*A Guide to the Microfilm Edition of*

# INTERNATIONAL TRADE: MULTINATIONAL CORPORATIONS, OPEC, CARTELS, FOREIGN INVESTMENTS, AND TECHNOLOGY TRANSFER

## Special Studies, 1989–1998

## Supplement

**UNIVERSITY PUBLICATIONS OF AMERICA**

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# International Trade: Multinational Corporations, OPEC, Cartels, Foreign Investments, and Technology Transfer

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## Supplement

**Edited by**
**Robert E. Lester**

**Guide compiled by**
**Daniel Lewis and Sheila St. Clair**

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# SCOPE AND CONTENT NOTE

No single organization can provide the background information, the wide range of current data, and the crucial analyses that are required by the executive departments of the federal government on complex and volatile international issues. When there can be little margin of error concerning the facts and recommendations being given to key officials, executive departments depend upon an elite group of private and governmental organizations—"think tanks"—for special studies of the highest caliber.

The authors of these special studies are associated with many of the finest research facilities in the United States, including the Army War College's Strategic Studies Institute, the National Defense University, the Institute for Defense Analysis, the Army Command and General Staff College, the American Institutes for Research, and major international institutes at Harvard, Columbia, Stanford, Georgetown, the Massachusetts Institute of Technology (MIT), and Yale.

Described below are several of the federal government agencies and organizations, U.S. military educational institutions, and quasi-government and nongovernment think tanks and consulting corporations identified in this publication.

## U.S. Federal Government Agencies and Organizations

**Agency for International Development, State Department**

Established in 1961 by President John F. Kennedy, the Agency for International Development (AID) is the independent government agency that provides economic development and humanitarian assistance to advance U.S. economic and political interests overseas.

**Bureau of African Affairs, State Department**

The Bureau of African Affairs advises the secretary of state and guides the operation of the U.S. diplomatic establishments in the countries of sub-Saharan Africa.

**Bureau of Economic Analysis, Economics and Statistics Administration, Commerce Department**

The Bureau of Economic Analysis (BEA) is an agency of the Commerce Department. Along with the Census Bureau and STAT-USA, the BEA is part of the department's Economics and Statistics Administration. The BEA seeks to strengthen the understanding of the U.S. economy and its competitive position by providing the most accurate and relevant gross domestic product (GDP) and economic accounts data in a timely and cost-effective manner.

One of the world's leading statistical agencies, the BEA produces economic statistics that influence the decisions made by government officials, business

people, households, and individuals. The BEA's economic statistics, which provide a comprehensive, up-to-date picture of the U.S. economy, are key ingredients in critical decisions affecting monetary policy, tax and budget projections, and business investment plans. Central to the BEA's statistics are the national income and product accounts, which feature estimates of GDP and related measures. The BEA prepares national, regional, industry, and international accounts that present essential information on such key issues as economic growth, regional economic development, interindustry relationships, and the nation's position in the world economy.

**Bureau of Export Administration, Commerce Department**

The Bureau of Export Administration (BXA) promotes U.S. national and economic security and foreign policy interests by managing and enforcing the department's security-related trade and competitiveness programs. BXA plays a key role in challenging issues involving national security and nonproliferation, export growth, and high technology. The bureau's continuing major challenge is combating the proliferation of weapons of mass destruction while furthering the growth of U.S. exports.

**Bureau of Oceans and International Environmental and Scientific Affairs, State Department**

The Bureau of Oceans and International Environmental and Scientific Affairs (OES) coordinates U.S. international oceans, environmental, and health policy, integrating U.S. domestic interests with geopolitical concerns. The OES promotes the full range of U.S. interests in the oceans to advance national security, facilitate commerce, manage fish resources, foster scientific understanding, and protect the marine environment through bilateral, regional, and multilateral fora. The OES balances U.S. interests in natural resource protection with economic considerations to ensure effective international management of fresh water, forests, hazardous chemicals, and the atmosphere. The OES coordinates international policies on HIV/AIDS and other infectious diseases. The OES manages U.S. bilateral and multilateral science and technology agreements and promotes international cooperation to advance U.S. space interests. The bureau maintains liaison with executive branch departments, business groups, and others involved with international oceans, environment, science, and health issues and consults with them to formulate U.S. positions and lead negotiations with foreign governments and international organizations.

