Teacher's Notes/Bibliography

This case study is intended to fill in a crucial gap in exploring the linkages between trade policies and the goals of technology/industrial policies with which they are often in conflict. Ultimately it is hoped that the study as a whole stimulates a lively debate over the question of how public policy professionals can ensure greater complimentarity between the needs of specific constituents involved in global competition, and the overall national economic aims which derive from productivity, consumer welfare, and national security arguments. It is equally of use to students of international management who may find it necessary to have a firm grasp of how their investment decisions and competitive well being are worked upon at the government policy level. More specifically, the use of this study may be recommended as follows:

Case A Technology and Investment Strategies in the FPD Industry

With the exception of the members of the ADMA, most industry observers, including those who favor industrial policies, have blamed the failure of U.S. manufacturers to establish a significant market share in FPD's on factors other than Japanese trading practices. This assessment has to be qualified by noting the ways in which Japanese trade and investment practices may have discouraged potential investors. Case A aims to place later developments in the context of the differing attitudes towards knowledge, innovation, and economic policy formation in Japan and the United States. These attitudes determined in large part the manners in which private firms outlined technological "road maps" for the development of new technologies, and formed the foundations upon which investment decisions could be made.

It is recommended that this part of the study be accompanied by lectures to acquaint students with the basic principles of international trade theory, political economy, and management, though it is assumed that they will already be familiar with these concepts. At the very least they should be familiar with and be able to apply theories of comparative and absolute advantage to a discussion of the relative merits of mercantalist and liberal economic theory, and be able to hypothesize how political economy structures can impact on the ability of firms and nations to develop innovations in technology. More advanced students could benefit from raising the discussion to an argument of the pros and cons of industrial policies, the differences between these and technology or science policies, and the impact of these on what are referred to as national innovation systems by neo-Schumpeterian economists.

Case BCompetition and Conflict in the Flat Panel Display Industry

This section focuses on the application of Antidumping measures as a trade remedy to counteract and provide protection against predatory pricing strategies. Such measures have been roundly criticized for a variety of reasons, most of which are highlighted in the body of the case study. Critics in the past have focused upon the failure

of these measures to address dumping in third country markets and the concerns of downstream producers. Also, in the context of several antidumping cases there have been criticisms leveled at the complexity of the proceedings and at alleged questionable methods of calculating dumping margins and harm to the effected industries.

More recently of course, antidumping and countervailing duties measures have become an issue of contention within the multilateral system. Here the concern has been that their application is overtly unilateral and protectionist, and is a remedy available only to the largest and most developed nations in the system. Currently AD/CVD measures are an additional issue of contention as government and industry leaders debate the inclusion of competition policy codes at the multilateral level.

This case is interesting because it includes all of these elements. It is an excellent tool for introducing the problems associated with these measures to students who have been exposed to them in an introductory trade policy course but have not yet developed the analytical tools and case background with which to assess their continued usefullness.

Flat Panel Display Case Study
Working Documents

1. Books

Although no comprehensive book on the Flat Panel Display industry has been published to date, we are using a variety of sources which analyze U.S. - Japan trade conflict in high technology industries, R&D and investment strategies in both countries within these sectors, and security and economic factors which impact on the topic. These books include:

Tyson, Laura D. 1993. *Who's Bashing Whom?: Trade Conflict in High-Technology Industries*. Washington D.C.: Institute for International Economics.

Sandholtz, Borrus, Zysman, Conca, Stowsky, Vogel, Weber, eds. 1992. *The Highest Stakes: The Economic Foundations of the Next Security System*. London and New York: Oxford University Press.

Arrison, Bergsten, Graham, Caldwell Harris, eds. 1992. *Japan's Growing Technological Capability: Implications for the U.S. Economy*. Washington D.C.: National Academy Press.

Patrick, Hugh. 1986. *Japan's High Technology Industries: Lessons and Limitations of Industrial Policy*. Seattle, Washington: University of Washington Press.

Johnson, Chalmers. 1982. *MITI and the Japanese Miracle: The Growth of Industrial Policy, 1925-1975.* Palo Alto, CA: The Stanford University Press.

