E100: Microeconomics

MPhil in Economics
Faculty of Economics

August 1, 2018

Term: Michaelmas 2018
Class meets: M9-11
Room: TBA
Teachers: Dr Toke S Aidt, Dr Rupert Gatti and Mr Felix Grey
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Office hour: By appointment
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1 Course Description

This new microeconomics course is designed specifically for the MPhil in Economics. It adopts the question motivated approach to teaching microeconomics concepts and applications. The course is centered on three themes: online markets, politics, and climate change. Within each theme, the relevant microeconomics concepts and empirical tools are introduced to address core questions about global externalities, climate policy, the design and regulation of online markets and political decision making processes. The course is deliberately not designed as a traditional microeconomics course covering consumer and producer theory, markets, general equilibrium, uncertainty, game theory etc. It is assumed that all students have already covered this material at the intermediate level (corresponding to Hal Varian, Intermediate Microeconomics or a similar textbook). The
philosophy of the course is to use the three themes as the stating point for a discussion of important economic concepts and to demonstrate how they can be used in practice to shed some light on important aspects of social reality, how microeconomic ideas and analysis can inform policy making and how econometric analysis can be used to test theories and provide evidence for policy-making.

2 Aims

By the end of the course, we expect students to be able to:

- Apply economic models and reasoning to a wide variety of real-world questions of interest.
- Understand how to identify the strengths and limitations of economic methods as applied to specific issues.
- Understand how economic reasoning enters into policy making, even if it is not the only consideration.
- Be comfortable with using economic ideas both mathematically and in essays.

3 Organization

Each of the three lecturers will be responsible for one theme and give three 2-hours lectures. The teaching assistant will be responsible for five 2-hour classes. The classes will focus on problem solving and discussions, with two classes devoted to preparation for the take-home project and one to pre-exam revision.

4 Assessment

The course will be assessed on the basis of a take-home project (at the end of Michaelmas) and a 1.5 hours written exam in May. The project will count 30 % and the written exam will count 70 %.

5 Reading requirements

For each session, chapters from relevant textbooks will be assigned as mandatory pre-lecture readings along with academic articles and government reports (as indicated in
Section 6). These are mandatory readings and it is recommended that the students consult them before the lecture.

All (mandatory) articles are hyper-linked in the pdf-version of this outline and if you access them from within the Cambridge network (make sure you are logged in with Raven) you can download a pdf file directly from the publisher’s database.

At the end of the course outline in Section 7, you will find a list of optional post-lecture readings for each session. These will enable you to delve deeper into the topics covered and to study additional applications.

Lecture slides will be available on Moodle and on an open access webpage.

6 Overview of the Course

The course is divided into 3 parts. Each part develops a particular theme. The themes are

1. Online markets (Dr Gatti)
2. Economics of Politics (Dr Aidt)
3. Climate change (Mr Grey)

The objective is, for each theme, to develop the microeconomics tools required and to draw on applications and empirical evidence to demonstrate how the tools can be used to understand fundamental social issues or resolve social tensions.

Theme 1: Online and digital markets

This part of the course will address the traditional microeconomic themes of consumer behaviour, producer behaviour, competition and market structure within the specific context of online and digital markets. Viewing markets as multi-sided platforms, we will look at the economic issues surrounding the provision of markets/platforms as a product, and of competition between platforms. We will then look at pricing, production and competition amongst firms selling on a digital platform, comparing pricing mechanisms (auctions, posted pricing and strategic pricing decisions) product specifications, bundling and vertical integration decisions and the impact of competition and anti-trust regulation. Finally, we will look at consumer behaviour in online markets, addressing issues such as information acquisition, search, the “long-tail”, and the introduction of new products on consumer welfare.
Lecture 1: Platforms and multi-sided markets

1. **Economic concept:** Platforms as markets, pricing and competition strategies by platforms.

2. **Theoretical application:** Anti-trust regulation.

3. **Empirical application:** Academic journals.

One important aspect of online markets has been the emergence of digital platforms, bringing together large numbers of dispersed buyers and sellers - e.g., eBay, AirBnB, Amazon etc. Of course, markets have always brought buyers and sellers together - what is relatively novel in digital markets (apart from their scale) is that the market is created and owned as a business in itself, which may face competition from rival platforms and must make pricing decisions with care to incorporate the externalities individual agents actions have on the value - and willingness to pay - of other markets to participants. Viewing markets as multi-sided platforms, we will look at the economic issues surrounding the provision of markets/platforms as a product, of competition between platforms, and implications for anti-trust regulations.

