

# Eco 422H1-S: Special Topics in Economics: Topics in Business Economics

Instructor: Karen Bernhardt-Walther  
Meet: Wednesdays 1-4pm, SS1085  
Web: portal.utoronto.ca

Contact: bkaren@economics.utoronto.ca  
Office hours: tba

## Motivation

In April 2017 a passenger was forcibly dragged off a United Airlines airplane. Fellow passengers filmed the incident and the video went viral within hours. The resulting worldwide outrage caused a decline in UA stock by 1.3%. The settlement with the unfortunate passenger was speculated to be at least 1 Mill USD.

To many this incident was foremost a PR disaster. But more importantly, it was an organizational failure: United Airline employees had followed the company's rules and procedures, a UA spokesperson emphasized. In other words, the incident could have been prevented if United Airlines had had a different set of rules and *procedures*, if individual employees had had the *authority* to overrule the procedures according to their own judgement, or if there had been a *culture* of "passengers first" *decision-making*.

In this course we develop tools to describe such organizational aspects. We will use mathematical model and in-depth company case studies (ICCS) to study the circumstances that lead firms to adopt a particular *culture*, allocate *authority* with employees or not, delegate or centralize *decision making*. We will also see how the "second best nature" of these choices almost always allow firms to fail in the right kind of wrong circumstance.

## Audience

The class will be relevant to students who are interested in starting or running a company one day, students who are interested in attending graduate school, and/or students who have a strong interest in mathematical modeling and would like to learn more how to apply it to economics.

## Objectives

At the end of this course students will be able to

- Recognize organizational choices in real-world examples;
- Apply organizational economic models to analyze these choices, to explain behavior of and dynamics within organizations.
- Understand the economic relevance of "second best outcomes," derive a second best outcome mathematically, and give real-world examples.
- Professionally and concisely communicate insights of applied theory papers and their real-world relevance, formally and informally, orally and in writing.

## Prerequisites

(i) Eco200Y1/Eco204Y1/Eco206Y1

(ii) At least one FCE in Eco at the 300 level or higher

Recommended: At least one of Eco316, Eco326, Eco338, Eco380, or Eco381

The course will involve thorough discussions of applied theory papers. You should thus be (willing to become) comfortable reading research papers that use extensive mathematical modeling. You should have a good understanding of utility and profit maximization, pure and mixed strategy Nash equilibria, and backward induction.

## Content

In this class we will study the economics *inside* a firm. In particular, we will answer the following questions:

Week 1: Why should we care about the economics *inside* a firm?

Week 2 & 3: *Agency inside the firm*: What's special about a firm that it deserves economic study? I.e., in what way – that is economically meaningful and relevant for firms – are people different from, say, robots? Hint: Robots have no issues with multi-tasking, risk-aversion, and do not care about relations or the future.

Week 4 & 5: *The Make-or-Buy decision*: Should a firm make (own) an asset (factor in production) or buy (rent) it? This is known as the Make-Or-Buy Decision and we will study common explanations for why a firm might own an asset: Adaptation, Rent-seeking, Property rights, Incentives, Hold-Up

Week 6-8: *Structures and Processes inside the firm*: Who in the firm should work on what, with whom, why and how? As the manager, when should you handle a client yourself, when is it ok to delegate an account to someone less experienced, and when should you bring the senior partner in on it? Should designers report to engineers, engineers to designers, or both to some general manager? Should the firm cross-train people or ask them to specialize?

Week 8-10: *Decision Making inside the firm*: Who in the firm should make which decision, why and how? Thinking about the military as one extreme and your favorite start-up as another, you already know that there are different approaches to decision making based on the style of Leadership, Authority and Power, Culture and Language ... Are the circumstances between start-ups and the military so different that each has their "optimal" decision making process? Or is one of them getting it wrong? Or both?

Week 11 & 12: Is that all?

