Economics in the American School of IPE

• “Political scientists have an inferiority complex when it comes to economics. Even such notables as Katzenstein, Keohane, and Krasner bow their heads, describing economics as ‘reigning king of the social sciences.’”

Source: Cohen, p. 207.
Key Early Works in the American School of IPE

- Keohane and Nye
  - Transnational Relations and World Politics (1972)
  - Power and Interdependence (1977)
- Katzenstein
  - Between Power and Plenty (1978)
- Krasner
  - Intl. Regimes (1983)
The British School

• Focus on the foundational role of Susan Strange and Robert Cox
• Contrast with the American School:
  – More interdisciplinary
  – More normative
  – Less wedded to scientific method
  – More ambitious research agenda
“Although we now have a much better understanding than two decades ago of the domestic determinants of economic policies, we have made less progress as regards the relative influence of international institutional and political factors.”

Walter and Sen, Ch. 8

• “It may indicate the biasing effects of an excessive reliance by IPE scholars on standard economic theories…”

Source: Walter and Sen, p. 232
“MNCs have thus been prime clients for global banks offering derivatives instruments that reduce their exchange rate exposure. This has strengthened the coalition favoring financial innovation.”

My books on the Politics of International Competition:

• Rival Capitalists (1992)
• Managing New Industry Creation (2002)
• Technology, Television, and Competition (2004)
Industries I have studied so far:

- Steel, autos, semiconductors
- Consumer electronics, broadcasting
- Telecommunications equipment and services
- Software
- Motion pictures
- Biotechnology
What is an industry?

• A set of firms that compete in the same market for goods and/or services
• May or may not include upstream/downstream activities
• Boundaries with other industries may be fuzzy and may change over time
• Often self-identified via lobbying efforts and the formation of industry associations
Sectors vs. Industries

- Sectors are at a higher level of aggregation
- In economics, primary=extractive, secondary=manufacturing, tertiary=services
- Industry studies provide more information about differences within “sectors” or similarities across “sectors”
Key variables:

- Size, growth rate, market share, no. employed, exports, imports, etc.
- Concentration of ownership/control
- Regulated vs. self-regulated vs. unregulated
- High-tech vs. low-tech
Example: Production Shares of TFT LCDs by Country, 1993-2003
Key questions:

• What is the role of government policy relative to other factors in industrial growth and international competitiveness?

• Is it possible to promote the growth and development of high-tech industries?
Theoretical approaches:

• Neoclassical
• Regulatory State
• Developmental State
• Competition State
Methods

• Collection of empirical and especially quantitative data on key variables
• Elite interviews with managers and public policy officials
• Site visits to major facilities
Problems:

• Research is costly and difficult
• Difficulty of aggregating across industries
• Possible selection biases in industries studied
• Confusing/complex nature of the role of the state
Important findings:

• Major impact of globalization of the world economy on manufacturing location decision in high-tech industries
• Changing view on what needs to be studied: e.g. industries vs. “value chains”
• Role of government policy varies over time and across industries
• Creation and diffusion of technology is a key mediating variable
Flat Panel Display Industry

• Major Flat Technology Segments
  – Thin Film Transistor (TFT) Liquid Crystal Displays (LCDs)
  – Single Twist Nematic (STN) Liquid Crystal Displays (also called passive LCDs)
  – Plasma Display Panels (PDPs)
  – Organic Light Emitting Displays (OLEDs)

• Competing Technologies
  – Cathode Ray Tubes (CRTs)
  – Projection Displays
Growth of FPD Revenues (in Billions of Current Dollars), 1990-2006

Source: DisplaySearch.
Share of FDP Market by Technology, 2005

Source: DisplaySearch.
TFT-LCD
Seven Generations of Glass Substrates

Source: Corning Glass.
6th Generation TFT-LCD Fab

Source: AUO.
Production Shares of TFT-LCDs by Country, 1993-2003, in percentages

### Major TFT-LCD Manufacturers, 2006

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<th>Japan</th>
<th>Korea</th>
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## Representative Geographic Distribution of TFT-LCD Tool and Glass Suppliers, 2006

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R&D Aspects of the Industry

• The industry is highly research-intensive
• Types of research required
  – Current and alternative display technologies
  – Current-generation production techniques
  – Next-generation production techniques
• Need to secure intellectual property rights (IPRs) for both product and process technologies
Research Moves with Investment and Production

- General movement of investment and production from Japan to Korea to Taiwan and now to China
- R&D intensity of firms increases with each move
- Participation of scientists and engineers in international meetings from new countries
- Increased patenting, licensing, and cross-licensing activity accompanies movement of production