**Census Bureau, Commerce Department**

The Census Bureau is the preeminent collector and provider of timely, relevant, and quality data about the people and economy of the United States.

**Center for Development Information and Evaluation, Agency for International Development**

The Center for Development Information and Evaluation (CDIE) designs AID's program performance measurement systems at the operating unit and agency levels; shares responsibility for undertaking agencywide performance measurement analysis and reporting; conducts agencywide evaluations of program and operations performance issues; and synthesizes and disseminates lessons learned in a timely

manner to benefit policy making, resource allocation, and program planning and implementation. CDIE promotes a cross-sectoral perspective in strategic planning and creates and maintains AID's "institutional memory" of development documents.

**Commerce Department**

The Commerce Department promotes job creation, economic growth, sustainable development, and improved living standards. Working in partnership with business, universities, communities, and workers, the Commerce Department builds and promotes U.S. competitiveness in the global marketplace by strengthening and safeguarding the nation's economic infrastructure, keeping America competitive with science and technology and an information base, and providing effective management and stewardship of the nation's resources and assets.

**Committee on Civilian Industrial Technology, National Science and Technology Council**

The Committee on Civilian Industrial Technology (CCIT) of the National Science and Technology Council (NSTC) is responsible for oversight and coordination of government-wide R&D and allied technology programs that promote industrial competitiveness and economic growth. Collaboration with private industry is central to CCIT activities. The major purpose of the CCIT is to ensure that the government's R&D resources relevant to industrial competitiveness are used efficiently and effectively. To meet the dual goals of deficit reduction and investment in the nation's future, R&D investments must be designed to get the greatest possible leverage.

**Defense Science Board, Defense Department**

The mission of the Defense Science Board (DSB) is to advise the secretary of defense, the deputy secretary of defense, the under secretary of defense for acquisition, technology, and logistics, and the chairman of the Joint Chiefs of Staff on matters relating to science, technology, research, engineering, manufacturing, acquisition process, and other matters that are of special interest to the Defense Department.

**Department of Energy**

The origins of the Department of Energy (DOE) can be traced to the Manhattan Project and the race to develop the atomic bomb during World War II. In 1942, the U.S. Army Corps of Engineers established the Manhattan Engineer District to manage the project. Following the war, Congress engaged in a vigorous and contentious debate over civilian versus military control of the atom. The Atomic Energy Act of 1946 settled the debate by creating the Atomic Energy Commission (AEC), which took over the Manhattan Engineer District's sprawling scientific and industrial complex.

The AEC was specifically established to maintain civilian government control over the field of atomic research and development. During the early cold war years, the commission focused on designing and producing nuclear weapons and developing nuclear reactors for naval propulsion. The Atomic Energy Act of 1954 ended exclusive government use of the atom and began the growth of the commercial nuclear power industry, giving the AEC authority to regulate the new industry. In response to changing needs in the 1970s, the AEC was abolished and the Energy

Reorganization Act of 1974 created two new agencies: the Nuclear Regulatory Agency to regulate the nuclear power industry and the Energy Research and Development Administration to manage the nuclear weapon, naval reactor, and energy development programs.

The extended energy crisis of the 1970s soon demonstrated the need for unified energy organization and planning, however. The Department of Energy Organization Act brought the federal government's agencies and programs into a single agency. The DOE, activated on October 1, 1977, assumed the responsibilities of the Federal Energy Administration, the Energy Research and Development Administration, the Federal Power Commission, and parts and programs of several other agencies.

The DOE provided the framework for a comprehensive and balanced national energy plan by coordinating and administering the energy functions of the federal government. The department undertook responsibility for long-term, high-risk research and development of energy technology, federal power marketing, energy conservation, the nuclear weapons program, energy regulatory programs, and a central energy data collection and analysis program.

Over its two-decade history, the DOE has shifted its emphasis and focus as the needs of the nation have changed. During the late 1970s, the department emphasized energy development and regulation. In the 1980s, nuclear weapons research, development, and production took a priority. Since the end of the cold war, the department has focused on environmental cleanup of the nuclear weapons complex, nonproliferation and stewardship of the nuclear stockpile, energy efficiency and conservation, and technology transfer and industrial competitiveness.

