ECO 6300: Firm and Sectoral Dynamics (Spring 2023)

Instructor: Anuradha Saha
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Office Location: Room 809, Academic Block 4
Office hours: Thursdays, 2 – 3 pm
Lecture: Tuesdays and Thursdays, 1150 am.

This course discusses growth in a disaggregated economy. We look at multi-sector growth models to understand how preferences, productivity differences and factor intensity differences contribute to structural change. We also discuss how firms innovate and imitate in an economy. While a major part of the course would be applied and based on current affairs, we would draw motivation for our discussion from existing empirical literature. Expertise in calculus (especially differential equations) is a prerequisite.

Evaluation
30% Class participation which includes any possible presentations, literature review, or problem-solving.
40% One non-technical summaries (at most 2000 words) of selected papers (due 13th April) and One presentation
30% Open Book Final Exam

Class participation will entail:

- Summary presentations of the pre-class reading (*please volunteer in class if you want to do this, else you will be cold-called*)
- Voxeu reports on any paper (at most 1000 words) -- This would be in response to any paper discussion in Google Classroom

The final exam is 100 marks, open book assessment on the entire syllabus. Students should exhibit expertise in initial topics and in-depth knowledge of the latter ones discussed in the course.

There shall be no repeats if you miss the final exam. In the case of absenteeism due to a medical emergency or extra-curricular activities where a student represents Ashoka, you shall be given retests. The instructor does not entertain marks obsession. As is the Ashoka grading scheme:

- A letter grade = outstanding. Students know the mathematical techniques and have the ability to apply them in novel problems.
- B letter grade = good. Students have expertise in most of the mathematical techniques taught in the course. They may lack creativity in problem solving but are well trained to do well in any mathematical or applied course.
- C letter grade = adequate. Student knows enough. If s/he tries to revise the course content, s/he shall do well in any application of the course content.

- D letter grade = barely satisfactory. Student knows little. S/he requires guidance and then s/he would be able to apply the courses' concepts.
- F letter grade = unsatisfactory. Student knows less than 40% of the course content. S/he has not achieved the minimum standards for this course.

List of topics

We would refer to STEG lectures periodically to talk about current issues. Other topics in the course are listed here.

1. Multi-sector growth models
   Why are they important? What questions require a multi-sector framework?

   Papers and Readings:
   - Imbs, Jean, and Romain Wacziarg. 2003. "Stages of Diversification." American Economic Review, 93 (1): 63-86.
   - Herrendorf, B., Rogerson, R. and Valentinyi, A., 2014. Growth and structural transformation. In *Handbook of Economic Growth* (Vol. 2, pp. 855-941). Elsevier.
   - Ray, Debraj. 2010. "Uneven Growth: A Framework for Research in Development Economics." Journal of Economic Perspectives, 24 (3): 45-60.

2. Structural transformation
   What does this mean?

   - Role of productivity growth
   - Role of capital use intensity
   - Role of preferences
   - Labor push versus labor pull in agriculture
   - Premature deindustrialization
   - Rise of services

   Papers and Readings:
   - Foellmi, R. and Zweimüller, J., 2008. Structural change, Engel's consumption cycles and Kaldor's facts of economic growth. *Journal of Monetary Economics*, *55*(7), pp.1317-1328. **[S]**
   - Buera, Francisco J., and Joseph P. Kaboski. 2012. "The Rise of the Service Economy." American Economic Review, 102 (6): 2540-69.
   - Ngai, L.R. and Pissarides, C.A., 2007. Structural change in a multisector model of growth. *American Economic Review*, *97*(1), pp.429-443.
   - Uy, T., Yi, K.M. and Zhang, J., 2013. Structural change in an open economy. Journal of Monetary Economics, 60(6), pp.667-682. **[S]**
   - Trew, A., 2014. Spatial takeoff in the first industrial revolution. Review of Economic Dynamics, 17(4), pp.707-725. **[S]**

