

## Workshop on Competition Policy and Regulation

Course title - Intitulé du cours	Workshop on Competition Policy and Regulation
Level / Semester - Niveau /semestre	M2 / S1-S2
School - Composante	École d'Économie de Toulouse
Teacher - Enseignant responsable	Rey Patrick
Other teacher(s) - Autre(s) enseignant(s)	Jullien Bruno
Lecture Hours - Volume Horaire CM	30
TA Hours - Volume horaire TD	0
TP Hours - Volume horaire TP	0
Course Language - Langue du cours	English
TA and/or TP Language - Langue des TD et/ou TP	

### **Teaching staff contacts - Coordonnées de l'équipe pédagogique :**

[patrick.rey@tse-fr.eu](mailto:patrick.rey@tse-fr.eu); [bruno.jullien@tse-fr.eu](mailto:bruno.jullien@tse-fr.eu)

### **Course's Objectives - Objectifs du cours :**

This workshop focuses on the law and economics of competition policy. Actual cases, such as decisions by competition authorities, are reviewed and confronted with the economic analysis provided by the IO literature.

The goal is to identify relevant research topics and encourage participants to explore these themes. In addition to the regular workshop, special seminars will be given throughout the year by competition policy practitioners (lawyers, legal counsels, authorities' staff, etc.).

Students are expected to present a US or EU competition case and to confront the decision made by the competition authority or the court with IO theory. Relevant papers and work in progress can also be presented and discussed.

### **Prerequisites - Pré requis :**

None.

### **Practical information about the sessions - Modalités pratiques de gestion du cours :**

The workshop takes place on Fridays from 15.30 to 17.30 in MF 323. All the information concerning the workshop and upcoming seminars can be found on the site:

<https://sites.google.com/site/competitiontse/>

### **Grading system - Modalités d'évaluation :**

Grading is based on students' participation in class, on their presentation and on short written note following-up on their presentation.

**Bibliography/references - Bibliographie/références :**

The main sources are decisions and judgments from EU and American competition agencies and courts.

For a good overview of the topics and of the relevant institutional frameworks, see Massimo Motta, *Competition policy: Theory and Practice*, Cambridge University Press, 2004 (online publication: 2015).

## UE10 Algebra refresher

Course title - Intitulé du cours	UE10 Algebra refresher
Level / Semester - Niveau /semestre	M2 / S1
School - Composante	Ecole d'Economie de Toulouse
Teacher - Enseignant responsable	BLANCHET ADRIEN
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Lecture Hours - Volume Horaire CM	15
TA Hours - Volume horaire TD	
TP Hours - Volume horaire TP	0
Course Language - Langue du cours	Anglais
TA and/or TP Language - Langue des TD et/ou TP	Anglais

### Teaching staff contacts - Coordonnées de l'équipe pédagogique :

email: Adrien.Blanchet@ut-capitole.fr

office: MF213

office hours: On Tuesday 2 PM - 3:30

### Course's Objectives - Objectifs du cours :

This Algebra refresher course is dedicated to an overview of all the notions of Algebra which are requested to attend the Master in TSE. These notions are supposed to be known by the students. The lectures will consist in a quick reminder with only a few proof rather than a proper lecture. References to classical books will be provided during the lectures. Exercises will be provided to the students together with a few corrections in order to review the different methods which will be used in the sequel of the year.

#### Chapter 1: vector spaces

sub-vector spaces, basis, change of basis, kernel, image, rank-nullity theorem, linear applications with applications to the resolution of linear systems

#### Chapter 2: reduction of endomorphism

determinant, diagonalisation, Jordan's trigonalisation, Cayley-Hamilton's theorem, application to the power and exponential of a matrix

#### Chapter 3: Euclidean spaces

quadratic form, Gauss' reduction, scalar product, Cauchy-Schwarz inequality, orthogonal basis, orthogonal group

Chapter 4: Projection

projection on a sub-vector space, orthogonal projection, distance to a sub-vector space, separation theorem

**Prerequisites - Pré requis :**

All the notions stated above.

**Practical information about the sessions - Modalités pratiques de gestion du cours :**

No laptop, no tablets, no phone.

The students are supposed to be on time and to come regularly.

The above outline is the planned lecture but it can easily be changed to fit the students' requests. This will be discussed in class

**Grading system - Modalités d'évaluation :**

No grade.

**Bibliography/references - Bibliographie/références :**

Any lecture of linear algebra.

## Probability refresher

Course title - Intitulé du cours	Probability refresher
Level / Semester - Niveau /semestre	M2 / S1
School - Composante	TSE
Teacher - Enseignant responsable	VOLTCHKOVA_EKATERINA
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Lecture Hours - Volume Horaire CM	15
TA Hours - Volume horaire TD	/
TP Hours - Volume horaire TP	/
Course Language - Langue du cours	Anglais
TA and/or TP Language - Langue des TD et/ou TP	

### **Teaching staff contacts - Coordonnées de l'équipe pédagogique :**

[ekaterina.voltchkova@tse-fr.eu](mailto:ekaterina.voltchkova@tse-fr.eu) office MF305

### **Course's Objectives - Objectifs du cours :**

The purpose of this refresher course is to recall the basic notions and results of the probability theory used in probability, statistics, and econometrics courses of the M1 program.

Course content

1. Basic notions of probability: sample space, events, probability measure.
2. Examples of probability spaces, discrete probability space, combinatorial problems, counting rules.
3. Independence and conditional probability, theorem of the total probability, Bayes' theorem.
4. Random variables. Definitions and examples of discrete and absolutely continuous distributions such as Bernoulli, binomial, Poisson, uniform, exponential, normal.
5. Expectation, general moments, characteristic function.
6. Random vectors. Joint distribution, moments. Gaussian vectors.
7. Conditional distribution and expectation.

### **Prerequisites - Pré requis :**

Basic mathematical calculus, including derivatives and integration.

### **Grading system - Modalités d'évaluation :**

There is no grading for this refresher course.

### **Bibliography/references - Bibliographie/références :**

Konrad Menzel: Introduction to statistical methods in economics(MIT Open Course Ware: <https://ocw.mit.edu/courses/economics/14-30-introduction-to-statistical-methods-in-economics-spring-2009/> ),Robert B. Ash: Basic probability theory,or any other textbook on basic probability theory at your disposal.

## Professional Development

Course title - Intitulé du cours	Professional Development
Level / Semester - Niveau /semestre	M2 / S1
School - Composante	Ecole d'Economie de Toulouse
Teacher - Enseignant responsable	BRIOT
Other teacher(s) - Autre(s) enseignant(s)	Sarah Haté
Other teacher(s) - Autre(s) enseignant(s)	Clare Boland
Other teacher(s) - Autre(s) enseignant(s)	Barbara Moore
Other teacher(s) - Autre(s) enseignant(s)	Delphine Bentolila
Other teacher(s) - Autre(s) enseignant(s)	Alexandra Artero
Lecture Hours - Volume Horaire CM	12
TA Hours - Volume horaire TD	0
TP Hours - Volume horaire TP	0
Course Language - Langue du cours	Anglais
TA and/or TP Language - Langue des TD et/ou TP	Anglais

### **Teaching staff contacts - Coordonnées de l'équipe pédagogique :**

lorna.briot@ut-capitole.fr - MA006

sarah.hate@ut-capitole.fr

clare.boland@ut-capitole.fr

barbara.moore@ut-capitole.fr

alexandra.artero@ut-capitole.fr

delphinebentolila@ut-capitole.fr

Please send an email directly to your teacher if you have any questions.

### **Course's Objectives - Objectifs du cours :**

Building your LinkedIn profile ,assessing your personality type, your strengths and weaknesses and learning how to talk about your studies and experience is an immense challenge. The Professional development module offered to first and second year master students (in English or in French) consists of 8 sessions. The facilitator provides input, encourages oral interaction, and practical exercises to practice the skills involved to motivate and empower participants to confront the job market successfully and to find the perfect internship. The following will be covered in the module.

- LinkedIn Workshop
- Self-Discovery
- Internship Strategy
- Writing a CV
- Covering letters
- Interviews
- Networking

- Career Guidance

### **Prerequisites - Pré requis :**

All students must consult the Professional Development Moodle page before attending and bring a cv to the second class on 14<sup>th</sup> September.

### **Practical information about the sessions - Modalités pratiques de gestion du cours :**

Laptops and tablets may be used during some of the sessions, students will be informed when to bring them to class.

Participation is extremely important and will be taken into consideration for the final grade.

If students arrive late they will not be accepted and will be counted as absent.

### **Grading system - Modalités d'évaluation :**

Professional Development is graded by a final evaluation.

Grading

- 50% - Easyrecrue Evaluation
- 25% - Professional Attitude / Participation and absences/ cv and cover letter
- 25% - Internship Strategy and Business Networking Preparation

### **Bibliography/references - Bibliographie/références :**

All the following resources can be found on the Professional Development Moodle page :

- Cover letters
- Cv's
- E-reputation
- LinkedIn
- Internship Strategy
- Interviews
- Work Environment
- Networking
- Self perception
- Skills and career opportunities
- Testimonies

### **Session planning - Planification des séances :**

Session 1 : LinkedIn and E-reputation workshop

Sessions 2 and 3: Introduction and Module Presentation / Easyrecrue / Describing oneself and one's skills / First draft of the cv / Communication Skills

Sessions 4 and 5: Debrief Easyrecrue / Professional Attitude / Expectations in the workplace / Internship Strategy/ Networking tips / Cover Letter

Session 6 and 7: Public Speaking Skills / Elevator Speech / Interview Skills / Evaluation Easyrecrue

Sessions 8 and 9: Business Networking Day Preparation / Final draft cv and cover letter/ Internship Strategy Feedback

## Time series and economic forecasting

Course title - Intitulé du cours	Time series and economic forecasting
Level / Semester - Niveau /semestre	M2 / S1
School - Composante	Ecole d'Economie de Toulouse
Teacher - Enseignant responsable	CAZALS CATHERINE
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Lecture Hours - Volume Horaire CM	30
TA Hours - Volume horaire TD	
TP Hours - Volume horaire TP	0
Course Language - Langue du cours	Anglais
TA and/or TP Language - Langue des TD et/ou TP	Anglais

### **Teaching staff contacts - Coordonnées de l'équipe pédagogique :**

catherine.cazals@tse-fr.eu. Office MF425

Preferred means of interaction: at the end of class or by appointment.