Hint: Of course not. For example, should firms maintain or change their answers to the previous three questions as they mature from start-up to stock-listed company? If so, how? Does the way firms organize affect economic growth? Does it affect or interact with industry structure? Does it affect the survival rate of the company, its ability to change and adapt? Does it affect the way people invest in their training and learning? How?

We will answer these questions with mathematical models (which we learn from applied theory papers) and with real-world examples (which we find in in-depth company case studies (ICCS)).

Please note that we will not touch upon questions of who should be hired, how a firm should address career concerns, how to motivate workers, or how career concerns of managers might inadvertently affect a firm's capabilities. Those questions are addressed in Eco381.

## Class Format

The class meets once a week for 3h. In-class activities include lecturing, peer-to-peer activities, in-class writing, and a lot of in-class discussion. The class room is a place for friendly and intense discussions furthering all our understanding of the material. Your active participation in these discussions is required. Come prepared. To better foster face-to-face interactions in class, no electronic devices will be allowed. To the extent that I lecture, I will use the black- or white board.

Out-of-class activities consist mostly of reading and writing. The writing will require frequent revisions and the reading is extensive. Make sure to schedule both throughout the week. Every week. The more you put in the more you *and your classmates* get out.

## Marking

You can earn up to 100 points in this class. Your grade will be equally based on the following four components. They are described in detail below.

Class participation	25 points = 25%
Class presentation & Handout	25 points
Term paper( White Paper)	25 points
24h project	25 points

These components encourage you to work toward and eventually demonstrate your mastery of the course objectives. Their respective alignment with the course objectives is as follows:

	Course Objective					
	Recognize organizational choices in real-world examples; Apply org. economic models to analyze.		Understand economic relevance of “second best outcomes,” derive a second best outcome mathematically, give real-world examples.		Professionally and concisely communicate insights of applied theory papers and their real-world relevance, in writing and orally.	
	Practice	Demonstrate	Practice	Demonstrate	Practice	Demonstrate
Class participation	X		X		x	
Class presentation & Handout				x		X
Term paper (White Paper)	X	x			x	
24h project		x		x		X

### *Class Participation (25 points).*

Every week your participation will be scored. Your score will be based on the (1) quality (relevance, insight added), (2) quantity (not too much, not too little), and (3) conciseness (making good use of everybody's time) of your contributions. Listening carefully to your classmates' contributions is essential. Questions that spark or further class discussion or that help us clarify understanding can be significant contributions, too. In making this assessment, I am answering the question “how different would the class have been if that student would not have been present?” Your score will be with 0 (absent, silent, non-relevant), 1 (ok), 2 (good), or 3 (outstanding) points. No more than 25 points can be earned over the course of the term.

### *Class Presentation (25 points).*

Every student will give a 20 minutes in-class presentation about an assigned paper. Papers will be assigned in week 2. You should submit a toy model (3 points) capturing insights of your paper by Monday Jan 22<sup>nd</sup>, noon, and handouts (2 points) for your paper presentation are due Monday, Feb 5<sup>th</sup>, noon, (week 5). Final version of your handout is due Monday noon before your presentation. Presentations will be given in weeks 7-12.

The paper presentation should convey the motivating question, its relevance to managers and/or policy makers, and the paper's main insight. It should also place the question and insight in the context of the in-depth company case studies as appropriate and address potential short-comings or caveats.

Presenting students must utilize the blackboard or white board. No digital presentations allowed.

Presenters must prepare a hand-out according to the template available on portal. Handout (10 points) and

presentation (10 points) are judged based on (1) accurately conveying the idea and content of the paper, (2) explaining the relevance of the paper's insights, e.g., in the context of the in-depth-company case studies, (3) making good use of space/ time, (4) satisfying the format requirements and being of professional quality.

Preparing a paper for presentation takes a significant amount of effort and time. Plan to come to office hours or make an appointment at least once before submitting your handout and once before your presentation.