The DOE contributes to the future of the nation by ensuring U.S. energy security, maintaining the safety and reliability of our nuclear stockpile, cleaning up the environment from the legacy of the cold war, and developing innovations in science and technology.

**Economic Research Service, Agriculture Department**

The Economic Research Service (ERS) provides economic analysis on efficiency, efficacy, and equity issues related to agriculture, food, the environment, and rural development to improve public and private decision making. The ERS is one of four agencies in the Research, Education, and Economics (REE) Mission Area of the U.S. Department of Agriculture (USDA).

**Economics and Statistics Administration, Commerce Department**

Much of the statistical, economic, and demographic information collected by the federal government is made available to the public through the bureaus and offices of the Commerce Department that are known collectively as the Economics and Statistics Administration (ESA).

This information is gleaned from many bureaus and offices, including the Census Bureau, the BEA, and STAT-USA. Most of the data in the Census Bureau's periodic economic indicators are derived from surveys of businesses and most of the demographic information comes from surveys of households or the decennial census. The BEA integrates and interprets a tremendous volume of data to draw a complete and consistent picture of the U.S. economy. STAT-USA is a giant information service providing economic, business, and social/environmental program data produced by more than fifty federal sources.

**Energy Information Administration, Department of Energy**

The Energy Information Administration (EIA), created by Congress in 1977, is a statistical agency of the DOE. The EIA provides policy-independent data, forecasts, and analyses to promote sound policy making, efficient markets, and public understanding regarding energy and its interaction with the economy and the environment.

**Federal Research Division, Library of Congress**

Since 1948, the Federal Research Division, the Library of Congress's principal fee-based research service, has provided U.S. government agencies with the research and analysis needed to carry out their national and international missions. Using the unparalleled collections of the Library of Congress, the research staff of the Federal Research Division provides information in tailor-made formats based on specific agency requirements. Services range in complexity from document delivery to database development and comprehensive studies and reports.

**Foreign Broadcast Information Service**

The Foreign Broadcast Information Service (FBIS) is a U.S. government operation that translates the text of daily broadcasts, government statements, and select news stories from non-English sources around the world. The FBIS is supported by the Central Intelligence Agency.

**General Accounting Office, Comptroller General of the United States**

The General Accounting Office (GAO) is the investigative arm of Congress and is charged with examining all matters relating to the receipt and disbursement of public funds. The GAO was established by the Budget and Accounting Act of 1921 to independently audit government agencies. Over the years, Congress has expanded GAO's audit authority, added new responsibilities and duties, and strengthened GAO's ability to perform independently.

Supporting Congress is GAO's fundamental responsibility. In meeting this objective, GAO performs a variety of services, the most prominent of which are audits and evaluations of government programs and activities. The majority of these reviews are made in response to specific congressional requests. Other assignments are initiated pursuant to standing commitments to congressional committees, and some reviews are specifically required by law. Finally, some assignments are independently undertaken in accordance with GAO's basic legislative responsibilities.

**International Trade Administration, Commerce Department**

The International Trade Administration (ITA) is dedicated to helping U.S. businesses compete in the global marketplace. The ITA encourages, assists, and advocates U.S. exports by implementing a National Export Strategy, focusing on the Big Emerging Markets, providing industry and country analysis for U.S. business, and supporting new-to-export and new-to-market businesses through strategically located U.S. Export Assistance Centers, ninety-nine domestic Commercial Service Offices, and 138 worldwide posts and commercial centers in seventy countries. In addition, The ITA ensures that U.S. business has equal access to foreign markets by advocating on behalf of U.S. exporters who are competing for major overseas contracts and by implementing major trade agreements, such as the General

Agreement on Tariffs and Trade (GATT), the North American Free Trade Agreement (NAFTA), and the Japan "Framework." The ITA also enables U.S. business to compete against unfairly traded imports and to safeguard jobs and the competitive strength of American industry by enforcing antidumping and countervailing duty laws and agreements that provide remedies for unfair trade practices.

**Joint Publications Research Service**

The Joint Publications Research Service (JPRS) was established as a U.S. government agency in 1957 to act as a central translation service for government offices. The service specializes in translating in the areas of science and technology; however, it also translates materials from the humanities and social sciences. In 1996, the JPRS and the Foreign Broadcast Information Service merged to form the World News Conference.