### **Course's Objectives - Objectifs du cours :**

This course gives a presentation of main econometric models used to obtain forecasts of economic time series and to describe dynamic relations between several time series.

More precisely, we first deal with the estimation of models for univariate time series, with ARMA models (autoregressive moving average). Then we consider models for multivariate time series, with VAR (vector autoregressive) models. In this type of models, we study the concept of causality between variables (which variables are useful to forecasting others) and we are interested in the description of the response of the variables to an impulse in a given variable with the mean of the "impulse response function" (for example, in a macroeconomic model of consumption - income, we can be interested by the question: how the consumption reacts in time to a shock in income at a given period?).

The objective of this course is to acquire the skills to identify the right econometric method to deal empirically with economic time series analysis, in order to obtain forecasts and understand dynamic relations between several variables.

### **Prerequisites - Pré requis :**

OLS and maximum likelihood estimation methods; standard statistical tests.

### **Grading system - Modalités d'évaluation :**

empirical project and/or final exam



**Bibliography/references - Bibliographie/références :**

J.D. Hamilton: « Time series analysis »

H. Lutkepohl: « New introduction to multiple time series analysis »

## Air Transport Economics

Course title - Intitulé du cours	Air Transport Economics
Level / Semester - Niveau /semestre	M2 / S2
School - Composante	Ecole d'Economie de Toulouse
Teacher - Enseignant responsable	MALAVOLTI - BONTEMPS
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Lecture Hours - Volume Horaire CM	30
TA Hours - Volume horaire TD	0
TP Hours - Volume horaire TP	0
Course Language - Langue du cours	Anglais
TA and/or TP Language - Langue des TD et/ou TP	Anglais

### **Teaching staff contacts - Coordonnées de l'équipe pédagogique :**

Christian Bontemps (MF407), email: christian.bontemps@tse-fr.eu, christian.bontemps@enac.fr, Office hours to be determined. Preferred mean of interaction: prior appointment. Pr. Bontemps teaches the second part.

Estelle Malavolti (MF419), email: estelle.malavolti@tse-fr.eu, estelle.malavolti@enac.fr, Office hours to be determined. Pr. Malavolti teaches the first part.

### **Course's Objectives - Objectifs du cours :**

After the course, the students should be able to:

- Describe the current challenges in air transport,
- Choose relevant models of industrial organization to analyze the sector,
- Comment on the assumptions behind the models and the results, using their knowledge of the markets,
- Present and critique relevant research papers.

### **Prerequisites - Pré requis :**

M1 level.

### **Practical information about the sessions - Modalités pratiques de gestion du cours :**

Laptops and tablets are accepted for taking notes only.

Students will have papers to read from one class to the other.

No late arrival.

**Grading system - Modalités d'évaluation :**

The evaluation consists into a report on a research question/ project that can include an empirical part. It will be performed in groups. The report will be presented after the class in front of the two professors.

**Bibliography/references - Bibliographie/références :**

1. Aguirregabiria, V. and C. Ho, 2010, "A dynamic game of airline network competition: Hub-and-spoke networks and entry deterrence", *International Journal of Industrial Organization*, 28, 377-382.
2. Aguirregabiria, V., Mira, P., 2002, "Swapping the nested fixed point algorithm: a class of estimators for discrete Markov decision models", *Econometrica*, 70, 1519-1543.
3. Barla, P. and C. Constantatos, 2005, "Strategic interactions and airline network morphology under demand uncertainty", *European Economic Review*, 49, 703-716.
4. Basso, L.J., 2008, "Airport Deregulation: Effects on Pricing and Capacity", *International Journal of Industrial Organization*, 26, 1015-1031.
5. Berry, S., 1990, "Airport presence as product differentiation", *American Economic Review*, 80, 394-399.
6. Berry, S., 1992, "Estimation of a model of entry in the airline industry", *Econometrica*, 60, 889-917.
7. Berry, S., 1994, "Estimating discrete-choice models of product differentiation", *RAND Journal of Economics*, 25, 242-262.
8. Berry, S., Levinsohn, J., Pakes, A., 1995, "Automobile prices in market equilibrium", *Econometrica*, 63, 841-890.
9. Berry, S., Carnall, M., Spiller, P., 2006, "Airline hubs: costs, markups and the implications of customer heterogeneity", in: Lee, D. (Ed.), *Advances in Airline Economics. Vol. 1: Competition Policy and Antitrust*. Elsevier Press, Amsterdam, 183-214.
10. Berry, S., Jia, P., 2009, "Tracing the woes: an empirical analysis of the airline industry", *American Economic Journals Microeconomics*, 2, 1-43.
11. Bresnahan, T. and P. Reiss, 1990, "Entry in Monopoly Markets", *Review of Economic Studies*, 57, 531-553.
12. Borenstein, S., 1992, "The evolution of US airline competition", *Journal of Economic Perspectives*, 6, 45-73.
13. Borenstein, S., Rose, N., 2007, "How airline markets work...Or do they? Regulatory reform in the airline industry", NBER Working Paper #13452.
14. Ciliberto, F., Tamer, E., 2009, "Market structure and multiple equilibria in airline markets", *Econometrica*, 77, 1791-1828.

15. Brueckner, J., 2001, "Airport congestion when carriers have market power", *American Economic Review*, 92, 1357-1375.
16. Caminal, R. and Claiçy, 2007, "Are loyalty-rewarding pricing schemes anti-competitive", *International Journal of Industrial Organization*, 25, 657-674.
17. Dana, J.D., 1999, "Using Yield Management to Shift Demand When the Peak Time is Unknown", *RAND Journal of Economics*, 30, 456-464.
18. Dana, J.D., 1999b, "Equilibrium Price Dispersion under Demand Uncertainty: The Roles of Costly Capacity and Market Structure", *RAND Journal of Economics*, 30, 632-660.
19. Encaoua, D., A. Perrot and M. Moreaux, 1996, "Compatibility and Competition in Airline: Demand Side Network Effects", *International Journal of Industrial Organization*.
20. McFadden D. and K. Train, 2000, "Mixed MNL Models for Discrete Response", *Journal of Applied Econometrics*, 15, 447-470.
21. Nevo, A., 2000, "Mergers with Differentiated Products: the Case of the Ready-to-Eat Cereal Industry", *RAND Journal of Economics*, 31, 395-421.
22. Zhang A. and Y. Zhang, 2006, "Rivalry between strategic alliances", *International Journal of Industrial Organization*, 24, 287-301.

#### **Session planning - Planification des séances :**

After a presentation of the market and a strategic analysis of the sector, relevant models of Industrial Organization will be presented, based on research papers. Another part is devoted to the study of demand modeling and estimation in IO applied to the air transport industry.

The first part of the course is dedicated to the analysis of different IO models relevant for the sector. The main interest is to analyze the sector of the air transport and to propose relevant models to understand the main evolutions that could occur. For instance, we will work on how to answer to the question of modelling horizontal agreements such as code-sharing agreements between airlines. Another example is to know how models of co-competition could apply to the strategic interest for an airline of being partner in an alliance. The final objective of this part of the course is to be able to anticipate the evolution of the competition and strategic interactions to a modification of the regulation and/or the intervention of a competition authority.

The second part of the course is devoted to the study of demand modeling in IO and entry models. Beyond academic careers, there are clear policy issues and commercial implications. In addition to the economics discipline, estimating demand, understanding product positioning, pricing and use of product information, merger analysis, reputation and the other topics that we cover are central concerns in the literatures on marketing, strategy and information systems. In this part, some particular attention is paid on the econometrics background and students should be able after these lectures to handle a complete empirical analysis on their favorite software.

The third part of the course consists into presentations by external professors and/or professionals, whose research or work is applied to economics of air transport. Professor Bilotkach (Newcastle

University) will present Revenue Management in the sector, Professor Marty (CNRS, Université de Nice) will present competition policy issues in the sector and Dr. Shchepetova (MAPP) will focus on horizontal agreements in the sector.

## Economics of Internet

Course title - Intitulé du cours	Economics of Internet
Level / Semester - Niveau /semestre	M2 / S2
School - Composante	Ecole d'Economie de Toulouse
Teacher - Enseignant responsable	LEFOUILI - ERSHOV
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Lecture Hours - Volume Horaire CM	30
TA Hours - Volume horaire TD	0
TP Hours - Volume horaire TP	0
Course Language - Langue du cours	Anglais
TA and/or TP Language - Langue des TD et/ou TP	Anglais

### **Teaching staff contacts - Coordonnées de l'équipe pédagogique :**

Daniel Ershov: office MF 420 - [daniel.ershov@tse-fr.eu](mailto:daniel.ershov@tse-fr.eu)

Yassine Lefouili: office MF 419 - [yassine.lefouili@tse-fr.eu](mailto:yassine.lefouili@tse-fr.eu)

Please email for an appointment.