#### *White Paper (25 points).*

Every student must prepare a white paper. In that white paper you must explain the insight from a paper of the reading list (cannot be a starred paper) to an interested managerial or policy-related audience. The white paper must use at least one example from the in-depth company studies (see reading list) and at least one other real-world example as context to explain the insight. The white paper should contain (1) an introduction that describes the insight in broad strokes, why it is relevant to managers and/or policy makers, and how it relates to at least two other papers, (2) a semi-formal sketch of the model leading to the insight and its implication so that it is understandable to non-economists, (3) discussion, (4) conclusion, and (5) bibliography. The paper should not exceed 8 pages (1in margin, 11 pt setting, 1.3 spacing).

Note: You can use the paper you are presenting as the starting point for your white paper.

To help you develop and polish your white paper, you should submit by Monday noon a discussion of the problem you are addressing (week 6), an outline in complete sentences (week 7), a first 8-12 page draft (week 8), a draft revised for evidence (week 9), a draft revised for language (week 10). Each of these five intermediate submissions is worth 2 points.

The final white paper is due on Monday March 26<sup>th</sup>, noon. Your submission (15 points) will be judged based on (1) relevance and comprehensiveness of the analysis, (2) clarity and quality of the writing, and (3) satisfaction of the stated formal requirements.

I encourage you to familiarize yourself with the type setting program Latex (ask me if you need help getting started) to write your white paper.

#### *24h Project (25 points).*

On Tuesday, April 3rd, at 1pm you will receive a prompt in the form of an organizational problem or observation. You then have 24h to prepare an analysis and discussion of the problem or observation. Your analysis should entail a discussion of specific issues that may arise, the extent to which first-best solutions may or may not be possible, and possible approaches to mitigating or solving the issues. In preparing this analysis, you should draw heavily on all assigned reading to provide context, supporting or contrasting evidence. Your submission should at least contain an introduction, a conclusion, and a bibliography. Other sections will be appropriate depending on the prompt.

Your submission will be judged based on the (1) demonstrated understanding of the issue, (2) demonstrated understanding of the related literature, (3) relevance and comprehensiveness of the analysis, and (4) quality and professionalism of the exposition.

#### **Workload expectations**

I expect an average student needs to spend about 8 hours a week *on average* on this course to obtain a good mark. (A full load of 5 course at 8h would result in the full-time work equivalent of 40h).

Over our 12 week term, this means spending 96 hours on this course. Of these, I expect students will spend approximately 36h in lecture, 10h on reading the two in-depth company studies, 20h on reading 9-10 papers, 15h reading the assigned paper, preparing the handout and the presentation, and 15h writing and revising the white paper. The quality of in-class discussion, presentations, and writing submissions should reflect this substantial time investment. If you find that the time you need to complete the assignments varies significantly from these estimates, please let me know.

The workload distribution in this class is front-load heavy: You should expect to spend more time on this class in first the half of the course than in the second half.

## Schedule

As you can see, the schedule for the first half of the class is fairly intense. To ensure you stay on track and are getting started on time, I have summarized the time line below.

