Economics 444 – Innovation and Intellectual Property

Scope

We will try to understand what drives innovation and why innovation is the key to improving the well-being of humans. It is not saving, per se, or the simple accumulation of machineries that make us so much better off than we used to be. Capital accumulation is just the conduit through which the innovation juices flow and it would mean little in the absence of the latter.

The question we ask is “what drives innovative activity?” How comes some societies seem to be so much better than other at innovating? How comes we have the impression that most useful inventions took place in the last three centuries? Is it a fact or just the outcome of a distorted perspective? Are there policies that help fostering innovation and other that hurt it? Which system if incentives, hence of property rights, is more effective in this sense? Is the answer to the previous question invariant with respect to the state of the technology or is it, instead, dependent on the technological environment? How do innovations and (intellectual) property rights interact with international trade, income inequality and economic development?

Economists have many theories of innovation, and some are better than other. We will look at the theories, we will examine the facts (past and present), then we will go back to the theories and reconsider their explanatory power. After acquiring the necessary technical back-ground we will organize the class in a few research groups (I expect there will be about eight groups of five people each) that, under my supervision, will address specific issues of interest to the members of the group.

I have been teaching this class for more than ten years now and I have learned that the most productive and relevant part is your research. In previous years I divided the 14 weeks of class in, roughly, 8 or 9 weeks of lectures and 5 or 6 weeks for your presentations. I feel we should shift the balance toward your presentations and your research. We will be discussing the practical arrangements and the rules of engagement during our first meeting, this coming Tuesday. So please come with ideas and proposals, I am open to suggestions. Most of you are coming to the end of their college experience and I believe it would be important to learn “hands on” how to prepare a research report on a specific research topic.

Organizational Details

My office is in Seigle Hall 338, and my office hours are Tu-Th, 1:00 – 2:30 p.m. My office phone number is 935 5636 and my cell is 612 232 1065; my email address is boldrin@wustl.edu. I suggest
making an appointment for meetings outside of the regular office hours.

There will be a Midterm exam on the 6th week (Thursday February 22nd, with a review on Tuesday the 20th). This will count toward 30% of the final grade. The remaining 70% of the final grade will come from the research project you will carry on during the second half of the semester, which is due (in a suitable digital format) on the day of the final exam (TBA). We will select the topics for the research groups together, in class, before Midterm. This should give you enough time to work on the projects with the appropriate technical background. You may want to start organizing the research groups as soon as possible so you can become well acquainted with the other members of the group.

I have selected three books as recommended textbooks. We will use chapters from each of these three books, together with the lecture notes I will hand out, as indicated in this syllabus. The books are:


**SCHEDULE OF THE COURSE**

**Weeks 1 and 2**

- Organization and rules of the course.
- Economic modeling of innovation. Outline of the basic issues.
- Competition and Monopoly.
- Measuring Innovation and Productivity
- Production Functions and Total Factor Productivity

*Lecture Notes 1, 7, 13 and 14*  
*IIP, Chapters 1, 3, 5 and 8*

**Weeks 3-5**

- The basic model of “no patents no party”: static Bertrand
- Innovation and growth in a world with patents: the dynamic version of the Bertrand Model.
- The basic model of innovation without patents: static model of a competitive industry, Marshall.
- Innovation and growth without patents: the dynamic model of competitive innovation and growth

*Lecture Notes 2, 8-11*

*AIM, Chapters 6 and 7*

*I&I Chapters 2 and 5*

**Week 6**

- Review section (Tu) and Midterm Examination (Th)

**Week 7**

- Current legislation in the USA and the EU with some references to the rest of the world.
- International organizations (WTO, WIPO) concerned with IP around the world.
- Industries for which IP rules are particularly relevant: drugs, biotechnologies, software.
- IP and International Trade, Globalization, Market Size, Developed vs Developing Countries
- IP and income inequality, the US and the rest of the world

*Lecture notes 3-6;*

*IIP Chapters 2, 7 and 9*

*AIM Chapters 2-5 and 9*

*I&I Chapters 1, 3, 9-11*

**Weeks 8 to 11**

Presentations of the first draft of the research projects (two groups each week).

**Weeks 12-14**

Presentation of the final version of the research projects and wrapping up.