Advanced Economic Theory 2
ECON 452

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McGill University
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Course description and objectives

This term, this course will cover the analysis of inequality in economics. Inequality, in particular of income, has been a topic of long-standing interest to economists. Its importance to society is hard to overstate. Recent increases in income inequality in many developed countries, as well as policy changes, have heightened this interest.

The purpose of this course is to develop a theoretical understanding of the ideal distribution of income, consumption and wealth; to build on this to develop methods of measuring inequality, life-time and intergenerational mobility; to translate these tools into empirical analysis of various countries; to acquire tools for analyzing data; to analyze potential determinants of changes in income distribution and mobility; and to discuss the theory and empirics of redistributing income.

Learning outcomes

You will learn how to use and understand others' use of measures of inequality; how inequality has evolved and how it differs across countries; what factors are the most likely drivers of inequality; and what the effects of potential policy responses might be.

You will practice how to work with microeconomic data using Stata, to analyze inequality and to conduct regression analysis. This skill is useful for many other contexts. You will practice how to theoretically analyze economies with heterogeneity, both with a positive and a normative perspective. You will see how theory informs empirical analysis, and how empirical findings prompt progress in the formulation of theories.

Administrative Issues

3 credits
1 lecture per week, Fri 12:05pm-2:25pm in LEA 14
2 Stata practice sessions, time and date *tbd*

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office hours: by appointment. Later in the term, I will announce additional regular office hours.

The teaching assistant for the course is Xian Zhang, xian.zhang@mail.mcgill.ca. Xian will hold weekly office hours and two Stata training sessions, and will also be available by email to help you with Stata and LIS matters.

Prerequisites and tools: *ECON 230 or ECON 250; ECON 227 or ECON 257 or equivalent; Calculus 1 and 2.*

The theoretical part of the course uses both differential and integral single-variable calculus in analyzing social welfare functions and inequality measures. The empirical part of the course requires the ability to run ordinary least squares regressions and to interpret their results. More advanced knowledge of econometrics is helpful but not required. The course will make use of some economic tools you may have already encountered in intermediate micro, related to insurance, taxation, labor supply and utility possibility frontiers; these will be reviewed in class. Although macro is not a prerequisite, you may also encounter some concepts that students who have taken intermediate macro would be familiar with.

Several problem sets will require the use of the statistical program Stata. Stata is the statistical software used by most empirical economists. Its great advantage for the purpose of this course is that users have programmed various measures of inequality and poverty that can be downloaded (if you have write permission in the applications folder of your computer) and used. Knowledge of Stata is not a prerequisite for this course. To get started with Stata, watch the movies and use the data at `https://stats.idre.ucla.edu/stata/`. The practice sessions will also cover some aspects of using Stata.

Course materials: There is no textbook covering all class topics. Some of the material is covered in three books, which are on reserve in the library:

[W] Edward N. Wolff (2009), *Poverty and Income Distribution,* 2nd edition, Wiley Blackwell.

[C] Frank Cowell (2011), *Measuring Inequality,* 3rd edition, Oxford University Press. (ebook available at the library.)

[P] Thomas Piketty (2017), *Capital in the 21st Century,* Harvard University Press. (ebook available at the library. Original 2014 edition is similar.)

The books will be complemented by journal articles. I will post the articles on *mycourses* as we go along. I will also make class notes (slides) available. Warning: The list of articles in the course outline is incomplete.

Continuous class attendance is strongly encouraged. Any points raised in class can end up in the examinations.

Finally, I will occasionally post links to news articles on Twitter (@mposchke) or on *mycourses*. These are for your background information and not required reading, except for the ones that I may from time to time discuss in class.

mycourses: I will use *mycourses* for posting relevant materials such as readings and problem sets and for making announcements. You should therefore regularly check the course's *mycourses* page.

Grading: The grade for the course will be based on three assignments, a term paper, and class participation.

The three *assignments* will each account for 15% of the course grade. All assignments will take place as individual quizzes in class. Dates *tba.* You will have one hour for each assignment. The first assignment may consist in short essays and in exercises that involve working with theory. The second assignment will test your knowledge of the empirical analysis of inequality. The third assignment will consist in a short essay. Most likely dates: Oct 5, Nov 2, Nov 30.