- Mundlak, Y., 2005. Economic growth: Lessons from two centuries of American agriculture. *Journal of Economic Literature*, *43*(4), pp.989-1024. **[S]**
- Gancia, G. and Zilibotti, F., 2009. Technological change and the wealth of nations. *Annual Review of Economics*, *1*(1), pp.93-120. **[SS]**
- Ngai, R. and Sevinc, O., 2020. A Multisector Perspective on Wage Stagnation. **[S]**
- Rodrik, D., 2016. Premature deindustrialization. Journal of economic growth, 21(1), pp.1-33.
- Duarte, M. and Restuccia, D., 2010. The role of the structural transformation in aggregate productivity. *The Quarterly Journal of Economics*, *125*(1), pp.129-173. **[S]**
- Lee, D. and Wolpin, K.I., 2006. Intersectoral labor mobility and the growth of the service sector. *Econometrica*, *74*(1), pp.1-46. **[S]**
- Gollin, D., Jedwab, R. and Vollrath, D., 2016. Urbanization with and without industrialization. *Journal of Economic Growth*, *21*(1), pp.35-70.
- Herrendorf, B., Rogerson, R. and Valentinyi, A., 2013. Two perspectives on preferences and structural transformation. *American Economic Review*, *103*(7), pp.2752-89. **[S]**
- Michaels, G., Rauch, F. and Redding, S.J., 2012. Urbanization and structural transformation. *The Quarterly Journal of Economics*, *127*(2), pp.535-586. **[S]**
- Alvarez-Cuadrado, F. and Poschke, M., 2011. Structural change out of agriculture: Labor push versus labor pull. *American Economic Journal: Macroeconomics*, *3*(3), pp.127-58.
- Krüger, J.J., 2008. Productivity and structural change: a review of the literature. *Journal of Economic Surveys*, *22*(2), pp.330-363. **[S]**
- Bustos, P., Caprettini, B. and Ponticelli, J., 2016. Agricultural productivity and structural transformation: Evidence from Brazil. *American Economic Review*, *106*(6), pp.1320-65. **[S]**
- Kongsamut, P., Rebelo, S. and Xie, D., 2001. Beyond balanced growth. *The Review of Economic Studies*, *68*(4), pp.869-882.
- Greenwood, J. and Uysal, G., 2005. New goods and the transition to a new economy. *Journal of Economic Growth*, *10*(2), pp.99-134. **[S]**
- Acemoglu, D. and Guerrieri, V., 2008. Capital deepening and nonbalanced economic growth. *Journal of political Economy*, *116*(3), pp.467-498.
- Valentinyi, A. and Herrendorf, B., 2008. Measuring factor income shares at the sectoral level. *Review of Economic Dynamics*, *11*(4), pp.820-835.
- Amaral, P.S. and Quintin, E., 2006. A competitive model of the informal sector. Journal of monetary Economics, 53(7), pp.1541-1553.
- Hsieh, C.T. and Rossi-Hansberg, E., 2019. The industrial revolution in services. [S]
- Herrendorf, Berthold, and Todd Schoellman. 2018. Wages, Human Capital, and Barriers to Structural Transformation. American Economic Journal: Macroeconomics, 10 (2): 1-23. [S]
- Buera, F.J., Kaboski, J.P., Rogerson, R. and Vizcaino, J.I., 2022. Skill-biased structural change. The Review of Economic Studies, 89(2), pp.592-625. [S]

3. ICT capital and automation
   Is it the modern structural transformation?

   Papers and Readings:
   - Gallipoli, G. and Makridis, C.A., 2018. Structural transformation and the rise of information technology. *Journal of Monetary Economics*, 97, pp.91-110. [S]
   - Acemoglu, Daron, Claire Lelarge, and Pascual Restrepo. 2020. "Competing with Robots: Firm-Level Evidence from France." *AEA Papers and Proceedings*, 110: 383-88. [S]
   - Acemoglu, Daron, and Pascual Restrepo. 2019. "Automation and New Tasks: How Technology Displaces and Reinstates Labor." *Journal of Economic Perspectives*, 33 (2): 3-30. [S]
   - Caselli, F. and Coleman, W.J., 2001. Cross-country technology diffusion: The case of computers. *American Economic Review*, *91*(2), pp.328-335. [S]
   - Jorgenson, D.W. and Stiroh, K.J., 2000. US economic growth at the industry level. *American Economic Review*, *90*(2), pp.161-167.
   - Acemoglu, Daron, and Pascual Restrepo. 2018. "The Race between Man and Machine: Implications of Technology for Growth, Factor Shares, and Employment." *American Economic Review*, 108 (6): 1488-1542.
   - Acemoglu, D. and Restrepo, P., 2018. Low-skill and high-skill automation. *Journal of Human Capital*, 12(2), pp.204-232.

4. Innovation and Imitation
   What kind of firms innovate, and which imitate? What is their role in economic growth?

   Papers and Readings:
   - *Chapters 3-4*, Aghion, P. and Howitt, P.W., 2008. *The economics of growth*. MIT press.
   - Aghion, P., Akcigit, U., & Howitt, P. (2015). The Schumpeterian growth paradigm. *Annual Review of Economics*, *7*(1), 557-575. [S]
   - Acemoglu, D., Akcigit, U., Alp, H., Bloom, N. and Kerr, W., 2018. Innovation, reallocation, and growth. *American Economic Review*, 108(11), pp.3450-91.
   - Bloom, N., Draca, M. and Van Reenen, J., 2016. Trade induced technical change? The impact of Chinese imports on innovation, IT and productivity. *The Review of Economic Studies*, 83(1), pp.87-117. [S]
   - Aghion, P., Blundell, R., Griffith, R., Howitt, P. and Prantl, S., 2009. The effects of entry on incumbent innovation and productivity. *The Review of Economics and Statistics*, 91(1), pp.20-32.

