

Chad Jones and Pete Klenow  
Stanford GSB and Department of Economics  
Fall Quarter, 2017

## MgtEcon 610 and Econ 233 Topics in Macroeconomics -- Economic Growth (Ph.D. Macro Course)

Meeting: Tuesdays and Thursdays, 1:30 - 3:20pm in GSB room Patterson 101  
Office Hours: By appointment.

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Dropbox folder for the course:

<https://www.dropbox.com/sh/4d1g9bxrdkxgmx/AADRdwR9zAUHZkwIwvMz5QBKa?dl=0>

### Overview

This course studies frontier research on economic growth. The purpose of the course is to introduce you to the latest research and prepare you to undertake research on your own.

### Requirements

(1) Prepare slides on one designated paper for each class (the first paper listed for the class; starts on Tuesday October 3). Three slides total: one slide on what's good about the paper, one slide on its weaknesses, and one slide on where to go next. At the start of the class, we will call on one student randomly and ask them to present their three slides. Put your slides in the Dropbox folder by 10am on the day of class.

(2) For each class, starting Tuesday October 3, we will post a short question or problem related to the first paper. You should answer that question/problem and turn in your solution as a final slide (or two) attached to your slides for requirement (1) above. The problems will be available [here](#).

(3) Lead part of a class. Each student will take responsibility for preparing slides and leading the discussion for 50 minutes on one paper during the course; suggested papers are indicated by an asterisk (\*) below. Please email us your top three choices by Tuesday October 3 so we can assign papers. Put your presentation slides in the Dropbox folder by 10am on the day of the class you are presenting.

(4) A research proposal. Throughout the class (and for the rest of your life!), you should keep a list of possible research topics. During the last two classes, December 5 and December 7, you will be expected to make a ~25 minute slide presentation on your idea: What is the key question you hope to answer, and how will you go about answering it? Put your proposal slides in the the Dropbox folder by 10 am on the day you are presenting.

## Background References

The following readings and references may prove useful at some point. The Acemoglu book is a great resource.

Acemoglu, Daron. 2009. *Introduction to Modern Economic Growth* (Princeton University Press).

Aghion, Philippe, Ufuk Akcigit, and Peter Howitt. 2014. "[What Do We Learn From Schumpeterian Growth Theory?](#)" *Handbook of Economic Growth*, Volume 2B, Chapter 1.

Jones, Charles I. and Dietz Vollrath. 2013. *Introduction to Economic Growth*. Advanced undergraduate-level treatment.

Jones, Charles I. 2016. "[The Facts of Economic Growth](#)" *Handbook of Macroeconomics*.

### September 26 (CJ)

Romer, Paul M. (1990), "[Endogenous Technological Change](#)" *Journal of Political Economy* 98: S71-S102.

Jones, Charles I. (2005), "[Growth and Ideas](#)" *Handbook of Economic Growth* 1B: 1063-1111.

### September 28 (PK)

Klette, Tor Jakob and Samuel S. Kortum (2004), "[Innovating Firms and Aggregate Innovation](#)" *Journal of Political Economy* 112: 986-1018.

Garcia-Macia, Daniel, Chang-Tai Hsieh and Peter J. Klenow (2016), "[How Destructive is Innovation?](#)" R&R at *Econometrica*.

### October 3 (CJ)

Kortum, Samuel S. (1997), "[Research, Patenting, and Technological Change](#)" *Econometrica* 65: 1389-1419.

Bloom, Nicholas, Charles I. Jones, John Van Reenen, and Michael Webb (2017), "[Are Ideas Getting Harder to Find?](#)" unpublished paper.

### October 5 (PK)

Broda, Christian and David Weinstein (2006), "[Globalization and the Gains from Variety](#)" *Quarterly Journal of Economics* 121: 541-585.

Hottman, Colin, Stephen Redding, and David Weinstein (2016), "[Quantifying the Sources of Firm Heterogeneity](#)" *Quarterly Journal of Economics* 131: 1291-1364.