2. Source Documents

We are using several documents from U.S. government sources that cover details of the Flat Panel Display Initiative and the anti-dumping petition brought by the ADMA. We have not found any relevant Japanese sources in this area.

DARPA Electronics Technology Office. 1994. *National Flat Panel Display Initiative.* <http://web-ext2.darpa.mil/ETO/Displays/HDS/Flamm>

DARPA Electronics Technology Office. 1997. *Review of Flat Panel Display Programs and Defense Applications*. <http://web-ext2.darpa.mil/ETO/Displays/FlatDisplay>

Department of Commerce; International Trade Administration; Import Administration. 1991. *High Information Content Flat Panel Displays and Display Glass Therefor from Japan: Final Determination; Rescission of Investigation and Partial Dismissal of Petition*. Washington D.C.: U.S. Department of Commerce (July).

Japanese Technology Evaluation Center. 1992. *Display Technologies in Japan* Baltimore, Maryland: Loyola College.

3. Additional References by Category

A. General/Comprehensive

Borrus, Michael, and Hart, Jeffrey A., 1994. "Display's the Thing: The Real Stakes in the Conflict over High-Resolution Displays." *Journal of Policy Analysis and Management* 13:21-54.

Harvard Business School. 1994. *The Flat Panel Display Initiative*. Boston: Harvard Business School Publishing.

*"*U.S. Display Industry on the Edge". *IEEE Perspectives*, May 1995, 62.

"Flat Panel Flop". *New Republic*, August 1993, 16.

"The Pentagon's 'Flat Panel Display' Boondoggle". *American Enterprise*, January 1996, 68.

Shelton, R. D. "Japanese Industrial Policy: Lessons for the US". *International Technology Research Institution,* <http://justice.loyola.edu/~rds/asee1a.html

Hart, Jeffrey A. “The Anti-dumping petition of the Advanced Display Manufacturers of America: Origins and Consequences”. *The World Economy*. 16. January 1993. P85-109

B. Technical/Manufacturing/Market Trends

O’Mara & Associates. 1996. *Manufacturing Flat Panel Displays*. Palo Alto, CA: W.C. O’Mara & Associates, <http://www.omara-assoc.com/fpd_mfg.html>

O,Mara & Associates. 1996. *Flat Panel Displays in Asia: Why the U.S. Can’t Get There From Here*. Palo Alto, CA: W.C. O’Mara & Associates, <httt://atip.org/fpd/src/presen/omara/sld001.htm>

National Technology Alliance. 1997. *Informations Display Technology and Market Trends.* National Technology Alliance, <http://www.nml.org/Whats New/IndustryNews/newsodcs_April97/April97.html#LCD>

“Win the Technology Battle and Lose the Manufacturing War.” *Laser Focus World,* June 1995. <http://www.lfw.com/WWW/lfw/lfwjun95/junedit.htm>

Center for Display Technology and Manufacturing. 1997. *What IS a Flat Panel Display???.* University of Michigan. <http://dtm.eecs.umich.edu/define.html>

“The Challenge for LCD Monitors Starts.” *Nikkei Kogyo Shimbun*, Oct. 10, 1995.

“Competitive Dimensions of Flat Panel Displays.” *Los Angeles Times*, Oct. 26, 1995.

4. Defense/Security Issues and U.S. FPD Initiative

Moran, Theodore H. 1990. “The Globalization of America’s Defense Industries.” *International Security* 15: 57-99.

Flamm, Kenneth. 1996. “Asia’s Role in U.S. Display Initiatives.”Paper presented at the first workshop on The Asian Flat Panel Industry - Technology, Strategy, and Competitiveness, Portland, Oregon, June 20-21, 1996.

“Flat Panel Display Makers Win Big in Defense Awards.” *The Wall Street Journal*, Oct. 26, 1994.

Kaminski, Paul G., Under Secretary of Defense for Acquisition and Technology.

"Enabling Intelligence Technologies for the 21st Century." *Statement Before the House Permanent Select Committee on Intelligence*. Oct.18, 1995.

Kaminski, Paul G., Under Secretary of Defense for Acquisition and Technology.

"Dual Use Technology." *Statement Before the Subcommittee on Defense Technology, Acquisition and Industrial Base of the Senate Committee on Armed Services*. May 17, 1995.