By Jan 4 <sup>th</sup>	Vote on ICCS on portal
Jan 5 <sup>th</sup>	ICCS announced, syllabus posted.
By Jan 10 <sup>th</sup>	Read syllabus. Purchase the ICCS books. Start reading; while reading identify organizational choices and decisions made.
Jan 10 <sup>th</sup> (Wed)	Lect 1: Why we should care about what happens inside the firm; learning to read an applied theory paper; meeting the instructor; introducing yourself
Jan 10 <sup>th</sup> – 14 <sup>th</sup>	Read title and abstract of some papers from the “Possible papers for in-class presentations” list; pay attention to whether the paper’s model is something you think you can master. Find 3 papers you are interested in (with author, title, and year) and submit your preferences on the portal by Monday Jan 15 <sup>th</sup> , noon.
Jan 17 <sup>th</sup>	Paper assignments are announced.
Jan 17 <sup>th</sup> – Jan 21 <sup>st</sup>	Carefully read your assigned paper. Take a first stab at building a toy model of your paper’s story. Submit by Monday Jan 22 <sup>nd</sup> , noon. Attend office hours to discuss your assigned paper and/or toy model.
Jan 24 <sup>th</sup>	Finish reading the two in-depth company case studies. Receive feedback on your toy model.
Jan 24 <sup>th</sup> – Jan 28 <sup>th</sup>	Review and revise your toy model. Resubmit as necessary by Monday noon.
By Jan 31 <sup>st</sup>	Read the week’s mandatory paper: Gibbons, Robert. 2005. <i>Four Formal(izable) Theories of the Firm?</i> Journal of Economic Behavior and Organization, 58(2): 200-245.
Jan 31 <sup>st</sup> – Feb 4 <sup>th</sup>	Re-read your assigned paper; prepare a handout for your presentation according to template on portal. Submit by Monday Feb 5 <sup>th</sup> , noon, on portal and turnitin.com.
By Feb 7 <sup>th</sup>	Read the week’s mandatory paper: Gibbons, Robert. 2005. <i>Four Formal(izable) Theories of the Firm?</i> Journal of Economic Behavior and Organization, 58(2): 200-245. Read Stelzner (2006), chapters 1-3.

Feb 7<sup>th</sup> – 11<sup>th</sup>                      Read Graham (2013), chapter 9. Formulate the problem you will be addressing in your white paper. Carefully identify your audience. Submit by Monday Feb 12<sup>th</sup>, noon, on portal and turnitin.com.

By Feb 14<sup>th</sup>                              Read the week's mandatory paper: Garicano, Luis. 2000. *Hierarchies and the Organization of Knowledge in Production*. The Journal of Political Economy, 108(5): 874-904.

For the second half of the course, you should read each week's mandatory paper, revise your handout, prepare your presentation, and draft and revise your white paper. Your revised hand-out is due on portal and turnitin.com on Monday noon before your presentation. Your white paper's final submission is due on portal and turnitin.com on Monday, March 26<sup>th</sup>, noon.

For your convenience, the next page shows a condensed overview over the whole course.

### **Accessibility Needs**

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach me and/or Accessibility Services at (416) 978 8060; [accessibility.utoronto.ca](http://accessibility.utoronto.ca).

### **Policies**

#### *Email Etiquette*

Email is usually not an effective way to discuss economics; instead in-person communications are more appropriate. Please talk to me before/ after class, come to office hours, or make an appointment. Please reserve email communication for brief administrative questions. I will strive to reply to e-mail within 24 hours, except on weekends. Please do not send attachments unless requested, please do include Eco422 in the subject line, and please be as specific as possible. Emails between instructors and students constitute professional communication; please treat them as such.

#### *Late Submission Penalties*

Written work submitted past the deadline will incur an automatic deduction of two marks per started 24h late period, with the following two exceptions: (1) No white paper/ model-development essay will be accepted past Monday noon of the last week of classes. (2) Late submission of the 24h project incurs an automatic deduction of two marks per started one hour period.

#### *Lecture Notes*

Most class time will be spend on discussions and other interactive activities. When I lecture I will use the black/ white board. It is up to you to take notes (by hand, see below). If you miss a class, it is your responsibility to catch up and obtain notes from one of your classmates. For student presentations, the prepared handouts will be made available. Please note that readings and class attendance are complements in this course, not substitutes.

Condensed Term Overview of due dates, class content, readings, and assignments.