October 10 (PK)

Melitz, Marc (2003) "[The Impact of Trade on Intra-Industry Reallocations and Aggregate Industry Productivity](#)" *Econometrica* 71: 1695-1725.

Highlights from follow-up work, e.g. Holmes and Stevens (2014) "[An Alternative Theory of the Plant Size Distribution, with Geography and Intra- and International Trade](#)" *Journal of Political Economy* 122: 369-421.

October 12 (CJ)

Aghion, Philippe, Benjamin Jones, and Charles I. Jones (2017), "[Artificial Intelligence and Economic Growth](#)," unpublished paper.

**(Scarlet)** Acemoglu, Daron and Pascual Restrepo (2017), "[Robots and Jobs: Evidence from US Labor Markets](#)" unpublished paper.

October 17: Guest lecture by [Ufuk Akcigit](#) (University of Chicago)

October 19 (PK)

Hsieh, Chang-Tai and Peter J. Klenow (2009), "[Misallocation and Manufacturing TFP in China and India](#)" *Quarterly Journal of Economics* 124: 1403-1448.

Hsieh, Chang-Tai and Peter J. Klenow (2014), "[The Life Cycle of Plants in India and Mexico](#)" *Quarterly Journal of Economics* 129: 1035-1084.

October 24 (PK)

**(Melanie)** Hendricks and Schoellman (2017) "[Human Capital and Development Accounting: New Evidence from Wage Gains at Migration](#)," R&R at the *Quarterly Journal of Economics*.

**(Suraj)** Lagakos, David, Benjamin Moll, Tommaso Porzio, and Nancy Qian (2016), "[Life-Cycle Wage Growth Across Countries](#)" forthcoming in the *Journal of Political Economy*.

October 26 (CJ)

Peters, Michael (2016), "[Heterogeneous Mark-Ups, Growth and Endogenous Misallocation](#)", unpublished paper.

Hsieh, Chang-Tai, Erik Hurst, Charles I. Jones, and Peter J. Klenow (2016), "[The Allocation of Talent and U.S. Economic Growth](#)" R&R at *Econometrica*.

October 31 (CJ)

**(Daniel)** Perla, Jesse, Christopher Tonetti, and Michael E. Waugh (2015), "[Equilibrium Technology Diffusion, Trade and Growth](#)," R&R at the *American Economic Review*.

**(Yoko)** Atkeson, Andrew and Ariel Burstein (2015), "[Aggregate Implications of Innovation Policy](#)," unpublished paper.

November 2 (PK)

**(Boaz)** Caselli, Francesco and James Feyrer (2007), "[The Marginal Product of Capital](#)" *Quarterly Journal of Economics* 122: 535-568.

**(Mathias)** Buera, Francisco, Joseph Kaboski, and Yongseok Shin (2017), "[The Macroeconomics of Microfinance](#)" unpublished paper.

November 7 (PK/CJ)

**(Andres)** Autor, David, David Dorn, Lawrence F. Katz, Christina Patterson, John Van Reenen (2017), "[The Fall of the Labor Share and the Rise of Superstar Firms](#)", NBER Working Paper 23396.

**(Matteo)** Koh, Donya, Raul Santaeulàlia-Llopis, and Yu Zheng (2016), "[Labor Share Decline and Intellectual Property Products Capital](#)", R&R at the *Journal of Political Economy*.

November 9 (CJ/PK)

Jones, Charles I. (2011), "[Intermediate Goods and Weak Links in the Theory of Economic Development](#)" *American Economic Journal: Macroeconomics* 3:1-28.

Decker, Ryan, John Haltiwanger, Ron Jarmin, and Javier Miranda (2014), "[The Role of Entrepreneurship in US Job Creation and Economic Dynamism](#)" *Journal of Economic Perspectives* 28: 3-24.