Pre-session readings


Lecture 2: Pricing behaviour in digital markets

1. **Economic concept:** Alternative pricing mechanisms (auctions, posted pricing), dynamic pricing, bundling, vertical integration.

2. **Theoretical application:** Online pricing experiments, anti-trust regulation.
3. **Empirical application**: eBay pricing, online advertising.

Digital markets make it very easy for firms to (programmatically) change prices in response to changes in demand, competitors’ pricing behaviour or detailed customer information. In response, we have seen an explosion in different types of pricing strategies being adopted by firms. In this lecture, we will compare different types of pricing mechanisms, including posted pricing with different types of action mechanisms. Firms also have far more knowledge about the tastes of their customers than ever before, and we also will look at bundling and vertical integration strategies being adopted by firms to try and maintain broader, long-term relationships with the customers they value most. Finally, we will consider the implications of these strategies for market efficiency, consumer welfare and anti-trust regulations.

**Pre-session readings**


**Lecture 3: Consumer behaviour in digital markets**

1. **Economic concept**: Search, price dispersion, trust, the “long-tail” and the value of new products.

2. **Theoretical application**: Platform design, consumer welfare.


Online markets provide consumers with much greater choice between alternative suppliers and products. This allows increased price/product comparison by consumers, and for the discovery (and so emergence) of “niche” products - the so called “long-tail”. But the amount of information available can also swamp consumers, and issues of trust in dealing with anonymous retailers also emerge. In this lecture, we will look at consumer search and the prevalence of price dispersion in online markets, mechanisms for establishing trust, and the value to consumers of having access to long product tails.
Pre-session readings


### Theme 2: Economics of politics

This theme explores how economic ideas and concepts can be applied to politics. It examines how societies, composed of individuals with conflicting interests, desires and objectives, make policy choices and how these choices are shaped by economic and institutional constraints. The lectures will zoom in on three questions about democracy, revolutions and lobbying. The topics are at the core of understanding how societies resolve conflicting interests. They are selected to illustrate three important economic concepts: preference and information aggregation; self-reinforcing social dynamics; and agency problems.

#### Lecture 4: What can economics teach us about democracy?

1. **Economic concept:** Preference and information aggregation.

2. **Theoretical application:** May’s Theorem, The Jury Theorem, The Median Voter Theorem and the Chaos Theorem.

3. **Empirical application:** Suffrage extension and the redistribution hypothesis.

In a capitalist economy, markets are instrumental in allocating resources but societies also need to make collective choices about laws, about regulation, about public goods, about externalities, about taxation etc. which have important ramifications for the allocation of resources and which cannot be taken in competitive markets. In rare cases, all citizens agree on what the right choice is, but mostly they do not. The social dilemma,
then, is to trade-off these conflicting views to arrive at an acceptable collective choice. In democratic societies, the dilemma is resolved through majority voting and elections. One may, however, ask what is so great about democracy? What is it that democracy can achieve that other forms of governance cannot? Economics provides important insights into these issues and can help answer these questions. This two-hour lecture will discuss four important theorems about the virtues and deficiencies of democracy. May’s Theorem shows that the majority rule is the only decision rule that treats all voters in the same way, which gives democratic decision making a firm normative foundation. The Median Theorem and the Jury Theorem show how majority rule can aggregate conflicting preferences and information. The Chaos Theorem highlights some important limitation to majority rule. The median voter theorem will be put to a test in an empirical study of suffrage extension and redistribution in the 19th century.

Pre-lecture readings


- **Concepts:** Mueller (2003). Public Choice III, (Cambridge University Press), Ch. 6.1 to 6.3; and 5.1 to 5.5.

- **Application:** Aidt and Jensen, 2013, Democratization and size of government: evidence from the long 19th century. Public Choice 157(3-4), 511-47.

Lecture 5: What can economics tell us about revolutions?

1. **Economic concept:** Self-reinforcing social processes, multiple equilibria and threshold effects.

2. **Theoretical application:** Revolutions and social conflict.

2. **Empirical Application:** Social media and the Arab Spring in Egypt.