5. Facts in firm dynamics
   Why do heterogenous firms exist? What happens to them over time?

Papers and Readings:

- Haltiwanger, J., 2015. Job creation, job destruction, and productivity growth: The role of young businesses. *Annual Review of Economics*, *7*(1), pp.341-358. [S]
- Luttmer, E.G., 2010. Models of growth and firm heterogeneity. *Annual Review of Economics*, *2*(1), pp.547-576.
- Hsieh, C.T. and Olken, B.A., 2014. The missing "missing middle". *Journal of Economic Perspectives*, 28(3), pp.89-108. [S]
- Ulyssea, G., 2018. Firms, informality, and development: Theory and evidence from Brazil. *American Economic Review*, 108(8), pp.2015-47.
- Hsieh, C.T. and Klenow, P.J., 2014. The life cycle of plants in India and Mexico. *The Quarterly Journal of Economics*, 129(3), pp.1035-1084.
- Bloom, N., Sadun, R. and Van Reenen, J., 2012. The organization of firms across countries. *The Quarterly Journal of Economics*, 127(4), pp.1663-1705.
- Autor, D., Dorn, D., Katz, L.F., Patterson, C. and Van Reenen, J., 2020. The fall of the labor share and the rise of superstar firms. *The Quarterly Journal of Economics*, 135(2), pp.645-709. [S]
- Covarrubias, M., Gutiérrez, G. and Philippon, T., 2020. From Good to Bad Concentration? US Industries over the past 30 years. *NBER Macroeconomics Annual*, 34(1), pp.1-46.
- Bernard, A.B., Jensen, J.B., Redding, S.J. and Schott, P.K., 2018. Global firms. *Journal of Economic Literature*, 56(2), pp.565-619.
- Garcia-Macia, D., Hsieh, C.-T. and Klenow, P.J. (2019), How Destructive Is Innovation?. *Econometrica*, 87: 1507-1541.
- Combes, P.-P., Duranton, G., Gobillon, L., Puga, D. and Roux, S. (2012), The Productivity Advantages of Large Cities: Distinguishing Agglomeration From Firm Selection. *Econometrica*, 80: 2543-2594.

6. Miscellaneous

- Guner, N., Ventura, G. and Xu, Y., 2008. Macroeconomic implications of size-dependent policies. *Review of Economic Dynamics*, 11(4), pp.721-744. [S]
- Rossi-Hansberg, E. and Wright, M.L., 2007. Establishment size dynamics in the aggregate economy. *American Economic Review*, 97(5), pp.1639-1666.
- Atalay, E., Hortaçsu, A. and Syverson, C., 2014. Vertical integration and input flows. *American Economic Review*, 104(4), pp.1120-48.
- Bloom, N., Eifert, B., Mahajan, A., McKenzie, D. and Roberts, J., 2013. Does management matter? Evidence from India. *The Quarterly Journal of Economics*, 128(1), pp.1-51.
- Cole, H.L., Greenwood, J. and Sanchez, J.M., 2016. Why doesn't technology flow from rich to poor countries?. *Econometrica*, 84(4), pp.1477-1521.
- Ulyssea, Gabriel. 2018. "Firms, Informality, and Development: Theory and Evidence from Brazil." American Economic Review, 108 (8): 2015-47.

Course Rules:

1. The central objective of the course is to learn intuition in economic concepts and write on economics. To achieve this goal, students are encouraged to solve end of the chapter questions.
2. You will be shared an online Excel sheet titled "ECO 6300 (Spring 2022)". It will record individual performances and attendance. It is your task to track it.
3. Late submissions would not be graded.
4. There shall be no repeats if you miss any assessment. All weights will be transferred to the final exam.
5. You would be asked to leave the class if you are found accessing non-course related material. Social media is not, in any way, related to my course.
6. You would be asked to leave the class if you are found walking around the class. Toilet or food breaks are not allowed in class.

How to Succeed in This Class:

- Do pre-class readings before you attend classes
- If you have any difficulty with the homework, or if you have any questions about the material, please don't hesitate to come to office hours. If you can't make regular office hours, feel free to make an appointment with me.

Special Accommodation & Support:

Ashoka University offers an inclusive education framework that welcomes, nurtures and supports students with learning difficulties. The Office of Learning Support (OLS) has been established at the University to design various activities related to the management of such learning difficulties. Students are welcome to request learning support for their specific condition and the university will make its best efforts to extend as much support as possible for each course. The university is geared to support learning difficulties due to Dyslexia, Dyscalculia, Dysgraphia, ADD/ADHD, and visual impairment.

Contact the OLS for any additional information you may seek to better understand the process and scope of their support services at ols@ashoka.edu.in

In addition to the OLS, there is also an on-campus counselling center at Ashoka University which is dedicated to the care and well-being of mental health of the Ashoka fraternity. It is comprised of trained therapists who offer a range of services. Email: well.being@ashoka.edu.in

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