November 14 (PK)

**(Nadia)** Young, Alwyn (2012), "[The African Growth Miracle](#)", *Journal of Political Economy* 120: 696-739.

Jones, Charles I. and Peter J. Klenow (2016) "[Beyond GDP: Welfare Across Countries and Time](#)" *American Economic Review* 106: 2426:2457.

November 16 (CJ)

Jones, Charles I. and Jihee Kim (2017), "[A Schumpeterian Model of Top Income Inequality](#)" forthcoming in the *Journal of Political Economy*.

Jones, Charles I. (2016) "[Life and Growth](#)" *Journal of Political Economy* 124: 539-578.

November 21, 23 -- **Thanksgiving Break**

November 28 (PK)

Schmitz, James A. Jr. (2005), "[What Determines Labor Productivity? Lessons From the Dramatic Recovery of the U.S. and Canadian Iron-Ore Industries Following Their Early 1980s Crisis](#)" *Journal of Political Economy* 113: 582-625.

**(Ciaran)** Bloom, Nick, Benn Eifert, David McKenzie, Aprajit Mahajan and John Roberts (2013), "[Does Management Matter: Evidence from India](#)" *Quarterly Journal of Economics* 128: 1-51.

November 30 (CJ)

Acemoglu, Daron. 2009. Chapter 22 on "Institutions, Political Economy, and Growth" from *Introduction to Modern Economic Growth*. (We do not have an electronic copy of this chapter.) [Acemoglu's slides](#).

December 5, 7 -- **Student Presentations of Research Proposals**

**Further Reading:** A list of papers we've either included in the past or think about including in the future...

### **Endogenous Technological Change**

Acemoglu, Daron and Pascual Restrepo, (2016), "[The Race Between Machine and Man: Implications of Technology for Growth, Factor Shares and Employment](#)," NBER Working Paper 22252.

Daron Acemoglu, Ufuk Akcigit, and Murat Alp Celik (2015), "[Young, Restless and Creative: Openness to Disruption and Creative Innovations](#)" unpublished paper.

Hall, Robert E. and Jones, Charles I. (2007) "[The Value of Life and the Rise in Health Spending](#)" *Quarterly Journal of Economics* 122: 39-72.

Jones, Charles I. "[The Shape of Production Functions and the Direction of Technical Change](#)" *Quarterly Journal of Economics* May 2005.

Acemoglu, Daron (2003) "[Labor- and Capital-Augmenting Technical Change](#)" *Journal of the European Economic Association* 1: 1-37.

Bils, Mark and Peter J. Klenow (2001), "[Quantifying Quality Growth](#)," *American Economic Review* 91 (September): 1006-1030.

Hassler, John, Per Krusell, and Conny Olovsson (2016), "[Directed Technical Change as a Response to Natural-Resource Scarcity](#)", unpublished paper.

Acemoglu, Daron, Philippe Aghion, Leonardo Bursztyn, and David Hemous (2012), "[The Environment and Directed Technical Change](#)" *American Economic Review* 102(1): 131-166.

### **Physical Capital**

Monge-Naranjo, Alexander, Juan M. Sanchez, and Raül Santaeuàlia-Llopis (2015), "[Natural Resources and Global Misallocation](#)" working paper, Federal Reserve Bank of St. Louis working paper 2015-013A.

Oberfield, Ezra and Devesh Raval (2014), "[Micro Data and Macro Technology](#)" unpublished paper.

Hsieh, Chang-Tai and Peter J. Klenow (2007), "[Relative Prices and Relative Prosperity](#)," *American Economic Review* 97 (June): 562-585.

Young, Alwyn (2005) "[The Gift of the Dying: The Tragedy of AIDS and the Welfare of Future African Generations](#)" *Quarterly Journal of Economics* 120: 243-266.

Gourinchas, Pierre Olivier and Olivier Jeanne (2005), "The Elusive Gains from International Financial Integration," *Review of Economic Studies* 73 (July): 715-741.

Whelan, Karl, "[A Two-Sector Approach to Modeling U.S. NIPA Data](#)," *Journal of Money, Credit, and Banking* August 2003, Vol. 35(4):627-656.