History is littered with examples of revolutions that while they are easy to explain post took those who were involved by surprise. Think of the French revolution in 1789, the Iranian revolution in 1979 or the fall of the Berlin wall. Economics can help us understand why this is the case. The key insight is that potential participants in a revolution will condition their participation on how many others they expect to participate. This can generate a self-reinforcing positive feedback loop with the implication that once a
critical mass is reached and a threshold is passed a cascade is released – a revolution happens. This two-hour lecture will explore the thesis that preference falsification whereby individuals say one thing in public while privately hold very different views can explain revolution surprises. The theory will be applied to role that social media played during the Arab Spring in Egypt.

Pre-lecture readings


Lecture 6: What can economics tell us about lobbying?

1. **Economic concept**: Principal-agent theory, rent seeking.

1. **Theoretical application**: Lobbying for trade protection.


Across the world’s capital cities thousands of professional lobbyists and lobbying firms seek to sway governments to adopt or changes policies or to allocate public resources in particular ways. These lobbyists are not engaged in productive activities that create net value to the economy; instead their role is to seek favorable government treatment for the clients they represent. This is troublesome because the process of rent seeking uses scarce resources unproductively and may push governments into making socially inefficient policy choices. Contributions to political campaigns can also influence who get election and what they do once in office. The substantive question is how special interest groups can “buy” influence on government policy and what the social consequences of this are.
Pre-lecture readings


**Theme 3: Climate Change**

This theme explores the application of economics to the problem of climate change. It looks at three broad aspects of climate change: how do we determine the size of the externality (the SCC), how do we correct the resulting market failure domestically, and how might we solve the global public good problem internationally.

**Lecture 7: The Social Cost of Carbon**

1. **Economic concept**: Externalities, discounting

2. **Empirical application**: Social cost of carbon, empirical modelling

This two-hour lecture explores the concept of the externality as applied to climate change. We will briefly review the theory of externalities, and then move to the difficult question of how to quantify the externality associated with emitting a tonne of CO$_2$, known as the Social Cost of Carbon (SCC). Typically economists approach this using so-called Integrated Assessment Models, which combine climate science with economics. Many important choices need to be made in constructing these models, which can have a big impact on the results. The most heavily debated is the discount rate, which determines how much we care about future generations, and there is still a lack of consensus over which values to use. We will also cover other important modelling choices (such as damage functions, and attitudes to risk) which impact the social cost of carbon. Finally, we will look at other methods of determining the SCC such as that implicitly underpinning the Paris Agreement’s temperature target.
Pre-session readings


- **Application**: Pindyck (2013) Climate change policy: what do the models tell us? Journal of Economic Literature, 51 (3), 860-72.

Lecture 8: Climate change policy

1. **Economic concept**: Correcting market failures from externalities

2. **Empirical application**: Climate change policies

This two-hour lecture will look at policy, and explore the trade-offs associated with the three main policy tools: carbon taxes, emissions trading, and standards. This analysis will be broad: we will consider economic efficiency, political economy, and other real-world factors. We will also explore other (non-carbon) market failures that should not be ignored when making good climate change policy. This lecture will generally be highly applied, and aims to give students an understanding how to go about policy making, and how difficult it can be, in reality.

Pre-session readings


Lecture 9: International environmental agreements

1. **Economic concept**: Public goods, coalition formation
2. **Empirical application:** International environmental agreements

This two-hour lecture looks at the international aspects of climate change policy. Emissions reduction is a public good, and we would therefore expect each country to undertake an inefficiently low amount of this activity, a result known as the tragedy of the commons. International environmental agreements seek to solve this problem by creating coalitions of countries that behave cooperatively and therefore achieve more environmental protection. However, countries cannot be be forced to join such a coalition, and so international agreements must be designed in such a way that each country wants to join, rather than free ride. We will look at the theory of coalition formation, and use it to examine the history climate agreements since UN negotiations began in 1992, with a focus on the Kyoto Protocol and the Paris Agreement.

**Pre-session readings**


### 7 Optional Extra Readings by Session

**Theme 1: Online and digital markets**

**Lecture 1**


Lecture 2


Lecture 3


**Theme 2: Economics of Politics**

**Lecture 4**


**Lecture 5**


**Lecture 6**


Theme 3: Climate change

Lecture 7


Lecture 8


Lecture 9