### **Course's Objectives - Objectifs du cours :**

The lectures run by Yassine Lefouili will deal with the economics of network effects, internet media platforms and online privacy and security. Economic models will be used to understand (some of) the pricing strategies and privacy policies adopted by digital services. The desirability and impact of a number of regulations will also be discussed. The lectures run by Daniel Ershov will examine empirical evidence of how the internet and digitization affected markets and economic activity: what it is changing but also what remains unchanged. The lectures will also touch on issues of competition policy as they relate to recent anti-trust activity in digital markets. At the end of the lectures, students should understand the economic models underpinning competition, market power and regulation in online markets. Students will also be aware of the main streams and important papers in the large literature examining online markets and digital technology. Students will be exposed to reduced form (i.e., difference-in-differences) and structural (i.e., discrete choice logit) empirical methods of data analysis. At the end of the lectures, students should be able to apply both sets of tools to real world data.

### **Prerequisites - Pré requis :**

M1-level micro, IO and econometrics courses.

### **Grading system - Modalités d'évaluation :**

Grading will be based on two assignments and a final exam.

### **Bibliography/references - Bibliographie/références :**

Part I (Yassine Lefouili)

Lecture 1: Intro + Network Effects

Auriol, E., & Benaim, M. (2000). Standardization in decentralized economies. *American Economic Review*, 90(3), 550-570. Bloch, F. & Quérou, N., 2013. Pricing in social networks. *Games and Economic Behavior*, 80, pp.243-261. \*\*\*Fainmesser, I.P. and Galeotti, A., 2015. Pricing network effects. *The Review of Economic Studies*, 83(1), pp.165-198. \*\*\*Fudenberg, D., & Tirole, J. (2000). Pricing a network good to deter entry. *The Journal of Industrial Economics*, 48(4), 373-390. \*\*\*Katz, M. L., & Shapiro, C. (1985). Network externalities, competition, and compatibility. *American Economic Review*, 75(3), 424-440. \*\*\*Levin, J.D. (2011). *The Economics of Internet markets*. NBER Working Paper 16852.

Lectures 2 and 3: Media Platforms and Online Advertising

\*\*\*Ambrus, A., Calvano, E., & Reisinger, M. (2016). Either or both competition: A "two-sided" theory of advertising with overlapping viewerships. *American Economic Journal: Microeconomics*, 8(3), 189-222. \*\*\*Anderson, S. P., & Coate, S. (2005). Market provision of broadcasting: A welfare analysis. *The Review of Economic Studies*, 72(4), 947-972. Anderson, S. P., Foros, Ø., & Kind, H. J. (2018). Competition for advertisers and for viewers in media markets. *The Economic Journal*, 128(608), 34-54. \*\*\*Crampes, C., Haritchabalet, C., & Jullien, B. (2009). Advertising, competition, and entry in media industries. *The Journal of Industrial Economics*, 57(1), 7-31. \*\*\*Peitz, M., & Valletti, T. M. (2008). Content and advertising in the media: Pay-tv versus free-to-air. *International Journal of Industrial Organization*, 26(4), 949-965. Correia-da-Silva, J., Jullien, B., Lefouili, Y., and Pinho, J. (2018). Mergers between multi-sided platforms: Insights from Cournot competition. *Journal of Economics and Management Strategy*, forthcoming. \*\*\*Dewenter, R., Haucap, J., & Wenzel, T. (2011). Semi-collusion in media markets. *International Review of Law and Economics*, 31(2), 92-98. \*\*\*Evans, D. S., & Schmalensee, R. (2013). *The antitrust analysis of multi-sided platform businesses*. NBER Working Paper 18783.

Lectures 4 and 5: Data, privacy and market power

\*\*\*Acquisti, A., Taylor, C., & Wagman, L. (2016). The economics of privacy. *Journal of Economic Literature*, 54(2), 442-92. Belleflamme, P., Lam, W. M. W., & Vergote, W. (2017). Price Discrimination and Dispersion under Asymmetric Profiling of Consumers. AMSE Working Paper. \*\*\*Bergemann, D., & Bonatti, A. (2015). Selling cookies. *American Economic Journal: Microeconomics*, 7(3), 259-94. Bergemann, D., Bonatti, A., & Smolin A., (2018). The Design and Price of Information. *American Economic Review*, forthcoming. \*\*\*Choi, J. P., Jeon, D. S., & Kim, B. C. (2018). Privacy and personal data collection with information externalities. \*\*\*Jullien, B., Lefouili, Y., & Riordan, M.H. (2018). Privacy protection and consumer retention. Working paper. \*\*\*Lefouili, Y., & Toh, Y. L. (2018). Privacy regulation and quality investment. TSE Working Paper 17-795. \*\*\*Montes, R., Sand-Zantman, W., & T. Valletti (2018). The value of personal information in online markets with endogenous privacy. *Management Science*, forthcoming. Prufer, J., & Schottmüller, C. (2017). Competing with big data. CentER Discussion Paper 2017-007. Rubinfeld, D. L., & Gal, M. S. (2017). Access barriers to big

data. *Arizona Law Review*, 59, 339. \*\*\*Toh, Y-L. (2018), Incentivizing firms to protect consumer data: Can reputation play a (bigger) role. Working paper.

## Part 2 (Daniel Ershov)

### Lecture 1: Intro + Distance

\*\*\*Agrawal, A., & Goldfarb A. (2008). Restructuring Research: Communications Costs and the Democratization of University Innovation. *The American Economic Review*, 98(4), 1578-1590  
\*\*\*Blum, B. S., & Goldfarb, A. (2006). Does the internet defy the law of gravity?. *Journal of international economics*, 70(2), 384-405 \*\*\*Ferreira, F., & Waldfogel, J. (2013). Pop internationalism: has half a century of world music trade displaced local culture?. *The Economic Journal*, 123(569), 634-664 Gaspar, J., & Glaeser, E. L. (1998). Information technology and the future of cities. *Journal of urban economics*, 43(1), 136-156 \*\*\*Gentzkow, M., & Shapiro, J. M. (2011). Ideological segregation online and offline. *The Quarterly Journal of Economics*, 126(4), 1799-1839 George, L. M., & Waldfogel, J. (2006). The New York Times and the market for local newspapers. *The American economic review*, 96(1), 435-447

### Lecture 2: Search

\*\*\*Brynjolfsson, E., & Smith, M. D. (2000). Frictionless commerce? A comparison of Internet and conventional retailers. *Management science*, 46(4), 563-585 \*\*\*Chiou, L. (2017). Vertical integration and antitrust in search markets. *The Journal of Law, Economics, and Organization* \*\*\*Ellison, G., & Ellison, S. F. (2009). Search, obfuscation, and price elasticities on the internet. *Econometrica*, 77(2), 427-452 \*\*\*Hortaçsu, A., & Syverson, C. (2004). Product differentiation, search costs, and competition in the mutual fund industry: A case study of S&P 500 index funds. *The Quarterly Journal of Economics*, 119(2), 403-456 Nelson, P. (1970). Information and consumer behavior. *Journal of political economy*, 78(2), 311-329

### Lecture 3: Copyright and IP

\*\*\*Cagé, J., Hervé, N., & Viaud, M. L. (2017). The Production of Information in an Online World: Is Copy Right? \*\*\*Giorcelli, M., & Moser, P. (2017). Copyright and creativity: Evidence from Italian operas \*\*\*Moser, P. (2005). How do patent laws influence innovation? Evidence from nineteenth-century world's fairs. *American economic review*, 95(4), 1214-1236 \*\*\*Nagaraj, A. (2017). Does copyright affect reuse? Evidence from google books and wikipedia. *Management Science* \*\*\*Oberholzer-Gee, F., & Strumpf, K. (2007). The effect of file sharing on record sales: An empirical analysis. *Journal of political economy*, 115(1), 1-42 Waldfogel, J. (2012). Copyright protection, technological change, and the quality of new products: Evidence from recorded music since Napster. *The journal of law and economics*, 55(4), 715-740 Survey Paper: Varian, H. R. (2005). Copying and copyright. *The Journal of Economic Perspectives*, 19(2), 121-138

### Lecture 4: Reputation Mechanisms

Banerjee, A. V. (1992). A simple model of herd behavior. *The Quarterly Journal of Economics*, 107(3), 797-817 Chevalier, J. A., & Mayzlin, D. (2006). The effect of word of mouth on sales: Online book reviews. *Journal of marketing research*, 43(3), 345-354 \*\*\*Jin, G. Z., & Kato, A. (2006). Price, quality, and reputation: Evidence from an online field experiment. *The RAND Journal of Economics*, 37(4),



983-1005 \*\*\*Klein, T. J., Lambertz, C., & Stahl, K. O. (2016). Market transparency, adverse selection, and moral hazard. *Journal of political economy*, 124(6), 1677-1713 \*\*\*Luca, M. (2017). Reviews, reputation, and revenue: The case of Yelp. com \*\*\*Luca, M., & Zervas, G. (2016). Fake it till you make it: Reputation, competition, and Yelp review fraud. *Management Science*, 62(12), 3412-3427 \*\*\*Edelman, B., Luca, M., & Svirsky, D. (2017). Racial discrimination in the sharing economy: Evidence from a field experiment. *American Economic Journal: Applied Economics*, 9(2), 1-22 Survey Paper: Tadelis, S. (2016). Reputation and feedback systems in online platform markets. *Annual Review of Economics*, 8, 321-340