Eaton, Jonathan and Samuel S. Kortum (2001), "Trade in Capital Goods," *European*

*Economic Review* 45 (June): 1195-1235.

Greenwood, Jeremy, Zvi Hercowitz, and Per Krusell, "[Long-Run Implications of Investment-Specific Technological Change](#)," *American Economic Review*, June 1997, 87 (3), 342-362.

Lucas, Robert E. Jr. (1990), "Why Doesn't Capital Flow from Rich to Poor Countries?" *American Economic Review* 80 (May): 92-96.

## **Human Capital**

Manuelli, Rodolfo and Ananth Seshadri (2014), "[Human Capital and the Wealth of Nations](#)," *American Economic Review* 104: 2736-2762.

Schoellman, Todd (2012), "[Education Quality and Development Accounting](#)" *Review of Economic Studies* 79: 388-417.

Erosa, Andres, Tatyana Koreshkova, and Diego Restuccia (2010) "[How Important is Human Capital? A Quantitative Theory Assessment of World Income Inequality](#)" *Review of Economic Studies* 77: 1421-1449.

Hendricks, Lutz (2002), "How Important is Human Capital for Development? Evidence from Immigrant Earnings," *American Economic Review* 92 (March): 198-219.

Acemoglu, Daron and Fabrizio Zilibotti (2001), "Productivity Differences," *Quarterly Journal of Economics* 116 (May): 563-606.

Rebelo, Sergio (1991), "Long Run Policy Analysis and Long Run Growth," *Journal of Political Economy* 99 (June): 500-521.

Stokey, Nancy L. (1991), "Human Capital, Product Quality, and Growth," *Quarterly Journal of Economics* 106 (May): 587-616.

Lucas, Robert E. Jr. (1988), "On the Mechanics of Economic Development," *Journal of Monetary Economics* 22 (July): 3-42.

Grossman, Gene, Elhanan Helpman, Ezra Oberfield, and Thomas Sampson (2017), "[Balanced Growth Despite Uzawa](#)," *American Economic Review*.

## **Agriculture and the Industrial Revolution**

Lucas, Robert E. Jr. (2004), "Life Earnings and Rural-Urban Migration," *Journal of Political Economy* 112 (February): S29-S59.

Hansen, Gary D., and Edward C. Prescott (2002) "[Malthus to Solow](#)" *American Economic Review*, 92(4): 1205-1217.

Lucas, Robert E. Jr. (2002), "The Industrial Revolution: Past and Future," Chapter 5 in *Lectures on Economic Growth*.

Caselli, Francesco and John Coleman (2001), "[The U.S. Structural Transformation and Regional Convergence: A Reinterpretation](#)," *Journal of Political Economy* 109 (June): 584-616.

Jones, Charles I. (2001), "Was an Industrial Revolution Inevitable? Economic Growth Over the Very Long Run," *Advances in Macroeconomics* 1 (August).

## **Misallocation**

Bartelme, Dominick and Yuriy Gorodnichenko (2015) "[Linkages and Economic Development](#)" unpublished paper.

Gollin, Douglas, David Lagakos, and Michael Waugh (2014), "[The Agricultural Productivity Gap in Developing Countries](#)" *Quarterly Journal of Economics* 129: 939-993.

Asker, John, Allan Collard-Wexler, and Jan De Loecker (2014), "[Dynamic Inputs and Resource \(Mis\)Allocation](#)," *Journal of Political Economy* 122: 1013-1063.

Hopenhayn, Hugo A. (2014), "[Firms, Productivity and Misallocation: A Review](#)," *Annual Review of Economics* 6: 735-770

Jones, Charles I. (2013) "[Misallocation, Economic Growth, and Input-Output Economics](#)" in *Advances in Economics and Econometrics*, Tenth World Congress, Volume II, Cambridge University Press.