The term paper will account for 50% of the grade of the course. Details below. The deadline for submission of the paper is Dec 4 (the last day of classes).

I may also on occasion give you questions to ponder at home that will not be formally evaluated, but that will be discussed in the following class. Participation in these discussions and your class participation more generally account for the remaining 5% of the grade.

The term paper: In the term paper, you will analyze real microeconomic data from the *Luxembourg Income Study* (LIS), a source of cross-national, harmonized data on incomes and demographic characteristics of persons and households from about 50 countries. In the paper, you need to do the three following tasks:

1. For a country of your choice and all available years, replicate a set of figures from Heathcote, Perri and Violante (2010). Discuss how inequality changed, and which factors were how important in accounting for it.

   Figures to replicate: 6, 7, 8, 10 (top two graphs), 11, 12

2. Using the same data, replicate Autor, Katz and Kearney (2008), Figures 1 and 2a. Then, estimate a reasonable Mincer wage equation for each year. Discuss results.

3. Get creative: Analyze cross-country differences in inequality, or changes in a country over time, and attempt to relate them to how the economic environment differs between countries or to how it changed over time. For example: Have changes in the tax system led to changes in inequality? Are changes in the stock market related to changes in top income shares? Do differences in government transfers affect poverty rates? Try to be as rigorous in your analysis as possible. This task is difficult. Both creativity and rigour are valued.

Each of the three components accounts for 1/3 of the grade.

You need to write up your findings in a paper of about 10-15 pages, not including tables and figures. Describe well how you select variables, treat data, report results. Make sure the paper is readable. Relate your findings to the course. You will need to submit an electronic version of the paper, in pdf format, as well as the do files (Stata programs) that generate your results. You will be able to submit your work via *mycourses*. Note that this is an individual assignment.

While the tasks may appear daunting now, you will see that they are very closely associated to the material we cover in the course. Moreover, the LIS provides excellent "Self-Teaching" resources that cover many of the tasks.

To access and analyze the data, you will have to

1. register to use the LIS data here: `http://www.lisdatacenter.org/data-access/lissy/eligibility/`. Access is free for students. In the box requesting why you need data access, mention that you need it for a course at McGill University taught by Markus Poschke. Do this as soon as possible.

2. submit Stata code to be run either by email or via LISSY, the LIS's remote access system. (See `http://www.lisdatacenter.org/data-access/lissy/submission/`. Login is from that page, too.) The latter is easy to use and allows you to keep all your results in one place.

   You need to give your computer permission to install the app `userinterface.jnlp` that is used to access LISSY.

3. Review the code, the self-teaching resources, and the sample datafiles provided here: `http://www.lisdatacenter.org/resources/self-teaching/`

4. Detailed documentation of the data is here: `http://www.lisdatacenter.org/frontend#/home`

Stata at McGill: The McGill library maintains a page listing where Stata can be used at McGill: `https://www.mcgill.ca/library/services/computers`. Stata also sells a fully functional student version at a low price.

University statements: In case of absence at the final exam for medical reasons, please refer to the University Regulations Concerning Final Examinations. Note: According to Senate regulations, instructors are not permitted to make special arrangements for final exams. Please consult the Calendar, section 4.7.2.1, General University Information and Regulations at www.mcgill.ca.

McGill University values academic integrity. Therefore, all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures (see `http://www.mcgill.ca/students/srr/honest/` for more information).

L'université McGill attache une haute importance à l'honnêteté académique. Il incombe par conséquent à tous les étudiants de comprendre ce que l'on entend par tricherie, plagiat et autres infractions académiques, ainsi que les conséquences que peuvent avoir de telles actions, selon le Code de conduite de l'étudiant et des procédures disciplinaires (pour de plus amples renseignements, veuillez consulter le site `http://www.mcgill.ca/students/srr/honest/`).

In accord with McGill University's Charter of Students' Rights, students in this course have the right to submit in English or in French any written work that is to be graded.

Conformément à la Charte des droits de l'étudiant de l'Université McGill, chaque étudiant a le droit de soumettre en français ou en anglais tout travail écrit devant être noté.

Instructor generated course materials (e.g., handouts, notes, summaries, exam questions, etc.) are protected by law and may not be copied or distributed in any form or in any medium without explicit permission of the instructor. Note that infringements of copyright can be subject to follow up by the University under the Code of Student Conduct and Disciplinary Procedures.