#### Lecture 5: Media Economics Newspaper competition and characteristics

\*\*\*Angelucci, C., & Cagé, J. (2018). Newspapers in times of low advertising revenues Fan, Ying (2013) Ownership Consolidation and Product Characteristics \*\*\*Gentzkow, M., Shapiro, J. M., & Sinkinson, M. (2014). Competition and ideological diversity: Historical evidence from us newspapers. *American Economic Review*, 104(10), 3073-3114 \*\*\*Seamans, R., & Zhu, F. (2013). Responses to entry in multi-sided markets: The impact of Craigslist on local newspapers. *Management Science*, 60(2), 476-493 Why do we care about media competition? Cagé, J. (2017). Media Competition, Information Provision and Political Participation: Evidence from French Local Newspapers and Elections, 1944-2014 \*\*\*Enikolopov, R., Petrova, M., & Zhuravskaya, E. (2011). Media and political persuasion: Evidence from Russia. *American Economic Review*, 101(7), 3253-85 \*\*\*Gentzkow, M., Shapiro, J. M., & Sinkinson, M. (2011). The effect of newspaper entry and exit on electoral politics. *American Economic Review*, 101(7), 2980-3018

## Economic Analysis of Infrastructure and Network Industries

Course title - Intitulé du cours	Economic Analysis of Infrastructure and Network Industries
Level / Semester - Niveau /semestre	M2 / S2
School - Composante	Ecole d'Economie de Toulouse
Teacher - Enseignant responsable	Farid GASMI
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Lecture Hours - Volume Horaire CM	30h
TA Hours - Volume horaire TD	
TP Hours - Volume horaire TP	0
Course Language - Langue du cours	Anglais
TA and/or TP Language - Langue des TD et/ou TP	

### Teaching staff contacts - Coordonnées de l'équipe pédagogique :

Farid GASMI : MF 123, farid.gasmi@tse-fr.eu

### Course's Objectives - Objectifs du cours :

The objective of this class is to stimulate, through presentations of papers, discussions on some industrial organization and regulatory economics theoretical and applied topics that are particularly useful for the understanding of the evolution of infrastructure and network industries during the last three decades or so in both developed and developing countries.

These topics include such classical topics as

- Natural monopoly and regulation (Cost structure, Traditional regulation, Incentive regulation, etc.)
- Network interconnection (Access, interconnection, and competition, different methods of access pricing, etc.)
- Universal service (Cost, financing, etc.)
- Network effects (Growth of markets, etc.)
- Competition policy (Market power, tacit collusion, competition policy vs. regulation, etc.)
- Political economy of reforms (Capture, revolving door, career concerns in regulation and competition policy, efficiency of institutions, etc.)

but also some more recently emerging ones such as

- Empirical evaluation of reforms' impact
- E-commerce (Emergence and role)
- Social networks (Emergence and role)

- Technological convergence and market structure (Industry concentration)
- The big data phenomenon (Impact)

Ideally, the analysis should rely on both economic theory and econometrics, which gives us the opportunity to discuss the theoretical frameworks within which some particular aspects of these issues are highlighted and the empirical approaches used to further explore them.

**Prerequisites - Pré requis :**

Interest in Industrial organization and Regulatory economics and their applications

**Practical information about the sessions - Modalités pratiques de gestion du cours :**

Students are expected to actively participate in class and present papers that address any of the issues listed above or some others in the context of some specific infrastructure or network industry (telecoms, postal service, energy, transport, media, etc.).

**Grading system - Modalités d'évaluation :**

Innovative choice of paper, quality of presentation, and class participation with weights 20%, 50%, and 30% respectively, will be accounted for in the determination of the course final grade.

**Bibliography/references - Bibliographie/références :**

Papers studied in class

## Incentives and Regulation

Course title - Intitulé du cours	Incentives and Regulation
Level / Semester - Niveau /semestre	M2 / S2
School - Composante	Ecole d'Economie de Toulouse
Teacher - Enseignant responsable	Daniel GARRETT
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Lecture Hours - Volume Horaire CM	30
TA Hours - Volume horaire TD	
TP Hours - Volume horaire TP	
Course Language - Langue du cours	Anglais
TA and/or TP Language - Langue des TD et/ou TP	

### **Teaching staff contacts - Coordonnées de l'équipe pédagogique :**

Daniel Garrett dfgarrett@gmail.com MF 404B Meetings by appointment: send me an e-mail.

### **Course's Objectives - Objectifs du cours :**

The objective of the course is to understand theoretical models relevant to regulation. The focus is on developing the modern tools of contract theory to this end. This includes the study of adverse selection and moral hazard.

### **Prerequisites - Pré requis :**

Students should be comfortable with calculus and integration. Other experience with agency theory is also very helpful, but not required.

### **Practical information about the sessions - Modalités pratiques de gestion du cours :**

Students are expected to attend all classes, barring exceptional circumstances.

### **Grading system - Modalités d'évaluation :**

The grade will be determined as a combination of (a) problem sets on contract theory models, (b) an exam on solving contract theory models, and (c) a short essay on an applied topic related to regulation.

### **Bibliography/references - Bibliographie/références :**

The main text book is 'A Theory of Incentives in Procurement and Regulation', 1993, MIT Press. Other references in contract theory will be provided.

## Industrial Organization of the Food Industry

Course title - Intitulé du cours	Industrial Organization of the Food Industry
Level / Semester - Niveau /semestre	M2 / S2
School - Composante	Ecole d'Economie de Toulouse
Teacher - Enseignant responsable	MECHEMACHE - REQUILLART
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Lecture Hours - Volume Horaire CM	30
TA Hours - Volume horaire TD	0
TP Hours - Volume horaire TP	0
Course Language - Langue du cours	Anglais
TA and/or TP Language - Langue des TD et/ou TP	

### **Teaching staff contacts - Coordonnées de l'équipe pédagogique :**

Zohra Bouamra : zohra.bouamra@tse-fr.eu , MS 107. Office hours: Thursday, 9:00 - 10:30; Preferred options: email / after class

Vincent Réquillart vincent.requillart@tse-fr.eu, MS 105, Office hours: Thursday, 9:00 - 10:30; Preferred options: email / after class

### **Course's Objectives - Objectifs du cours :**

This course focuses on the industrial organization of the food industry and its consequences. Students will learn how to use the theory of industrial organization in order to analyze specific questions of an industry. For each topic covered by the course, we will review first the stylized facts, then the standard models from the literature and finally discuss more specific models addressing the issues. It is assumed that students engage in independent reading around the topics listed. They are also invited to actively participate to the lectures. In particular, they will have the opportunity to make presentation during some lectures.

Students will learn how to use micro-economics tools and particularly industrial organization to address real world problems applied to the food industry. They will have to develop critical views when reading various studies and will have to develop their ability to provide written and oral comments on an empirical analysis. This course is also a good introduction to a research activity.

### **Prerequisites - Pré requis :**

Knowledge of industrial organization.

### **Practical information about the sessions - Modalités pratiques de gestion du cours :**

Attendance to lectures is highly recommended. Experience shows that students who attend only a fraction of the lectures perform badly, as they are not involved in the course. Slides and references will be on the Moodle platform before the corresponding lectures so that students can browse and read recommended materials.

Laptops or tablets are accepted

Active participation is encouraged

Students are required to arrive on time

For any specific problem, students are encouraged to inform the teachers as soon as possible

### **Grading system - Modalités d'évaluation :**

Evaluation is based on continuous assessment. This assessment includes participation during the lectures (15%), a (short) presentation of a paper from the literature (25%) and a report on a specific question chosen by the students (60%).

With respect to the presentation of an academic paper, we will provide the list of papers to be presented. The papers deal with issues developed during the lectures. This will make the lectures more lively and more importantly this is a way to train students to summarize the main questions and conclusions of an academic paper. More details will be given during the first lecture.

With respect to the written report, a synthesis of few papers (both academic and non-academic) covering a given topic is required. Students will be free to select the topic of their interest (obviously, providing it covers the general topic 'Industrial Organization of the food industry'). To help students to structure their written report, a preliminary oral presentation of the synthesis is organized. At the end of presentations, all students are welcome to ask questions and discuss the issues raised during the presentation. A priori, this work will be in group of 2 to 3 students (this will depend on the number of students attending the course). More details will be provided during the first lecture.

### **Bibliography/references - Bibliographie/références :**

There is no textbook covering the whole domain. A first reading list is provided below. Additional references will be provided during the lectures.

Symeonidis, G. (2000). Price competition and market structure: The impact of cartel policy on concentration in the UK. *Journal of Industrial Economics*, XLVIII(1): 1-26.

Moschini, G., Menapace, L., & Pick, D. (2008). Geographical indications and the competitive provision of quality in agricultural markets. *American Journal of Agricultural Economics*, 90(3): 794-812.

Marette, S., Crespi, J. M., & Schiavina, A. (1999). The role of common labelling in a context of asymmetric information. *European Review of Agricultural Economics*, 26(2): 167-178.

Bottega, L., & De Freitas, J. (2009). Public, private and nonprofit regulation for environmental quality. *Journal of Economics & Management Strategy*, 18(1) : 105-123.

Von Schlippenbach, V., & Teichmann, I. (2012). The strategic use of private quality standards in food supply chains. *American Journal of Agricultural Economics*, 94(5): 1189-1201.

Brendstrup, B., Paarsch, H., Solow, J.L. (2006). Estimating Market Power in the Presence of Capacity Constraints: An Application to High-Fructose Corn Sweetener. *International Journal of Industrial Organization*, 24(2): 251-267.

Fischer, C., & Lyon, T. P. (2014). Competing environmental labels. *Journal of Economics & Management Strategy*, 23(3): 692-716.

Li, Y., & van't Veld, K. (2015). Green, greener, greenest: Eco-label gradation and competition. *Journal of Environmental Economics and Management*, 72: 164-176.

Dobson, P., & Chakraborty, R. (2014). How Do National Brands and Store Brands Compete?: Centre for Competition Policy, Working Paper 14-7.

Gabrielsen, Tommy Staahl and Lars Sjørgard (2007), "Private labels, price rivalry, and public policy," *European Economic Review*, 51 (2), 403-424.