**Office of Advanced Concepts and Technology, National Aeronautics and Space Administration**

The Office of Advanced Concepts and Technology is part of NASA's Office of Space Science Advanced Technology and Mission Studies. This office aims to develop new technologies and new space science concepts that will allow for advances in space exploration and an expansion of scientific knowledge of the universe.

**Office of the Assistant Secretary for Tax Policy, Treasury Department**

This office develops and implements tax policies and programs, reviews regulations and rulings to administer the Internal Revenue Code, negotiates tax treaties, and provides economic and legal policy analysis for domestic and international tax policy decisions. It also provides estimates for the president's budget, fiscal policy decisions, and cash management decisions.

**Office of Sustainable Development, Bureau for Africa, Agency for International Development**

The Office of Sustainable Development is responsible for providing intellectual leadership on African development issues through analysis, program design, technical assistance, advocacy, and information dissemination in the areas of economics, productive sector development, information technology, social sciences, democracy/governance, natural resources management and environment, agriculture, population, AIDS, health, education, and crisis mitigation and recovery. The office manages a set of strategic objectives designed to help guide overseas operating units in making decisions about program design and implementation; supports, encourages, and strengthens the performance of African regional institutions and other international organizations in areas of common interest; and leads the bureau's strategic thinking in technical areas and provides technical expertise to bureau teams led by other offices. The Office of Sustainable Development provides the intellectual leadership within the bureau for analysis and evaluations that measure progress toward achieving agency goals and objectives.

**Office of Technology Assessment**

The Office of Technology Assessment (OTA) was established by Congress in 1972 to provide congressional committees with analyses of emerging, difficult, and

often highly technical issues. OTA services include major assessment reports, background papers, briefings, and testimony. OTA explores complex issues involving science and technology, helps Congress identify policy options, and provides foresight about new developments that could have important implications for future federal policy. OTA does not advocate particular policies or actions, but points out their pros and cons, sorts out the facts, and provides options.

OTA undertakes assessments at the request of the chairman of any congressional committee. The chairman may request the work personally, on behalf of a ranking minority member, or on behalf of a majority of committee members. The OTA board may also request work, as can the director. OTA staff members review requests to determine whether resources are available, whether OTA can effectively provide the information, and whether interest is broad and bipartisan. The OTA director submits proposals to the Technology Assessment Board, which makes the final decision on whether to proceed. The OTA board reviews all major studies prior to release.

OTA assembles an advisory panel of stakeholders and experts for each major study to ensure that reports are objective, fair, and authoritative. These panels meet two or three times during a study. They help to shape studies by suggesting alternative approaches, reviewing documents, and critiquing reports at the final stages. No attempt is made to develop consensus among panel members; in fact, a wide diversity of views is sought. OTA retains full responsibility for the content and conclusions of each report. In all, nearly five thousand outside panelists and workshop participants come to OTA annually to help OTA in its work.

For specific information or analysis, OTA contracts with key individuals or organizations. Contractors may analyze data, conduct case studies, or otherwise provide expertise to complement staff capability. Many people assist with the studies by participating in technical workshops, providing information, reviewing documents, or talking with OTA staff. The involvement of people with differing backgrounds and interests greatly strengthens OTA's work. Extensive formal review of studies is conducted by OTA staff and outside experts.

**Office of Technology Policy, Commerce Department**

Office of Technology Policy (OTP) is the only office in the federal government with the explicit mission of working in partnership with the private sector to develop and advocate national policies that use technology to build America's economic strength.

**Office of the United States Trade Representative**

The Office of the United States Trade Representative (USTR) was created by Congress in the Trade Expansion Act of 1962 and implemented by President John F. Kennedy in Executive Order 11075 on January 15, 1963. Initially named the Office of the Special Trade Representative, this agency was authorized to negotiate all trade agreements programs under the Tariff Act of 1930 and the Trade Expansion Act of 1962.

As part of the Trade Act of 1974, Congress established the office as a Cabinet-level agency within the Executive Office of the President and gave it other powers and responsibilities for coordinating trade policy.

In 1980, the office was renamed the USTR. President Jimmy Carter's Executive Order 12188 of January 4, 1980, authorized the USTR to set and administer overall trade policy. The USTR was also designated as the nation's chief trade negotiator and as the representative of the United States in the major international trade organizations.