		Before class	week 1	week 2	week 3	week 4	week 5	week 6	week 7	week 8	week 9	week 10	week 11	week 12
Due this week	Due (Monday noon)	By Th: ICCS preferences		3 choices for paper presentations	First stab at toy model	Resubmit toy-model (optional)	Handout	Problem set-up (WP)	Outline (WP)	First draft (WP)	Evidence-revision (WP)	Language-revision (WP)	Final submission (WP)	Wed: 24h project
Class Topics	Class Content		Economics inside the firm	Agency inside the firm			Make-or-Buy decision		Structures and Processes		Decision Making		Culture, Innovation, Growth, Technological Change, ...	
	Skill Focus		Reading an applied theory paper.	Building toy-models.	Toy-model practice; Understanding second-best.	Prototyping a presentation.	Understanding white papers (audience and objective)	Creating and revising an outline.	Un-constrained writing.	Revise your paper (as needed); Preparing for 24h project.				
Readings	ICCS	ICCS announced	Read ICCS; take notes on examples			Use ICCS as context for models, paper presentation and white paper/ essay.								
	Papers		Read starred papers before class. Try to relate to ICCS. Bring questions to class.											
Marking component	Class Participation	Read syllabus	get to know classmates & instructor; introduce yourself		Come to class with assigned reading complete; be part of friendly group of students interested in understanding inner workings of a firm, from research and from managerial perspective. Bring your reflections, observations, and questions. Engage, listen, probe, contribute.									
	Class Presentation		skim potential papers; indicate preferences; assignments announced		Read paper carefully; work out toy model	Revise toy model	Write and submit handout		Revise handout; prepare and give presentation.					
	White Paper		Collect observations from ICCS; Interesting papers from skimming/ paper assignment				Read Stelzner (2006), chapter 1-3; Who is your audience?	Read Graham (2013), chapter 9; What problem do you address?	Create and submit a full-sentence outline.	Create and submit a (rough) first draft.	Review comments received on draft; revise draft; submit; repeat.			
	24h project			Prepare by making sure you understand (1) modelling approaches used, (2) structure of expositions seen, (3) insights from papers discussed, and (4) their application to real-world context. Use class discussion to clarify questions and to deepen your understanding.										Demonstrate mastery

### *Turn-It-in*

All written work must be submitted on Portal as well as on Turn-It-In.com.

“Normally, students will be required to submit their course essays to Turnitin.com for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the Turnitin.com reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of the Turnitin.com service are described on the Turnitin.com web site.”

If you want to opt out of TI, you must inform me with a signed document by January 22<sup>nd</sup> that you plan to opt out of TI; otherwise you are committed to submitting to TI. Once committed, failure to submit to TI results in a score of 0 on the assignment. If you choose to opt out of TI, there will be alternate requirements, including but not limited to a list of every source you consulted, the passages in each source that are relevant to your assignment, and an in-person meeting with me to discuss your assignment.

### *No Electronics*

Studies have shown that the presence of electronic devices distracts more than it helps. So no laptops, tablets, phones, etc. will be allowed. We'll have better discussion and better learning outcomes.

### **Academic Integrity and Plagiarism:**

As a fourth-year undergrad at one of the top universities in the world, you have the right to participate in academic discourse. As a participant you are expected to uphold the standard of respect and academic integrity essential to the pursuit of learning and scholarship.

If you need a reminder on what constitutes plagiarism, please consult one of the writing centres or <http://www.writing.utoronto.ca/advice/using-sources/how-not-to-plagiarize> . As you know, the **University treats cases of cheating and plagiarism very seriously**. The University of Toronto's Code of Behaviour on Academic Matters ([www.governingcouncil.utoronto.ca/policies/behaveac.htm](http://www.governingcouncil.utoronto.ca/policies/behaveac.htm)) outlines the behaviours that constitute academic dishonesty and the processes for addressing academic offences. If I suspect academic dishonesty, I am required to report it.

If you have questions or concerns about what constitutes appropriate academic behaviour or appropriate research and citation methods, please consult with me or seek additional information from institutional resources (see [www.utoronto.ca/academicintegrity/resourcesforstudents.html](http://www.utoronto.ca/academicintegrity/resourcesforstudents.html)).