Buera, Francisco J., Alexander Monge-Naranjo, and Giorgio E. Primiceri (2011) "[Learning the Wealth of Nations](#)" *Econometrica* 79: 1-45.

Restuccia, Diego and Richard Rogerson (2008), "Policy Distortions and Aggregate Productivity with Heterogeneous Plants," *Review of Economic Dynamics*.

Prescott, Edward C. (2004). "[Why Do Americans Work So Much More Than Europeans?](#)" Federal Reserve Bank of Minneapolis Quarterly Review 28: 2-13.

Djankov, Simeon, Rafael La Porta, Florencio Lopez-de-Silanes, and Andrei Shleifer (2002), "[The Regulation of Entry](#)," *Quarterly Journal of Economics* 117 (February): 1-37.

Young, Alwyn (2000), "The Razor's Edge: Distortions and Incremental Reform in the People's Republic of China," *Quarterly Journal of Economics* 115 (November): 1091-1135.

Parente, Stephen L. and Edward C. Prescott (1999), "Monopoly Rights: A Barrier to Riches," *American Economic Review* 89 (December): 1216-1233.

La Porta, Rafael and Florencio Lopez-de-Silanes (1999), "[The Benefits of Privatization: Evidence from Mexico](#)," *Quarterly Journal of Economics* 114 (November): 1193-1242.

Chari, V.V., Patrick J. Kehoe and Ellen R. McGrattan (1997), "The Poverty of Nations: A Quantitative Investigation," Federal Reserve Bank of Minneapolis Staff Report 204 (October).

Clark, Gregory (1987), "[Why Isn't the Whole World Developed? Lessons from the Cotton Mills](#)," *Journal of Economic History* 47 (March): 141-173.

## **Firm Dynamics and Growth**

Kehrig, Matthias and Nicolas Vincent (2017), [Growing Productivity without Growing](#)



## [Wages: The Micro-Level Anatomy of the Aggregate Labor Share Decline](#))

Foster, Lucia, John Haltiwanger, and Chad Syverson (2016), "[The Slow Growth of New Plants: Learning about Demand](#)," *Economica* 83: 91-129.

Akcigit, Ufuk and William R. Kerr (2015), "[Growth through Heterogeneous Innovations](#)," R&R at the *Journal of Political Economy*, March.

Acemoglu, Daron, Ufuk Akcigit, Nick Bloom, and William Kerr (2013) "[Innovation, Reallocation, and Growth](#)" R&R at the *American Economic Review*.

Foster, Lucia, John Haltiwanger, and Chad Syverson (2008), "[Reallocation, Firm Turnover, and Efficiency: Selection on Productivity or Profitability?](#)" *American Economic Review* 98 (March): 394-425.

Luttmer, Erzo G.J. (2007), "Selection, Growth, and the Size Distribution of Firms," *Quarterly Journal of Economics* 122 (August): 1103-1144.

Atkeson, Andrew G. and Patrick J. Kehoe (2005), "[Modeling and Measuring Organizational Capital](#)," *Journal of Political Economy* 113 (October): 1026-1053.

Foster, Laura, John Haltiwanger, and C.J. Krizan (2001), "Aggregate Productivity Growth: Lessons from Microeconomic Evidence," chapter 8 in *New Developments in Productivity Analysis*, C.R. Hulten, E.R. Dean, and M.J. Harper, eds., Studies in Income and Wealth, Volume 63: 303-363.

Irwin, Douglas A. and Peter J. Klenow (1994), "Learning by Doing Spillovers in the Semiconductor Industry" *Journal of Political Economy* 102 (December): 1200-1227.

Lucas, Robert E. Jr. (1993), "Making a Miracle," *Econometrica* 61 (March): 251-272.

Baily, Martin Neil, Charles Hulten, and David Campbell (1992), "Productivity Dynamics in Manufacturing Plants," *Brookings Papers on Economic Activity, Microeconomics*: 187-249.

