

PhD Industrial Organization

KU Leuven

Module: Cost and Production

Friday 10-12

Room TBA

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Office Hours: By Appointment

Fall 2018

1 Course Description

This module has the following objectives: (1) Make you familiar with the main questions and methodologies in Industrial Organization: Cost and Production; (2) Teach you how to critically evaluate empirical work in I.O. and to some extent applied micro; (3) Provide you with the tools to start your own research.

The module is oriented towards empirical work, but the empirical work covered will typically have a close tie to a theoretical model. The basic structure of the course will involve presentation and discussion of papers that should be read in advance. Active participation from you through questions and comments will make for a better course. A problem set is given to test the material presented throughout the course. This course is not graded, but registration is mandatory.

2 Logistics

We meet on Fridays 10-12.

3 Course Outline

1. Lecture 1: [9/11]: Intro firm growth and production/cost analysis.
2. Lecture 2: [16/11]: Estimating production functions I.
3. Lecture 3: [23/11]: Estimating production function II.
4. Lecture 4: [30/11]: Firm performance: a production view.

4 Syllabus

4.1 Intro firm growth and production/cost analysis

*Ericson, R. and Pakes, A. 1995. Markov Perfect Industry Dynamics: A Framework for Empirical Work, *Review of Economic Studies*, Vol 62 1, 53-82.

Hopenhayn, Hugo A, 1992. Entry, Exit, and Firm Dynamics in Long Run Equilibrium, *Econometrica*, Econometric Society, vol. 60(5), pages 1127-50, September.

*Bartelsman, E. J. and Doms, M. 2000. Understanding Productivity. Lessons from Longitudinal Micro Data, *Journal of Economic Literature*.

* Syverson, C. 2011. What Determines Productivity?, June, *Journal of Economic Literature*

*Dunne, T., Roberts, M. and Samuelson, L. The Growth and Failure of U. S. Manufacturing Plants, *The Quarterly Journal of Economics*, Vol. 104, No. 4 (Nov., 1989), pp. 671-698

Davis, S. and Haltiwanger, J. 1992. Gross Job Creation, Gross Job Destruction, and Employment Reallocation, *Quarterly Journal of Economics*, 819-864.

*Evans, D. S., 1987, 'Tests of Alternative Theories of Firm Growth', *Journal of Political Economy*.

*Mata, José. "Gibrat's Law." *The New Palgrave Dictionary of Economics*. Second Edition. Eds. Steven N. Durlauf and Lawrence E. Blume. Palgrave Macmillan, 2008. *The New Palgrave Dictionary of Economics Online*. Palgrave Macmillan. 23 March 2010

*Sutton, J. 1997. Gibrat's legacy. *Journal of Economic Literature* 35, 40-59.

4.2 Estimating Production Functions and Cost Functions: Theory and Estimation

Christensen, L., Jorgenson, D. and Lau, L. 1973. Transcendental Logarithmic Production Frontiers, *The Review of Economics and Statistics*, vol 55, no 1, pp 28-45.

*Levinsohn, J. and Petrin, A. 2003. Estimating Production Functions Using Inputs to Control for Unobservables., *Review of Economic Studies*, Vol. 70, pp. 317-342.

*Olley, S. and Pakes, A. 1996. The Dynamics of Productivity in the Telecommunications Equipment Industry, *Econometrica*, Vol 64 6, 1263-98.

*Akerberg, D., Caves, K and Frazer, G. 2015. Structural Estimation of Production Functions, *Econometrica*.

*Akerberg, D, Benkard, L., Berry, S. and Pakes, A. 2007. Econometric Tools for Analyzing Market Outcomes, Handbook of Econometrics, Heckman and Leamer (ed).

*Griliches. Z. and Mairesse, J. 1995. Production Functions: The Search for Identification, NBER WP # 5067 and Chapter 6 in S. Strom (Ed). *Econometrics and Economic Theory in the 20th Century*, Econometric Society Monographs No 31, Cambridge University Press.

Evans, D. and J. Heckman 1983. Multiproduct Cost Function and Natural Monopoly Tests for the Bell System, in D. Evans (ed.) *Breaking Up Bell, Essays on Industrial Organization and Regulations* Elsevier Science Publishing Co., New York.

Marshall, J. and Andrews, W. 1944. Random Simultaneous Equations and the Theory of Production, *Econometrica*, vol. 12, no 3/4, pp. 143-205.

Mundlak, Y. 1963. Estimation of Production and Behavioral Functions from a Combination of Cross-Section and Time-Series Data, in Christ (ed)., *Measurement in Economics, Essays in Memory of Yehuda Grunfeld*, Stanford University Press, Stanford.

Wolak, Frank A. 2003 Identification and Estimation of Cost Functions

Using Observed Bid Data: An Application to Electricity, *Advances in Econometrics: Theory and Applications*, Eighth World Congress, Volume II, Mathias Detwatripont, Lars Peter Hansen, and Stephen J. Turnovsky (editors), Cambridge University Press, 133-169.

*Nerlove, M. 1963 Returns to Scale in Electricity Supply. In *Measurement in Economics -Studies in Mathematical Economics and Econometrics in Memory of Yehuda Grunfeld*, edited by Carl F. Christ. Stanford, Calif.: Stanford Univ. Press.

*Benkard, L. 2000. Learning and Forgetting: The Dynamics of Aircraft Production, *American Economic Review*, 90:4, 1034-1054.

*Klette, T.J. and Griliches, Z 1996. The Inconsistency of Common Scale Estimators When Output Prices are Unobserved and Endogenous, *Journal of Applied Econometrics*, vol 114, 343-361.

Collard-Wexler, A., De Loecker, J. 2016, Production Function Estimation with Measurement Error in Inputs, with A. Collard-Wexler, NBER WP 22437.

4.3 Firm Performance: A view from production

*De Loecker, J. 2011. Product Differentiation, Multi-Product Firms and Estimating the Impact of Trade Liberalization on Productivity, *Econometrica*, September, 1407-1451.

*Foster L., Haltiwanger, J. and Syverson, C. forthcoming. Reallocation, Firm Turnover and Efficiency: Selection on Productivity or Profitability?, *American Economic Review*.

*De Loecker, J. and Goldberg, P. 2014. Firm Performance in a Global Market, *Annual Review of Economics*, volume 6.

*De Loecker, P. Goldberg, A. Khandelwal, and N. Pavcnik. 2016. Prices, Markups and Trade Reform, *Econometrica*, vol 84 (2), 445-510.