assignment model approach, *American Economic Review*.