## Readings

There is no textbook for this course. Instead, you have to read two in-depth company case studies (ICCS) and economic papers listed below. Throughout the course we will tie the rich details of the ICCS in with the mathematical models, finding context for the models in the ICCS and seeking to explain observations from the ICCS with models. Papers marked with a (\*) are obligatory; all other papers are supplementary.

### *In-depth company case studies (ICCS)*

Based on our before class survey, this term we will be using

Gina Keating: “Netflixed: The Epic Battle for America’s Eyeballs”

John Love: “McDonald’s: Behind the Arches”

### **Week 1: Motivation and Introduction**

Rita Gunther McGrath. 2015. *15 years later, lessons from the failed AOL-Time Warner merger*. Fortune. <http://fortune.com/2015/01/10/15-years-later-lessons-from-the-failed-aol-time-warner-merger/>

Chris Ciaccia. 2017. *Amazon and Whole Foods: What Experts Think Will Happen*. Nasdaq. <http://www.nasdaq.com/article/amazon-and-whole-foods-what-experts-think-will-happen-cm814048>

Alex Morrell. 2017. *7 potential bidders, a call to Amazon, and an ultimatum: How the Whole Foods deal went down*. Business Insider. <http://www.businessinsider.de/amazon-tough-negotiations-how-the-whole-foods-deal-went-down-2017-7?r=US&IR=T>

Garicano, Luis and Richard A. Posner. 2005. *Intelligence Failures: An Organizational Economics Perspective*. Journal of Economic Perspectives. Vol 19, Nr 4: 151–170.

\*Prendergast, Canice. 1993. *A Theory of “Yes Men”*. American Economic Review, 83(4): 757-770.

### **Week 2 & 3: Agency within the Firm**

#### *Multi-tasking*

Holmstrom, Bengt and Paul Milgrom. 1991. *Multitask Principal-Agent Analyses: Incentive Contracts, Asset Ownership, and Job Design*. The Journal of Law, Economics, and Organization, 7(Special Issue): 24-52.

Baker, George. 1992. *Incentive Contracts and Performance Measurement*. Journal of Political Economy 100: 598-614.

Baker, George. 2002. *Distortion and Risk in Optimal Incentive Contracts*. The Journal of Human Resources, 37(4): 728-751.

#### *Risk-aversion*

Holmstrom, Bengt. 1979. *Moral Hazard and Observability*. The Bell Journal of Economics, 1(1): 74-91.

#### *Relational contracts*

Malcomson, James. 2013. *Relational Incentive Contracts*. In The Handbook of Organizational Economics, eds. Robert Gibbons and John Roberts. Princeton, NJ: Princeton University Press.

### *Career concerns*

Holmstrom, Bengt. 1999. *Managerial Incentive Problems—A Dynamic Perspective*. Review of Economic Studies, 66(1); 169-182.

### **Week 4 & 5: The Make-Or-Buy Decision**

\* Stelzner, Michael. 2006. *Writing White Papers: How to Capture Readers and Keep Them Engaged*. Chapters 1-3, Whitepapersource Publishing.

\* (4 & 5) Gibbons, Robert. 2005. *Four Formal(izable) Theories of the Firm?* Journal of Economic Behavior and Organization, 58(2): 200-245.

Coase, Ronald. 1937. *The Nature of the Firm*. *Economica*, 4(16): 386-405.

### *Adaptation*

Forbes, Silke and Mara Lederman. 2009. *Adaptation and Vertical Integration in the Airline Industry*. The American Economic Review, 99(5): 1831-1849.

### *Rent-seeking*

Klein, Benjamin, Robert Crawford, and Armen Alchian. 1978. *Vertical Integration, Appropriable Rents and the Competitive Contracting Process*. Journal of Law and Economics 21: 297-326.

### *Property Rights*

Hart, Oliver. 1995. *Firms, Contracts, and Financial Structure*. New York: Oxford University Press (Chapter 2).