## **Technology Diffusion**

Cole, Harold L., Jeremy Greenwood and Juan M. Sanchez (2016), "Why Doesn't Technology Flow from Rich to Poor Countries?," *Econometrica* 84: 1477-1521.

Buera, Francisco J. and Ezra Oberfield (2015), "[The Global Diffusion of Ideas](#)," R&R at *Econometrica*.

Holmes, Thomas J., Ellen R. McGrattan, and Edward C. Prescott (2015), "[Quid Pro Quo: Technology Capital Transfers for Market Access in China](#)," *Review of Economic Studies* 82: 1154-1193.

Manuelli, Rodolfo and Ananth Seshadri (2014), "[Frictionless Technology Diffusion: The Case of Tractors](#)," *American Economic Review* 104: 1368-1391.

Burstein, Ariel and Alexander Monge-Naranjo (2008), "[Foreign Know-How, Firm Control, and the Income of Developing Countries](#)," forthcoming in the *Quarterly Journal of Economics* 124 (February 2009).

Howitt, Peter (2000), "[Endogenous Growth and Cross-Country Income Differences](#)," *American Economic Review* 90 (September): 829-846.

Lucas, Robert E. Lucas and Benjamin Moll (2014) "[Knowledge Growth and the Allocation of Time](#)" *Journal of Political Economy* 122: 1-51.

Perla, Jesse and Chris Tonetti (2014), "[Equilibrium Imitation and Growth](#)" *Journal of Political Economy* 122 (1): 52-76.

## **Trade and Growth**

Hummels, David and Peter J. Klenow (2005), "The Variety and Quality of a Nation's Exports," *American Economic Review* 95 (June) 704-723.

Bernard, Andrew B., Jonathan Eaton, J. Bradford Jensen, and Samuel Kortum (2003), "[Plants and Productivity in International Trade](#)," *American Economic Review* 93 (September): 1268-1290.

Acemoglu, Daron and Jaume Ventura (2002), "[The World Income Distribution](#)," *Quarterly Journal of Economics* 117 (May): 659-694.

Frankel, Jeffrey A. and David Romer (1999), "Does Trade Cause Growth?" *American Economic Review* 89 (June): 379-399.

Romer, Paul M. (1994), "New Goods, Old Theory, and the Welfare Costs of Trade Restrictions," *Journal of Development Economics* 43 (September): 5-38.

Rivera-Batiz, Luis and Paul M. Romer (1991), "Economic Integration and Endogenous Growth," *Quarterly Journal of Economics* 106 (May): 531-555.

## **Growth and Development Accounting**

Feenstra, Robert C., Robert Inklaar and Marcel P. Timmer (2015), "[The Next Generation of the Penn World Table](#)," *American Economic Review*, 105(10): 3150-82.

Young, Alwyn (2003), "[Gold into Base Metals: Productivity Growth in the People's Republic of China During the Reform Period](#)," *Journal of Political Economy* 111 (December): 1220-1261.

Caselli, Francesco (2005), "[Accounting for Cross-Country Income Differences](#)," *Handbook of Economic Growth*, P. Aghion and S. Durlauf, eds. (Elsevier Press).

Jones, Charles I. (2002), "[Sources of U.S. Economic Growth in a World of Ideas](#)," *American Economic Review* 92 (March): 220-239.

Bils, Mark and Peter J. Klenow (2000), "Does Schooling Cause Growth?" *American Economic Review* 90 (December): 1160-1183.

Hall, Robert E. and Charles I. Jones (1999), "Why Do Some Countries Produce So Much More Output per Worker than Others?" *Quarterly Journal of Economics* 114 (February): 83-116.

Klenow, Peter J. and Andrés Rodríguez-Clare (1997), "The Neoclassical Revival in Growth

Economics: Has It Gone Too Far?" *NBER Macroeconomics Annual*: 73-102.

Mankiw, N. Gregory, David Romer, and David N. Weil (1992), "A Contribution to the Empirics of Economic Growth," *Quarterly Journal of Economics* 107 (May): 407-437.