RUTGERS UNIVERSITY
RUTGERS BUSINESS SCHOOL Ph.D. PROGRAM
AND
GRADUATE DIVISION OF GLOBAL AFFAIRS

GRADUATE COURSE IN NATIONAL INNOVATION POLICIES AND
INTERNATIONAL BUSINESS
RBS Course Code 26:553:605:01
DGA Course Code 26:478:593:01

COURSE CONVENOR: PROFESSOR J.A. CANTWELL

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Spring Semester 2015

Class Program and Reading List
Course outline description, and requirements of students

An outline description of the course in National Innovation Policies and International Business:

This course examines the relationship between the strategies for innovation of multinational corporations (MNCs) and those of national governments in a global economic environment. A key theme is the relationship between innovation and competitiveness at the firm and country levels, and the interaction between these two levels since the majority of technological capacity is held by MNCs while government policies affect the extent and pattern of innovations within national boundaries. Attention is given to the distinctiveness of national patterns of technological specialization, how these reflect the characteristics of local policies and institutions, and how they have been changing over time. The international location of technological activity is considered from the national perspective of the effects of globalization on catching up (or falling behind); from the cross-border perspective of MNCs; and from the local perspective of regional systems of innovation and localized clusters, and the interactions in knowledge creation between MNC subsidiaries and indigenous firms. The course concludes with an evaluation of how innovation policies are being gradually reshaped in the current context of the globalization of a knowledge-driven economy.

Requirements of students on the course:

1. To attend all weekly classes, and any other additional lectures as may be advised from time to time. The weekly classes are to be held on Tuesdays from 1:00pm to 3:50pm, and the full schedule is set out below.

2. To complete a term paper by the end of the Spring semester, to be submitted in week 15 (by Monday, May 4th). Term papers should not normally exceed 2,500 words of text (the bibliography is not part of this word count). The title for the term paper must be chosen from the titles given below, each associated with a particular class topic (from topics 2-11; it is not possible to write on topic 1, which is a background introduction). The term paper must demonstrate an understanding of the issues raised in the relevant lecture, and make reference to the readings set for that topic. The term paper must answer the question set, with reference to the key themes of the course articulated in the lectures and readings. It is not to be treated as an independent research paper. All students should read the chapters and articles indicated in the lists below, whether or not they are writing their term paper on that topic. The course has been designed as an integrated treatment of the subject with underlying connections between topics. The term paper should therefore also demonstrate an appreciation of how the answer to a specific question on a given topic fits into the broader context of the course. The course must not be regarded as a set of 11 separate topics that can be treated in isolation from one another. Thus, while students are welcome if they
wish to undertake additional reading on the topic of their term paper, this must be related to or used to critique the central themes of the course in the term paper. Any such extra readings should not be used in the term paper merely to provide some other alternative essentially unrelated approaches to the topic, and in particular additional readings on a specific topic must not be regarded as a potential substitute for undertaking (and where they are relevant, referring to) the readings for other topics that are also part of the course. To reiterate: a term paper should answer the question set so as to (i) incorporate understandings derived from all the readings for the relevant topic and from the lecture on that topic, (ii) incorporate reference to other selected readings required in the course, and to general themes that recurred at various stages during the classes, and (iii) should only incorporate other references not included in the readings for the course to the extent that these help build upon and consolidate (but not detract from) the key themes and content of the course.

3. For Ph.D. students, and selected M.S. students, to give a presentation on their chosen topic to the class towards the end of the semester, prior to the submission of the paper itself at the end of the semester. Presentations can last for a maximum of 15 minutes when given by just one student, and for a maximum of 20 minutes when a joint presentation is given by two or more students (the allotted time then being divided equally between them). Presentations are to be prepared in PowerPoint, and to ensure that the necessary time limits are observed they must be contained in a maximum of 12 slides per student for a lone presenter or 8 slides per student in the case of joint presentations (excluding a title slide, if there is one), and all the text of each slide must be in at least a minimum font size of 24. Any presentation that does not conform to these guidelines may be stopped before it is completed. A hard copy of the slides to be used is to be given to the course convenor prior to the oral presentation. Topics will be allocated in week 1 (January 20\textsuperscript{th}), and presentations will be scheduled for specific slots during the classes in weeks 13 or 14 (April 14\textsuperscript{th} or April 21\textsuperscript{st}). Where students give presentations, assessment will be 25\% for the presentation, and 75\% for the paper.