Duvaleix-Treguer, S., Hammoudi, A., Rouached, L., Soler, L.-G., 2012. Firms' responses to nutritional policies. *European Review of Agricultural Economics*, 39 (5), 843-877.

### **Session planning - Planification des séances :**

The course is organised in 10 sessions of three hours. Each of the first eight sessions will cover items described below. The last two sessions will be devoted to the presentations of the preliminary report and discussion with the whole class.

Structure of the Food Industry

1. Introduction to the course. Main characteristics of the food industry
2. Competition and structure of the industry

Product differentiation in the food industry

3. Vertical product differentiation and competition in the sweetener industry

Standards, Labels and collective arrangements

4. Geographical indications and collective marketing arrangements

5. Private versus public standards for food safety

Vertical relationships

6. Bargaining in the dairy industry

7. The role of private labels in the food chain

Food, nutrition and firm's strategy

8. Strategic reactions of firms to nutritional policies

9 and 10 : Students' presentations



## Industrial Organization

Course title - Intitulé du cours	Industrial Organization
Level / Semester - Niveau /semestre	M2 / S2
School - Composante	Ecole d'Economie de Toulouse
Teacher - Enseignant responsable	REY - JEON - CAPRICE
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Lecture Hours - Volume Horaire CM	30
TA Hours - Volume horaire TD	0
TP Hours - Volume horaire TP	0
Course Language - Langue du cours	Anglais
TA and/or TP Language - Langue des TD et/ou TP	Anglais

### **Teaching staff contacts - Coordonnées de l'équipe pédagogique :**

patrick.rey@tse-fr.eu; stephane.caprice@inra.fr; dohshin.jeon@gmail.com

MF 527 (Patrick Rey), MS 206 (Stephane Caprice), MF 410 (Doh-Shin Jeon)

### **Course's Objectives - Objectifs du cours :**

The aim of this class is to provide an advanced introduction to selected topics of industrial organization theory. In other words, the class has a double aim of providing good knowledge and understanding of the classic theory of Industrial Organization (IO), and of introducing to some topics at the frontier of research, so that Ph.D. students interested in IO theory can identify relevant research topics for their dissertations.

The topics chosen for this class reflect the research interests of the teachers; additional topics will be covered by the DEEQA course entitled "Topics in Industrial Organization theory". Students interested in doing research in IO theory are therefore recommended to take both of these courses.

### **Prerequisites - Pré requis :**

You need to be familiar with basic models of IO: we assume that the industrial organization theory taught at M1 level (more or less, the level covered by Jean Tirole's IO book) is known by students.

Basic level of game theory is required.

### **Grading system - Modalités d'évaluation :**

There will be one final exam. There will be no TA.

### **Bibliography/references - Bibliographie/références :**

Main texts

Motta, Massimo. Competition Policy: Theory and Practice. Cambridge University Press, 2004

Tirole, Jean. The Theory of Industrial Organization, MIT, 1988

But most of lecture will be based on articles listed in the syllabus.

**Session planning - Planification des séances :**

Part I. Vertical relations (Patrick Rey, 3 weeks)

1. Introduction: vertical restraints, vertical integration and antitrust issues

2. Vertical coordination

2.1 Double marginalization

Telser, Lester (1960). "Why Should Manufacturer Want Fair Trade." *Journal of Law and Economics*, 3, 86-105.

Rey, Patrick, and Jean Tirole (1986), "The Logic of Vertical Restraints", *American Economic Review*, 76:921-939.

2.2 Nonprice dimensions

Mathewson, Frank, and Ralph Winter (1984), "An Economic Theory of Vertical Restraints", *RAND Journal of Economics*, 15:27-38.

Comanor, William and H.E. Frech III (1985). "The Competitive Effects of Vertical Agreements", *American Economic Review*, 75, 539-546.

Caillaud, Bernard and Patrick Rey (1987). "A Note on Vertical Restraints with the Provision of Distribution Services", Working Paper INSEE and MIT.

3. Common agency

3.1 Downstream agents

Bernheim, Douglas, and Michael D. Whinston (1985), "Common Marketing Agency as a Device for Facilitating Collusion", *RAND Journal of Economics*, 16:269-281.

Bernheim, Douglas, and Michael D. Whinston (1998), "Exclusive Dealing", *Journal of Political Economy*, 106:64-103.

3.2 Upstream agents

Hart-Tirole (1990), "Vertical Integration and Market Foreclosure", *Brookings Papers on Economic Activity, Microeconomics*, 205-285.

O'Brien, Daniel P., and Greg Shaffer (1992), "Vertical Control with Bilateral Contracts", *RAND Journal of Economics* 23(3):299-308.

McAfee, R. Preston, and Marius Schwartz (1994), "Opportunism in Multilateral Vertical Contracting: Nondiscrimination, Exclusivity, and Uniformity", *American Economic Review*, 84(1):210-230.

Rey, Patrick, and Thibaud Vergé (2005), "Bilateral Control with Vertical Contracts", *RAND Journal of Economics*, 35(4):728-746.

Marx, Leslie, and Greg Shaffer (2007), "Upfront Payments and Exclusion in Downstream Markets", *RAND Journal of Economics*, 38:823-43.

Rey, Patrick, Jeanine Miklós-Thal and Thibaud Vergé (2011), "Buyer Power and Intrabrand Coordination", *Journal of the European Economic Association*, 9(4):721-741.

Rey, Patrick, and Michael Whinston (2013), "Does Retailer Power Lead to Exclusion?", *Rand Journal of Economics*, 44(1):75-81.

#### 4. Rivalry among vertical structures

##### 4.1 Strategic delegation

Bonanno, Giacomo and John Vickers (1988). "Vertical Separation." *Journal of Industrial Economics*, 36, 257-265.

Rey, Patrick, and Joseph E. Stiglitz (1995), "The Role of Exclusive Territories in Producers' Competition", *RAND Journal of Economics*, 26:431-451.

Caillaud, Bernard, Bruno Jullien and Pierre Picard (1995). "Competing Vertical Structures: Precommitment and Renegotiation." *Econometrica*, 63, 621-646.

Caillaud, Bernard and Patrick Rey (1995). "Strategic Aspects of Vertical Delegation." *European Economic Review*, 39, 421-431.

##### 4.2 Facilitating practices

Jullien, Bruno, and Patrick Rey (2007), "Resale Price Maintenance and Collusion", *Rand Journal of Economics*, 38(4):983-1001.

#### 5. Interlocking relationships

##### 5.1 Vertical restraints, and resale vs agency business models

Rey, Patrick, and Thibaud Vergé (2010), "Resale Price Maintenance and Interlocking Relationships", *Journal of Industrial Economics*, 58(4):928-961.

Collard-Wexler, Allan, Gautam Gowrisankaran and Robin Lee (2016), "Nash-in-Nash" Bargaining: A Microfoundation for Applied Work", NBER Working Paper 20641.

Gregory Crawford, Robin Lee, Michael Whinston and Ali Yurukoglu (2016), "The Welfare Effects of Vertical Integration in Multichannel Television Markets", mimeo.

Ho, Kate, and Robin S. Lee (2016), "Equilibrium Provider Networks: Bargaining and Exclusion in Health Care Markets", mimeo.

Ho, Kate, and Robin S. Lee (2016), "Insurer Competition in Health Care Markets", forthcoming, *Econometrica*.

Ghili, Soheil (2016), "Network Formation and Bargaining in Vertical Markets: The Case of Narrow Networks in Health Insurance", mimeo.

Rey, Patrick, and Volker Nocke (2016), "Exclusive Dealing and Vertical Integration in Interlocking Relationships", TSE Working Paper, n. 14-515.

Rey, Patrick, and Thibaud Vergé (2016), "Secret contracting in multilateral relations," TSE Working Paper, n. 16-744.

## 5.2 Exclusive dealing, vertical integration and foreclosure

Aghion, Philippe, and Patrick Bolton (1987), "Contracts as Barriers to Entry", *American Economic Review*, 77:388-401.

Rasmusen, Eric B., Mark J. Ramseyer and John S. Wiley (1991), "Naked Exclusion", *American Economic Review*, 81: 1137-1145.

Segal, Ilya, and Michael D. Whinston (2000), "Naked Exclusion: Comment", *American Economic Review* 90(1):296-309.

Fumagalli, Chiara, and Massimo Motta (2006), "Exclusive dealing and entry, when buyers compete", *American Economic Review* 96(3):785-795.

Julian Wright (2005), "Exclusive Dealing and Entry, when Buyers Compete: Comment" *American Economic Review*, 99(3):1070-81.

Simpson, John, and Abraham L. Wickelgren (2007), "Naked Exclusion, Efficient Breach, and Downstream Competition", *American Economic Review*, 97:1305-1320.

Wright, Julian (2008), "Naked exclusion and the anticompetitive accommodation of entry", *Economics Letters*, 98(1):107-112.

Abito, Jose Miguel, and Julian Wright (2008), "Exclusive Dealing with Imperfect Downstream Competition", *International Journal of Industrial Organization*, 26: 227-246.

Rey, Patrick, and William S. Comanor (2000), "Vertical Restraints and the Market Power of Large Distributors", *Review of Industrial Organization*, 17(2):135-153.

Martimort, David, and Lars Stole (2003), "Contractual Externalities and Common Agency Equilibria", *Advances in Theoretical Economics* 3(1).

Segal, Ilya, and Michael D. Whinston (2003), "Robust Predictions for bilateral contracting with externalities", *Econometrica* 71 (3):757-791.

Ordover, Janusz, Garth Saloner and Steven C. Salop (1990), "Equilibrium Vertical Foreclosure", *American Economic Review*, 80(1):127-142.

Salinger, Michael (1988), "Vertical Mergers and Market Foreclosure", *Quarterly Journal of Economics*, 103(2):345-356.