End-of-course evaluations are one of the ways that McGill works towards maintaining and improving the quality of courses and the students learning experience. You will be notified by e-mail when the evaluations are available. Please note that a minimum number of responses must be received for results to be available to students.

In the event of extraordinary circumstances beyond the Universitys control, the content and/or evaluation scheme in this course is subject to change.

Course outline

The course outline is subject to revisions, the order of topics may be changed, and topics may be dropped or added depending on the pace of the course. I have made the outline very detailed to give you a good impression of what to expect. Note: The list of references to articles is incomplete.

Classes:

1. Introduction, measurement part 1 (Corak (2016), C 2, W3.1-3.3)

2. Measurement part 2, social welfare functions

3. Okun's leaky bucket, inequality aversion, optimal income distribution, Atkinson index (C 1, 3)

4. Utilitarianism and critiques, inequality today (Díaz-Giménez, Glover and Ríos-Rull 2011)

5. Recent trends in inequality (Heathcote et al. 2010)

6. Analysis of inequality in Stata (Xian)

7. The relative demand and supply model, skill-biased technical change (P9, Katz and Murphy (1992), Autor et al. (2008))

8. Capital-skill complementarity (Krusell, Ohanian, Ríos-Rull and Violante 2000)

9. Polarization (Autor and Dorn 2013)

10. The top 1%, wealth inequality (W5, P10, Saez and Zucman (2016), de Nardi, Fella and Yang (2015))

11. Redistribution (P14, Piketty and Saez (2007), Diamond and Saez (2011), Badel and Huggett (2017))

12. Health inequality (Hong, Pijoan-Mas and Rios-Rull 2017)

13. Buffer

References

Autor, D. H. and Dorn, D. (2013), 'The growth of low-skill service jobs and the polarization of the US labor market', *American Economic Review* **103**(5), 1553–1597.

Autor, D. H., Katz, L. F. and Kearney, M. S. (2008), 'Trends in US wage inequality: Revising the revisionists', *The Review of Economics and Statistics* **90**(2), 300–323.

Badel, A. and Huggett, M. (2017), 'The sufficient statistic approach: Predicting the top of the laffer curve', *Journal of Monetary Economics* **87**, 1–12.

Corak, M. (2016), "inequality is the root of social evil,' or maybe not? two stories about inequality and public policy', *Canadian Public Policy* **42**(4), 367–414.

de Nardi, M., Fella, G. and Yang, F. (2015), 'Piketty's book and macro models of wealth inequality', *NBER Working Paper* **21730**.

Diamond, P. and Saez, E. (2011), 'The case for a progressive tax: from basic research to policy recommendations', *The Journal of Economic Perspectives* **25**(4), 165–190.

Díaz-Giménez, J., Glover, A. and Ríos-Rull, J.-V. (2011), 'Facts on the distributions of earnings, income, and wealth in the united states: 2007 update', *Federal Reserve Bank of Minneapolis Quarterly Review* **34**(1), 2–31.

Heathcote, J., Perri, F. and Violante, G. L. (2010), 'Unequal we stand: An empirical analysis of economic inequality in the united states, 19672006', *Review of Economic Dynamics* **13**, 15–51.

Hong, J. H., Pijoan-Mas, J. and Rios-Rull, J.-V. (2017), 'Health and Inequality', *mimeo, U Penn* .

Katz, L. F. and Murphy, K. M. (1992), 'Changes in relative wages, 1963-1987: Supply and demand factors', *Quarterly Journal of Economics* **107**(1), 35–78.

Krusell, P., Ohanian, L. E., Ríos-Rull, J.-V. and Violante, G. L. (2000), 'Capital-skill complementarity and inequality: A macroeconomic analysis', *Econometrica* **68**(5), 1029–1053.

Piketty, T. and Saez, E. (2007), 'How progressive is the us federal tax system? a historical and international perspective', *The Journal of Economic Perspectives* **21**(1), 3–24.

Saez, E. and Zucman, G. (2016), 'Wealth inequality in the united states since 1913: Evidence from capitalized income tax data', *The Quarterly Journal of Economics* **131**(2), 519–578.