4. Those students that will give presentations are expected to consult the class materials for their topic ahead of the session to be held on that topic, and to prepare some questions on the lecture in order to begin a class discussion once that week’s lecture has been completed.
Class topics

1. A review of cross-country differences in national innovation policies.
2. International competitiveness at a country or industry level.
3. Historical patterns of technological change across countries, and the impact of international business activity.
4. Cross-country catch-up (or falling behind) in innovative activity, and the effects of globalization.
5. The competitiveness of multinational corporations (MNCs) and the organization of innovation.
7. Regional systems of innovation and localized clusters.
8. Local and international knowledge accumulation in MNCs.
9. National systems of innovation, and their interaction with MNCs.
10. MNC subsidiary and indigenous firm local competence development, and inter-firm knowledge spillovers.
11. National innovation policies in catching up economies, and the varying role of international business.
Detailed topic schedule, outlines and reading lists

Week 1, January 20\textsuperscript{th}

1. A review of cross-country differences in national innovation policies.

   (An introduction pertinent to each of the remaining topics; students should treat
   this as essential background material, but there is no term paper corresponding to
   this topic.)

   Lundvall, B.-Å. and Borrás, S. (2005), "Science, technology and innovation policy - old
   issues and new challenges", chapter 22 in Fagerberg, J., Mowery, D.C. and

   Technology and Global Industry: Companies and Nations in the World Economy,

   Pavitt, K.L.R. (2001), "Public policies to support basic research: what can the rest of the
   world learn from US theory and practice? (And what they should not learn)",

   the rise of technonationalism", chapter 2 in Techno-Nationalism and Techno-

   world economy", chapter 1 in Branscomb, L.M. and Keller, J.H. (Eds.), Investing
   in Innovation: Creating a Research and Innovation Policy that Works,
   Cambridge, Mass.: MIT Press.

Week 2, January 27\textsuperscript{th}

2. International competitiveness at a country or industry level.

   \textbf{Paper Title}: Discuss why national competitiveness need not be a zero sum game.

   Cantwell, J.A. (2005), "Innovation and competitiveness", chapter 20 in Fagerberg, J.,
   Mowery, D.C. and Nelson, R.R. (Eds.), Oxford Handbook of Innovation, Oxford


Week 3, February 3rd

3. Historical patterns of technological change across countries, and the impact of international business activity.

   **Paper Title:** Evaluate the effect of historical changes in the way in which innovation is organized on national patterns of technological specialization.


Week 4, February 10th

4. Cross-country catch-up (or falling behind) in innovative activity, and the effects of globalization.

   **Paper Title**: Assess how the role of international business connections in countries that are catching up technologically depends on the stage of national development, and on the local institutional and policy environment.


Week 5, February 17th

5. The competitiveness of multinational corporations (MNCs) and the cross-country organization of innovation.

   **Paper Title**: Consider the relationship between corporate competitiveness, the multinationality of activity, and R&D-intensity.


Week 6, February 24th


Paper Title: Assess the role of international business connections in the recent success of Japanese and East Asian firms, and how these firms have contributed to the emergence of a new technological paradigm.


Week 7, March 3rd
7. Regional systems of innovation and localized clusters.

**Paper Title:** Assess how MNCs may create competitive advantage through their participation in localized inter-firm clusters, and comment on the implications for regional policy-makers.


Week 8, March 10th

8. Local and international knowledge accumulation in MNCs.

**Paper Title:** Evaluate the conditions under which, when they are developing innovations in a given location, MNCs source relatively more technological knowledge from the local environment, from their home country, or from other parts of the world.


Singh, J. (2005), Collaborative networks as determinants of knowledge diffusion


Week 9, March 17th

Spring recess week, no class.

Week 10, March 24th

9. National systems of innovation, and their interaction with MNCs.

**Paper Title:** Briefly describe the concept of a national innovation system (NIS), and examine how the interrelationship between NISs and the international innovation networks of MNCs has affected NISs.


Cambridge and New York: Cambridge University Press.

Week 11, March 31st

10. MNC subsidiary and indigenous firm local competence development, and inter-firm knowledge spillovers.

**Paper Title**: Examine the relative significance, to the learning processes of indigenous firms in host countries with a foreign MNC presence, of the following factors: the technology gap, the extent of local absorptive capacity, and the motives and MNC group status of local subsidiaries.


Week 12, April 7th

11. National innovation policies in catching up economies, and the varying role of international business.

**Paper Title**: Evaluate how, if at all, innovation policies should differ in catching up economies, compared to such policies in longer established industrialized countries.

Economics, Vol. 13, No. 6, pp. 699-713.


Week 13, April 14th

Discussion of first set of student presentations.

Week 14, April 21st

Discussion of second set of student presentations.

Week 15, April 28th

No class; completion of term papers; submission of term papers due by Monday, May 4th, via the Blackboard course site (under the tab "Assignment", you'll find an assignment named "Term paper", click "View/Complete", upload your paper there, and submit).