Allain, Marie-Laure, Claire Chambolle and Patrick Rey (2016), "Vertical Integration as a Source of Hold-up", *Review of Economic Studies*, 83(1):1-25.

Part II: Buyer Power, Multi-Product Firms (Two weeks, Stephane Caprice)

## 1. Buyer Power

### 1.1 'Pure' Buyer Power

Chipty and Snyder (1999), "The role of firm size in bilateral bargaining: a study of the cable television industry", *Review of Economics and Statistics*, 81(2): 326-340.

Inderst and Shaffer (2007), "Retail mergers, buyer power and product variety", *Economic Journal*, 117(516): 45-67.

### 1.2 'Full Mergers'

Dobson and Waterson (1997), "Countervailing power and consumer prices", *Economic Journal*, 107(441): 418-430.

### 1.3 'Purchasing Groups'

Caprice and Rey (2015), "Buyer power from joint listing decision ", *Economic Journal*, 125: 1677-1704.

## 2. Multi-Product Firms

Matutes and Regibeau (1992), "Compatibility and bundling of complementary goods in duopoly", *Journal of Industrial Economics*, XL(1): 37-54.

Gilbert and Matutes (1993), "Product line rivalry with brand differentiation ", *Journal of Industrial Economics*, XLI(3): 223-240.

Klemperer and Padilla (1997), "Do firms' product lines include too many varieties?", *RAND Journal of Economics*, 28(3): 472-488.

De Fraja (1996), "Product line competition in vertically differentiated markets ", *International Journal of Industrial Organization*, 14(3): 389-414.

Part III: Two-sided markets, Tying and IP (Five weeks, Doh-Shin Jeon)

## 1. Network competition two-sided markets

### 1.1 Network competition

Katz and Shapiro (1985), "Network Externalities, Competition and Compatibility", *American Economic Review*.

Farrell and Saloner (1985), "Standardization, Compatibility and Innovation," *Rand Journal of Economics* 16:70-83.

Farrell and Katz (2000), "Innovation, Rent Extraction, and Integration in Systems Markets," *Journal of Industrial Economics*, 48(4):413-432.

## 1.2 Economics of platforms and two-sided markets

Armstrong (2006): "Competition in Two-Sided Markets," *Rand Journal of Economics*, 37(3), 668—691.

Caillaud B. and Jullien B. (2001): "Competing Cybermediaries", *European Economic Review (Papers & Proceedings)* 45, 797-808.

Caillaud-Jullien (2003), "Chicken and Egg: Competition among Intermediation Service Providers", *Rand Journal of Economics*

Rochet-Tirole (2003), "Platform Competition in Two-Sided Markets", *Journal of the European Economic Association* 1, 990–1029.

Rochet, Jean-Charles and Jean Tirole. (2006) "Two-sided Markets: A Progress Report." *Rand Journal of Economics* 37: 645-667.

Weyl 2010, "A price theory of two-sided markets", *AER*

## 2. Tying

### 2.1 Monopoly

Bakos, Yannis, and Eric Brynjolfsson. (1999). "Bundling Information Goods: Pricing, Profits and Efficiency." *Management Science*, 45(12): 1613-1630.

McAfee, R.P, McMillan, J., Whinston, M. (1989). "Multiproduct Monopoly, Commodity Bundling, and Correlation of Values," *Quarterly Journal of Economics* 104, pp. 371-384.

### 2.2 Leverage theory of tying with application to Microsoft case

Carlton, Dennis, W. and Michael Waldman, (2002). "The Strategic Use of Tying to Preserve and Create Market Power in Evolving Industries," *Rand Journal of Economics*, Summer, pp. 194-220.

Choi, Jay P., and Chris Stefanadis. (2001). "Tying, Investment, and the Dynamic Leverage Theory." *RAND Journal of Economics*, 32(1): 52-71.

Nalebuff, Barry. (2004). "Bundling as an Entry Barrier." *Quarterly Journal of Economics*, 119(1): 159-188.

Whinston, Michael D. (1990). "Tying, Foreclosure and Exclusion." *American Economic Review*, 80(4): 837-859.

### 2.3 Other applications

Jeon, Doh-Shin and Domenico Menicucci (2006). "Bundling Electronic Journals and Competition among Publishers," *Journal of the European Economic Association*, vol.4 (5): 1038-83.

Jeon, Doh-Shin and Domenico Menicucci (2012). "Bundling and Competition for Slots", *American Economic Review*, 102, 1957-1985.

## 2.4 Tying in two-sided markets

Choi, Jay Pil (2010), "Tying in Two-Sided Markets with Multi-Homing," *Journal of Industrial Economics*, 58 (3), pp. 607-626

Choi, Jay Pil and Doh-Shin Jeon, (2016) "A Leverage Theory of Tying in Two-sided Markets", TSE WP

## 3. Economics of Intellectual Property

### 3.1 Introduction

Andrei Hagiu (2011) "Intellectual Property Intermediaries", Harvard Business School, Case study

Andrei Hagiu, David Yoffie and Alison Berkley Wagonfeld (2011) "Intellectual Ventures" Harvard Business School, Case study

Michael A. Heller and Rebecca S. Eisenberg (1998) "Can Patents Deter Innovation? The Anticommons in Biomedical Research" *Science* 280: 698-701

Herbert Hovenkamp, "Patent Deception in Standard Setting: the Case for Antitrust Policy" mimeo

### 3.2 Weak patents

Farrell and Shapiro, (2008). "How strong are weak patents?", *American Economic Review*, 98:1347-69

Carl Shapiro. (2010). "Injunctions, Hold-Up, and Patent Royalties." *American Law and Economics Review*. 12:509-557

### 3.3 Patent Pool

Choi, Jay Pil. (2010). "Patent Pools and Cross Licensing in the Shadow of Patent Litigation." *International Economic Review*, May 2010, pp. 441-460

Choi, Jay Pil and Heiko Gerlach (2015). "Patent Pools, Litigation and Innovation." *The RAND Journal of Economics*, 46(3): 499-523

Lerner, Josh and Jean Tirole, (2004) "Efficient Patent Pools," *American Economic Review*, 691-711

### 3.4 Patent Trolls

Choi, Jay Pil and Heiko Gerlach (2016). "A Model of Patent Trolls." mimeo

Lemus, Jorge and Temnyalov, Emil, (2016) "Outsourcing Patent Enforcement: The Effect of "Patent Privateers" on Litigation and R&D Investments," mimeo

### 3.5 Cross-Licensing

Doh-Shin Jeon and Yassine Lefouili (2017). "Cross-Licensing and Competition", Mimeo

### 3.6 Sequential Innovation

Jerry Green and Suzanne Scotchmer (1995) "On the Division of Profit in Sequential Innovation."  
RAND Journal of Economics, Vol. 26: 20-33

James Bessen and Eric Maskin (2009) "Sequential Innovation, patents and imitation" RAND Journal of Economics, Vol. 40: 611-635



# Syllabus on “The Economics of Payment Methods”

**Instructor:** Renato Gomes

## **Objectives:**

The aim of the course is to analyze the economics of payment methods. Particular emphasis will be given to the study of payment platforms – such as those that manage payment cards (Visa, Mastercard, American Express, etc), as well as stacked platforms (such as PayPal, Apple Pay, Google Wallet, etc). The aim is to understand pricing and competitive practices in these markets, study innovation and assess the effects of regulation.

The classes will combine a descriptive approach (where do these markets come from, how did they evolve, what technologies are employed?), a theoretical one (based on the "multi-sided platform" framework), as well as an empirical one (how consumers actually pay, what are the effects of regulation, how can we measure empirically the key variables of interest?).

After following this course, you will be able to:

- understand the industrial organization of the modern payment industry
- understand the economics of payment systems including the role of multi-sided platforms and the behavioral economics of payments,
- understand the main drivers of adoption and usage of (new) payment instruments by consumers and merchants,
- discuss the impact of key innovations (FinTech, virtual currencies, blockchain, instant payments, mobile money, Google Wallet, Apple Pay, Uber) on the international payment landscape,
- assess the critical factors for effective competition policy and consumer protection.

## **Tentative Schedule:**

Lecture 1 (06/02/2019 from 5 to 8pm)

- A brief History of money and its successors (checks, credit orders, etc)
- Card payments: Evolution and current trends
- How consumers pay? An empirical assessment

Lecture 2 (11/02/2019 from 5 to 8pm)

- Introduction to the economics of platforms
- Business models and main players in card payment platforms
- Competition policy issues in the payment industry

Lecture 3 (18/02/2019 from 5 to 8pm)

- The optimal regulation of payment cards
- The actual regulation of payment cards: an international perspective

- The effects of regulation: An empirical assessment

Lecture 4 (06/03/2019 from 5 to 8pm)

- Stacked platforms (PayPal, Apple Pay, Google Wallet, etc)
- Crypto-currencies and Blockchain
- The market for consumer credit

Lecture 5 (11/03/2019 from 5 to 8pm)

- Student presentations: competition policy cases and the current regulatory debate

**Course format:** Lectures

**Grading:** Grading is based on student presentations to occur on March 11<sup>th</sup> 2019 in class. Students will be divided in groups, which will orally describe and critically discuss applications, appeals and rulings of recent competition policy cases related to payment methods.