Baker, George and Thomas Hubbard. 2003. *Make versus Buy in Trucking: Asset Ownership, Job Design, and Information*. The American Economic Review, 93(3): 551-572.

### *Incentive Systems*

Holmstrom, Bengt and Paul Milgrom. 1994. *The Firm as an Incentive System*. The American Economic Review, 84(4): 972-991.

### *Hold-Up*

Edlin, Aaron S. and Stefan Reichelstein. 1996. *Holdups, Standard Breach Remedies, and Optimal Investment*. American Economic Review, 86: 478-501.

Maskin, Eric and Jean Tirole. 1999. *Unforeseen Contingencies and Incomplete Contracts*. Review of Economic Studies, 66: 83-114.

Hart, Oliver D. and John Moore. 1999. *Foundations of Incomplete Contracts*. Review of Economic Studies, 66: 115-138.

### *Transaction Cost Economics*

Tadelis, Steven and Oliver Williamson. 2013. *Transaction Cost Economics*. In The Handbook of Organizational Economics, eds. Robert Gibbons and John Roberts. Princeton, NJ: Princeton University Press.

Whinston, Michael. 2003. *On the Transaction Cost Determinants of Vertical Integration*. The Journal of Law, Economics, and Organization, 19(1): 1-23.

## **Week 6-8: Structures and Processes in Firms**

\* Graham, Gordon. 2013. *Whiter Papers for Dummies*. Chapter 9. For Dummies.

### *Hierarchies*

\*(6) Garicano, Luis. 2000. *Hierarchies and the Organization of Knowledge in Production*. The Journal of Political Economy, 108(5): 874-904.

### *Delegation*

Alonso, Ricardo and Niko Matouschek. 2008. *Optimal Delegation*. The Review of Economic Studies, 75(1): 259-293.

Li, Jin, Niko Matouschek, and Michael Powell. 2016. *Power Dynamics in Organizations*. American Economic Journal: Microeconomics.

### *Routines and Capabilities*

\*(7) Bloom, Nicholas and John Van Reenen. 2007. *Measuring and Explaining Management Practices Across Firms and Countries*. Quarterly Journal of Economics 122: 1351-408.

Bartel, Ann, Casey Ichniowski, and Kathryn Shaw. 2007. *How Does Information Technology Affect Productivity? Plant-Level Comparisons of Product Innovation, Process Improvement, and Worker Skills*. Quarterly Journal of Economics 122: 1721-58.

## **Week 8-10: Decision Making Inside the Firm**

### *Authority and Power*

\*(8) Aghion, Philippe and Jean Tirole. 1997. *Formal and Real Authority in Organizations*. The Journal of Political Economy, 105(1): 1-29.

### *Culture and Language*

\*(9) Cremer, Jacques, Luis Garicano, Andrea Prat. 2007. *Language and the Theory of the Firm*. Quarterly Journal of Economics 122: 373-407.

### *Leadership*

\*(10) Hermalin, Benjamin. 2013. *Leadership and Corporate Culture*. In Handbook of Organizational Economics, eds. Robert Gibbons and John Roberts. Princeton, NJ: Princeton University Press.

Hermalin, Benjamin. 1998. *Toward an Economic Theory of Leadership: Leading By Example*. American Economic Review 88: 1188-1206.

Eric Van den Steen. 2005. *Organizational Beliefs and Managerial Vision*. Journal of Law, Economics and Organization, Oxford University Press, vol. 21(1), pages 256-283, April.

## **Week 11-12: Additional Topics: Organizations and ... Wage inequality, Trade, Innovation, ...**

### *Wage Inequality*

\*(11) Garicano, Luis and Rossi-Hansberg, Esteban. 2006. *Organization and Inequality in a Knowledge Economy*. Quarterly Journal of Economics

Caliendo L, Monte F, Rossi-Hansberg E. 2014. *The Anatomy of French Production Hierarchies*. Journal of Political Economy