

## **International Trade, Environment and Multilateral Institutions (IE526)**

### ***Course Description:***

This course focuses exclusively on the relationship between international trade and environment, and the multilateral governing institutions of this interface. It begins by examining the underlying theories and empirics in the trade-environment literature, the use of environmental policy instruments for global environmental problems, trade-environment governance rules under the World Trade Organization; and finally the current emphasis on trade in virtual carbon, climate-friendly goods and technology.

The different modules will include traditional trade theory with environmental dimensions; the use of first best environmental policy instruments and second best trade instruments in such models; the competitiveness impact of environmental regulation on goods trade and factor movement; linked-negotiation models /games of trade and environment; carbon-embodied in trade and trade in clean technology goods.

***Evaluation:*** Midterm (40% of grade), Class performance (10%) and End-term examination (50% of grade)

The three broad modules and basic readings for each are outlined below:

### **I. Introduction**

- Daly, Herman (1968) “On economics as a life science”, *The Journal of Political Economy*, Volume 76(3): 392-406.
- d’Arge, Ralph C. (1975) “On the Economics of Transnational Environmental Externalities”, in Edwin S. Mills ed. *Economic Analysis of Environmental Problems*, National Bureau of Economic Research.
- d’Arge, Ralph C. and Allen V. Kneese (1972) “Environmental Quality and International Trade”, *International Organization*, 26 (2): 419-465.
- Stevens, Candice (1993) “The Environmental Effects of Trade” *The World Economy*, 16(4): 439-451.
- Jayadevappa, Ravishankar and Sumedha Chhatre (2000) “International trade and environmental quality: a survey” *Ecological Economics* 32: 175-194.

### **II. Theory and Empirics of International Trade-Environment Interface**

#### ***II.1 Environmental Policy and Comparative Advantage in International Trade***

- Pethig, Rüdiger (1976) “Pollution, Welfare, and Environmental Policy in the Theory of Comparative Advantage”, *Journal of Environmental Economics and Management*, 2: 160-169.

- Baumol, William and Wallace Oates (1988) “International Environmental Issues” (chapter 16) in Baumol and Oates *The Theory of Environmental Policy*, Cambridge University Press.
- Ulph, Alistair (1992) “The Choice of Environmental Policy Instruments and Strategic International Trade” Chapter 5 in Rudiger Pethig ed. *Conflicts and Cooperation in Managing Environmental Resources*, Springer Verlag: 111-129.

## **II.2 Natural Resource Management and International Trade**

- Kemp, Murray C. and Ngo Van Long (1984) “The Role of Natural Resources in Trade Models” in R. W. Jones & P. B. Kenen (ed.) *Handbook of International Trade*, Volume 1(1), Elsevier.
- Copeland, Brian (2005) “Policy Endogeneity and the Effects of Trade on the Environment”, *Agricultural and Resource Economics Review*, Volume 34(1): 1-15.

## **II.3 Empirics on Environmental Stringency and International Trade**

- Cole, Matthew and Robert J. R. Elliott (2003) “Do Environmental Regulations Influence Trade Patterns: Testing Old and New Trade Theories”, *The World Economy*: 1163-86.
- Xing, Yuqing and Charles D. Kolstad (2002) “Do Lax Environmental Regulations Attract Foreign Investment?” *Environmental and Resource Economics*, 21: 1-22.
- Manderson, Edward and Richard Knellar (2012) “Environmental Regulations, Outward FDI and Heterogeneous Firms: Are Countries Used as Pollution Havens?” *Environmental and Resource Economics* 51: 317-352.
- Levinson, Arik and M. Scott Taylor (2008) “Unmasking the Pollution Haven Effect”, *International Economic Review* 49(1): 223-254.

## **II.4 International Trade in Waste**

- Copeland, Brian R. (1991) “International Trade in Waste Products in the Presence of Illegal Disposal”, *Journal of Environmental Economics and Management*, Volume 20: 143-162.
- Johnstone, Nick (1998) “The implications of the Basel Convention for developing countries: the case of trade in non-ferrous metal-bearing waste”, *Resources, conservation and recycling*, Volume 23: 1-28.
- Baggs, Jen (2009) “International Trade in Hazardous Waste”, *Review of International Economics*, Volume 17(1): 1-16.
- Kellenberg, Derek (2012) “Trading waste”, *Journal of Environmental Economics and Management*, Volume 64: 68-87.

## **III. Multilateral Trade, Environmental Regime and Negotiations**

### **III.1 Linking Trade and Environment Negotiations – WTO and the MEAs**

- Abrego, Lisandro, C. Perroni, J. Whalley, and R. Wigle (2001) “Trade and Environment: Bargaining Outcomes from Linked Negotiations”, *Review of International Economics*, 9(3): 414-428.

- Hauer, Grant and C. Runge (1999) “Trade-Environment Linkages in the Resolution of Transboundary Externalities”, *World Economy*: 25-39.
- Vogel, David (2002) “The WTO, International Trade, and Environmental Protection: European and American Perspectives”, in Norman Vig and Michael Faure ed. *Green Giants? Environmental Policy of the United States and the European Union*.

### ***III.2 Climate Change, Carbon Trade and Clean Energy Technology***

- Yunfeng, Yan and Yang Laike (2010) “China’s foreign trade and climate change: A case study of CO<sub>2</sub> emissions” *Energy Policy* 38: 350-356.
- Atkinson, Giles, Kirk Hamilton Giovanni Ruta, Dominique Van Der Mensbrugge (2011) “Trade in virtual carbon: Empirical results and implications for policy” *Global Environmental Change* 21: 563-574.
- Newell, Richard G., William A. Pizer and Daniel Raimi (2013) Carbon Market 15 Years after Kyoto: Lessons Learned, New Challenges” *Journal of Economic Perspectives*, Volume 27 (1): 123-146
- Johnstone, Nick, Ivan Hascic and David Popp (2010) “Renewable Energy Policies and Technological Innovation: Evidence Based on Patent Counts” *Environmental and Resource Economics* 45: 133-155.
- Constantini, Valeria and Crespi Francesco (2008) “Environmental regulation and export dynamics of energy technologies”, *Ecological Economics*, Volume 66: 447-460.

#### *Recommended books*

Baumol, William and Wallace Oates (1988) *The Theory of Environmental Policy*, Cambridge University Press.

Karl-Goran Maler and Jeffrey R. Vincent ed. (2005) *Handbook of Environmental Economics, Volume 3: Economywide and International Environmental Issues*, Elsevier.