**Course reading:** Materials will be announced in class.

**Useful links:**

On European legislation on payment methods:

[http://ec.europa.eu/competition/sectors/financial\\_services/sepa\\_en.html](http://ec.europa.eu/competition/sectors/financial_services/sepa_en.html)

On the court case against Amex in the US:

<https://law.justia.com/cases/federal/district-courts/new-york/nyedce/1:2010cv04496/309491/619/>

On the Apple Pay controversy in Australia:

<https://www.accc.gov.au/public-registers/authorisations-and-notifications-registers/authorisations-register/bendigo-and-adelaide-bank-ors-authorisation-a91546-a91547>

On transparency and consumer behavior regarding payments in the EU:

[http://ec.europa.eu/competition/sectors/financial\\_services/mif\\_final\\_report\\_en.pdf](http://ec.europa.eu/competition/sectors/financial_services/mif_final_report_en.pdf)

## Advanced Industrial Organization

Course title - Intitulé du cours	Advanced Industrial Organization
Level / Semester - Niveau / semestre	M2 / Semestre 3
School – Composante	TSE
Teacher - Enseignant responsable	REY PATRICK - JEON DOH-SHIN
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Lecture Hours - Volume Horaire CM	30
TA Hours - Volume horaire TD	/
TP Hours - Volume horaire TP	/
Course Language - Langue du cours	Anglais
TA and/or TP Language - Langue des TD et/ou TP	

### **Teaching staff contacts - Coordonnées de l'équipe pédagogique :**

[dohshin.jeon@gmail.com](mailto:dohshin.jeon@gmail.com) MF410

[patrick.rey@tse-fr.eu](mailto:patrick.rey@tse-fr.eu) MF527

### **Course's Objectives - Objectifs du cours :**

It is an introductory class of advanced industrial organization theory with particular emphasis on the interface between theory and practice of competition policies. For this purpose, I will cover a number of real world cases tightly related to the theory that I teach. A new part of the class since the last year is that I will cover the two-sided market. In the first half, I will teach the basic subjects and the theory of two-sided markets. In the second half, I will teach more advanced topics: when I teach advanced topics, I will also try to teach how each topic can be studied in a two-sided market (if possible). There will be a total of 30 hours. All hours will be covered by myself except for one week's teaching by Patrick Rey, who will cover topic 8, "Intrabrand competition, Interbrand competition and Competition Policy".

### **Prerequisites - Pré requis :**

Basic game theory and intermediate level of microeconomics

### **Practical information about the sessions - Modalités pratiques de gestion du cours :**

In principle, there use is prohibited. If you want to use a laptop or a tablet for typing, please let me know in advance.

### **Grading system - Modalités d'évaluation :**

The grading will be based only on the final exam, which typically composed of: binary choice questions, exercises and analysis of a short case. So you should understand well economic intuitions of course materials and able to perform the analysis and apply the results to cases.

## **Bibliography/references - Bibliographie/références :**

Main texts Motta, Massimo. Competition Policy: Theory and Practice. Cambridge University Press, 2004  
Tirole, Jean. The Theory of Industrial Organization, MIT, 1988  
Other references Kwoka, J. E; White, L.J. The Antitrust Revolution, Harper Collins College Publishers, 1994 (2nd edition), 1999 (3rd edition), 2004 (4th edition)  
Whinston, Michael D. Lectures on Antitrust Economics, MIT, 2006

## **Session planning - Planification des séances :**

Part I: Basic concepts (and two-sided markets) with applications to competition policy  
1. Competition Policy: History and definition (Motta, Chap 1)-Brief History of Competition Policy: US, Germany, EU-Objectives of Competition Policy-Competition Policy and Market Power  
2. Two-sided markets - Definition-Monopoly-Competition

- Anderson, Simon and Stephen Coate (2005). "Market Provision of Broadcasting: A Welfare Analysis", Review of Economic Studies, 72: 947-972
- Armstrong, Mark (2006). "Competition in Two-Sided Markets", RAND Journal of Economics, 37: 668-691.
- Caillaud, Bernard and Bruno Jullien (2003). "Chicken and Egg: Competition Among Intermediation Service Providers", RAND Journal of Economics, 34: 309-329.
- Rochet, Jean-Charles and Jean Tirole (2002). "Cooperation among Competitors: Some Economics of Payment Card Associations", RAND Journal of Economics, 33: 549-570.
- Rochet, Jean-Charles and Jean Tirole (2003). "Platform Competition in Two-Sided Markets", Journal of the European Economic Association, 1: 990-1029.
- Rochet, Jean-Charles and Jean Tirole (2006). "Two-Sided Markets: A Progress Report", RAND Journal of Economics, 35: 645-666
- Rochet, Jean-Charles and Jean Tirole (2011). "Must-Take Cards: Merchant Discounts and Avoided Costs", Journal of the European Economic Association, 9(3): 462-495.
- 3. Market definition and Horizontal Mergers (Motta. Chap 3, 5)-Incentives to merge: Cournot vs Bertrand-Benefit-Cost analysis of horizontal merger-Merger guideline and market definition-Cases: Coca-Cola and Dr Pepper (Kwoka and White, 1994) Nestle and Perrier (Motta)
- Deneckere, R. J. and C. Davidson (1985). "Incentive to Form Coalitions with Bertrand Competition." The RAND Journal of Economics, 16: 473-86.
- Salant, S., S. Switzer and R. Reynolds (1983). "Losses from Horizontal Merger: the Effects of an Exogenous Change in Industry Structure on Cournot-Nash Equilibrium." Quarterly Journal of Economics, 98:185-199.
- 4. Collusion and Horizontal agreements (Motta. Chap 4, Tirole, Chap 6)-Relevant factors for collusion: Theory with application to Nestle and Perrier case (Motta)-Coordination and the role of communication: Sugar Institute (AER, 2001), ATP case (Motta)- Standard of proofs (What should be legal or illegal?) and Wood Pulp case (Motta) - Leniency program
- Bernheim, Douglas and Michael Whinston (1990). "Multimarket Contact and Collusive Behavior." The RAND Journal of Economics, 21(1), 1-26.
- Genesove David and Wallace P. Mullin. "Rules, Communication and Collusion: Narrative Evidence from the Sugar Institute Case", American Economic Review, Vol 91, 379-98, 2001
- Green, E and R. Porter (1984), "Non-Cooperative Collusion Under Imperfect Price Information", Econometrica 52:87-100.
- 5. Vertical agreements (Motta. Chap 6, Tirole, Chap 4)-Terms of vertical restraints -Basic vertical externalities-Intrabrand competition-Interbrand competition
- Part II: Advanced Topics  
6. Exclusive dealing with application to the First Microsoft case (Kwoka and White, 1999)

- Aghion, P and G. Bolton (1987). "Contracts as a Barrier to Entry", *American Economic Review* 77: 388-401
- Bernheim, Douglas, and Michael Whinston. (1998). "Exclusive Dealing." *Journal of Political Economy*, 106(1): 64-103
- Fumagalli, Chiara and Massimo Motta, (2006). "Exclusive Dealing and Entry, when Buyers Compete," *American Economic Review*, 96(3): 785-795.
- Rasmusen, E. B., J. M. Ramseyer, and J.S. Wiley. (1991). "Naked Exclusion," *American Economic Review*, 81: 1137-45.
- Segal, Ilya and Michael Whinston (1997), "Naked Exclusion: Comment." *American Economic Review* 90: 296-309.
- Vertical relations: Intrabrand competition, Interbrand competition and Competition Policy (by Patrick Rey)
- Hart, O. and J. Tirole, (1990), "Vertical Integration and Market Foreclosure," *Brookings Papers on Economic Activity (Microeconomics)*, 205-285.
- Rey, Patrick and Jean Tirole (2005). "A Primer on Foreclosure," *Handbook of Industrial Organization*, vol. III, North Holland, 2005, p. 2145-2220.
- Rey, Patrick and Thibaud Vergé (2010). "Resale Price Maintenance and Interlocking Relationships", *Journal of Industrial Economics*, 58(4), p. 928-961.
- Cases: OFT vs Imperial Tobacco, DOJ vs Apple (e-book case)
- Tying and Bundling with application to Microsoft bundling case (Motta, Chap 7.3.2)
- Bakos, Yannis, and Eric Brynjolfsson. (1999). "Bundling Information Goods: Pricing, Profits and Efficiency." *Management Science*, 45(12): 1613-1630.
- Carlton, Dennis, W. and Michael Waldman, (2002). "The Strategic Use of Tying to Preserve and Create Market Power in Evolving Industries," *Rand Journal of Economics*, Summer, pp. 194-220.
- Choi, Jay P., and Chris Stefanadis. (2001). "Tying, Investment, and the Dynamic Leverage Theory." *RAND Journal of Economics*, 32(1): 52-71.
- Jeon, Doh-Shin and Domenico Menicucci (2006). "Bundling Electronic Journals and Competition among Publishers," *Journal of the European Economic Association*, vol.4 (5): 1038-83.
- Jeon, Doh-Shin and Domenico Menicucci (2012). "Bundling and Competition for Slots", *American Economic Review*, 102, 1957-1985.
- McAfee, R.P, McMillan, J., Whinston, M. (1989). "Multiproduct Monopoly, Commodity Bundling, and Correlation of Values," *Quarterly Journal of Economics* 104, pp. 371-384.
- Nalebuff, Barry. (2004). "Bundling as an Entry Barrier." *Quarterly Journal of Economics*, 119(1): 159-188.
- Whinston, Michael D. (1990). "Tying, Foreclosure and Exclusion." *American Economic Review*, 80(4): 837-859.
- Tying in two-sided markets
- Choi, Jay Pil (2010), "Tying in Two-Sided Markets with Multi-Homing," *Journal of Industrial Economics*, 58 (3), pp. 607-626
- Choi, Jay Pil and Doh-Shin Jeon, (2016) "A Leverage Theory of Tying in Two-sided Markets", TSE WP9.IT and compatibility
- Crémer, Jacques, Patrick Rey and Jean Tirole. (2000) "Connectivity in the Commercial Network" *Journal of Industrial Economics*, 48(4): 433-72
- Hurkens, Sjaak, Doh-Shin Jeon and Domenico Menicucci (2018) "Dominance and Competitive Bundling" forthcoming, *American Economic Journal: Microeconomics*
- Jeon, Doh-Shin and Domenico Menicucci (2011). "Interconnection among Academic Journal Websites: Multilateral versus Bilateral Interconnection", *The RAND Journal of Economics*, 42(2): 363-386.

- Katz, Michael L. and Carl Shapiro (1985). "Network Externalities, Competition, and Compatibility", *American Economic Review*, 75, 424-440.
- Matutes, Carmen and Pierre Régibeau (1988). "'Mix and Match': Product Compatibility without Network Externalities," *RAND Journal of Economics*, vol. 19(2), pages 221-234

## Business Economics

Course title - Intitulé du cours	Business Economics
Level / Semester - Niveau /semestre	M2 / Semestre 3
School - Composante	TSE
Teacher - Enseignant responsable	RHODES_ANDREW
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Lecture Hours - Volume Horaire CM	30
TA Hours - Volume horaire TD	/
TP Hours - Volume horaire TP	/
Course Language - Langue du cours	Anglais
TA and/or TP Language - Langue des TD et/ou TP	Anglais

### **Teaching staff contacts - Coordonnées de l'équipe pédagogique :**

Andrew Rhodes, [andrew.rhodes@tse-fr.eu](mailto:andrew.rhodes@tse-fr.eu), MF406, please email for an appointment.

### **Course's Objectives - Objectifs du cours :**

The course will consist of roughly 50% formal lectures, and 50% discussions with, and presentations by, professionals (Nicolas Gruyer, Khaled Diaw, and Elias Goelz) on topics related to business economics and business strategy.

Topics to be covered during the lectures include:

- (i) strategic interaction,
- (ii) firm scope,
- (iii) static and dynamic pricing,
- (iv) advertising.

### **Prerequisites - Pré requis :**

It is advantageous to have taken the M1 Industrial Organisation course.

### **Practical information about the sessions - Modalités pratiques de gestion du cours :**

Laptops are not permitted during the lectures. Students are expected to actively participate during class.

### **Grading system - Modalités d'évaluation :**

Final exam in December.

## Economics of innovation and Intellectual Property

Course title - Intitulé du cours	Economics of innovation and Intellectual Property
Level / Semester - Niveau /semestre	M2 / Semestre 3
School - Composante	TSE
Teacher - Enseignant responsable	JEON_DOH-SHIN
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Lecture Hours - Volume Horaire CM	30
TA Hours - Volume horaire TD	/
TP Hours - Volume horaire TP	/
Course Language - Langue du cours	Anglais
TA and/or TP Language - Langue des TD et/ou TP	

### **Teaching staff contacts - Coordonnées de l'équipe pédagogique :**

[dohshin.jeon@gmail.com](mailto:dohshin.jeon@gmail.com) MF410

### **Course's Objectives - Objectifs du cours :**

I introduce the students to a selection of important current issues in the economics of intellectual property (IP). After the introduction to the messy current situation of the IP world and firms' IP strategies, we review important economic contribution to topics such as litigation and injunction, settlement, weak patents, patent pool, patent trolls (or NPEs), cross-licensing, standard setting organizations, etc.

### **Prerequisites - Pré requis :**

Students need to have basic knowledge of industrial organization theory; the TSE M1 IO level is fine. This implies that you also need to know basic game theory.

### **Practical information about the sessions - Modalités pratiques de gestion du cours :**

They are not allowed except when you use them for typing.

### **Grading system - Modalités d'évaluation :**

Grading will be based on the final exam (70%) and group presentations and participation in the class (30%).

### **Bibliography/references - Bibliographie/références :**

General reading:

- Suzanne Scotchmer, Innovation and Incentives, 2004, MIT Press
- Bessen, J., and Meurer, M., 2008. Patent Failure: How Judges, Bureaucrats, and Lawyers Put Innovators at Risk. Princeton, NJ: Princeton University Press.
- Jaffe, A. B. and J. Lerner, 2004, Innovation and Its Discontents: How Our Broken Patent System is Endangering Innovation and Progress, and What to Do About It., Princeton, N.J.: Princeton University Press



### **Session planning - Planification des séances :**

Session 1: Introduction The major part is based on the slides made by Margaret Kyle on "IP Business Strategy", which will be complemented by the following papers.

- Andrei Hagiu (2011) "Intellectual Property Intermediaries", Harvard Business School, Case study
- Andrei Hagiu, David Yoffie and Alison Berkley Wagonfeld (2011) "Intellectual Ventures" Harvard Business School, Case study
- Michael A. Heller and Rebecca S. Eisenberg (1998) "Can Patents Deter Innovation? The Anticommons in Biomedical Research" *Science* 280: 698-701

Session 2: Antitrust limits to settlement

- Carl Shapiro (2003) "Antitrust Limits to Patent Settlements" *The RAND Journal of Economics* Vol. 34, No. 2, pp. 391-411

Session 3: Injunction and weak patents

- Carl Shapiro. (2010). "Injunctions, Hold-Up, and Patent Royalties." *American Law and Economics Review*. 12:509-557-Farrell and Shapiro, (2008). "How strong are weak patents?", *American Economic Review*, 98:1347-69

Session 4: Standard setting organization

- Gilbert, R. J., & Newbery, D. M. (1982). Preemptive patenting and the persistence of monopoly. *The American Economic Review*, 514-526.
- Vickers, John. "The evolution of market structure when there is a sequence of innovations." *The Journal of Industrial Economics* (1986): 1-12 on increasing dominance.
- Riordan, Michael H., and David J. Salant. "Preemptive adoptions of an emerging technology." *The journal of industrial economics* (1994): 247-261
- Llanes, Gaston and Joaquin Poblete (2015), "Technology Choice and Coalition Formation in Standards Wars." Mimeo

Session 5: Patent Pool

- Lerner, J., and J. Tirole. 2004. "Efficient Patent Pools." *American Economic Review*, 94(3): 691-711.
- Choi, Jay Pil and Heiko Gerlach (2015). "Patent Pools, Litigation and Innovation." *The RAND Journal of Economics*, 46(3): 499-523
- Markus Reisinger and Emanuele Tarantino (2016), "Patent Pools in Input markets" Mimeo

Session 6: NPE or Patent Trolls

- Lemus, Jorge and Temnyalov, Emil, (2017) "Patent Privateering, Litigation and R&D Incentives," *The RAND Journal of Economics* 48(4)
- Choi, Jay Pil and Heiko Gerlach (2016). "A Model of Patent Trolls." Mimeo

Session 7: Cross-licensing

- Jeon, Doh-Shin and Yassine Lefouili (2018) "Cross-Licensing and competition", Forthcoming, *The RAND Journal of Economics*

Session 8: Sequential Innovations

- Jerry Green and Suzanne Scotchmer (1995) "On the Division of Profit in Sequential Innovation." RAND Journal of Economics, Vol. 26: 20-33
- James Bessen and Eric Maskin (2009) "Sequential Innovation, patents and imitation" RAND Journal of Economics, Vol. 40: 611-635

Session 9: Tying and dynamic leverage

- Choi, Jay Pil (1996) "Preemptive R&D, Rent Dissipation and the Leverage Theory", Quarterly Journal of Economics, 1153-1181

Session 10: Student presentations

## Empirical analysis of firm behavior

Course title - Intitulé du cours	Empirical analysis of firm behavior
Level / Semester - Niveau /semestre	M2 / Semestre 3
School - Composante	TSE
Teacher - Enseignant responsable	BONNET_CELINE
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Lecture Hours - Volume Horaire CM	30
TA Hours - Volume horaire TD	/
TP Hours - Volume horaire TP	/
Course Language - Langue du cours	Anglais
TA and/or TP Language - Langue des TD et/ou TP	Anglais

### **Teaching staff contacts - Coordonnées de l'équipe pédagogique :**

Céline [Bonnetceline.bonnet@tse-fr.eu](mailto:Bonnetceline.bonnet@tse-fr.eu) MS 106 First contact by email.

### **Course's Objectives - Objectifs du cours :**

This course is divided in two parts. The first part aims to give students an introduction to the empirical analysis of market power and competition policies by preparing them to understand econometric methods and to interpret results. The second part is devoted to practical exercises and an application in order to answer to a question of firms' strategic analysis with data and econometric software.

Outline of the first part

Section I: Simple indicators

I.1. The relevant market (SSNIP test)

I.2. Measure of market power (HHI, concentration ration)

I.3. Measure of consumers' substitutions (Diversion Ratio, IPR, GUPPI, UPP)

Section II: Structural Econometrics

II.1. Introduction and Definition

II.2. Measurement of market power with differentiated products

II.2.1 Neoclassical demand system (AIDS, Multistage Budgeting)

II.2.2 Random utility approach (logit, nested logit, random coefficient logit)

II.3. Competition analysis

II.3.1 Supply models (Oligopolistic competition, vertical relationships)

II.3.2 Tests between supply models

II.4. Counterfactual analysis

II.4.1 Product introduction

II.4.2 Merger/acquisition analysis

### **Prerequisites - Pré requis :**

The students need basic knowledge of econometric methods and software.

### **Grading system - Modalités d'évaluation :**

The grade of this class will be based on the project.

**Bibliography/references - Bibliographie/références :**

- Werden G. J., and L. M. Froeb (2006), “Unilateral Competitive Effects of Horizontal Mergers”, Handbook of Antitrust Economics
- Reiss, P., and F. Wolak (2006), “Structural Econometric Modelling: Rationales and Examples from Industrial Organization”, Handbook of Econometrics, Volume 6
- Bishop, S. And Walker, M. “The Economics of EC Competition Law”, Sweet and Maxwell