### State Department

The executive branch and the Congress have constitutional responsibilities for U.S. foreign policy. Within the executive branch, the State Department is the lead U.S. foreign affairs agency, and the secretary of state is the president's principal foreign policy adviser. The department advances U.S. objectives and worldview through its primary role in developing and implementing the president's foreign policy. The department also supports the foreign affairs activities of other U.S. government entities including the Commerce Department and AID. It also provides an array of important services to U.S. citizens and to foreigners seeking to visit or immigrate to the United States.

### United States International Trade Commission

The United States International Trade Commission (USITC) is an independent, quasi-judicial federal agency that provides objective trade expertise to both the legislative and executive branches of government, determines the impact of imports on U.S. industries, and directs actions against certain unfair trade practices, such as patent, trademark, and copyright infringement. The USITC analysts and economists investigate and publish reports on U.S. industries and the global trends that affect them. The agency also updates and publishes the Harmonized Tariff Schedule of the United States.

## U.S. Military Educational Institutions and Organizations

### Air Force Institute of Technology

The Air Force Institute of Technology (AFIT) traces its roots to the early days of powered flight when it was apparent that the progress of military aviation depended upon special education in this new science. AFIT's graduates have made contributions in the fields of engineering, science, technology, medicine, logistics, and management. These contributions have been vital to national security. The faculty, comprising highly qualified military and civilian personnel, stay abreast of projected air force operations, and the programs are continually updated.

### Air War College

The mission of the Air War College is to educate senior officers to lead at the strategic level in the employment of air and space forces, including joint operations, in support of national security.

### Industrial College of the Armed Forces, National Defense University

The mission of the Industrial College of the Armed Forces (ICAF) is to prepare selected military officers and civilians for senior leadership and staff positions by conducting postgraduate, executive-level courses of study and associated research dealing with the resource component of national power, with special emphasis on materiel acquisition and joint logistics and their integration into national security strategy for peace and war. Reflecting this joint and interagency perspective, 67 percent of the student body is composed of military representatives from the land, sea, and air services; 25 percent are drawn from the Departments of Defense and

State and ten other federal agencies; 7 percent are international military officers; and 1 percent come from the private sector.

In addition, at the direction of the under secretary of defense for acquisition and technology, ICAF serves as the information provider under the Defense Acquisition Workforce Improvement Act. In this capacity, ICAF acts as a consortium college of the Defense Acquisition University.

### U.S. Army War College

The mission of the U.S. Army War College (USAWC) is to prepare selected military, civilian, and international leaders to assume strategic responsibilities in military and national security organizations; to educate students about the employment of the U.S. Army as part of a unified, joint, or multinational force in support of the national military strategy; to research operational and strategic issues; and to conduct outreach programs that benefit the USAWC, the U.S. Army, and the nation.

### U.S. Naval Postgraduate School

The Naval Postgraduate School, located in Monterey, California, is an academic institution with an emphasis on study and research programs relevant to the navy's interests, as well as to the interests of other arms of the Defense Department.

Students come from all service branches of the U.S. defense community, as well as from the Coast Guard, the National Oceanic and Atmospheric Administration, and the services of more than twenty-five allied nations. The school provides more than forty programs of study, ranging from the traditional engineering and physical sciences to the rapidly evolving space science programs. The faculty, the majority of whom are civilians, are drawn from a broad range of educational institutions.

## Quasi-Governmental and Nongovernmental Think Tanks and Consulting Corporations; Foreign Organizations with Official U.S. Governmental Representation; and Foreign Government Agencies

### Academy for Educational Development

The Academy for Educational Development (AED), founded in 1961, is an independent, nonprofit service organization that addresses human development needs in the United States and throughout the world. Under contracts and grants, AED operates programs in collaboration with policy leaders; nongovernmental and community-based organizations; businesses; governmental agencies; international multilateral and bilateral funders; and schools, colleges, and universities. In partnership, AED seeks to meet social, economic, and environmental challenges through education and human resource development; to apply state-of-the-art education, training, research, technology, management, behavioral analysis, and social marketing techniques to solve problems; and to improve knowledge and skills throughout the world as the most effective means for stimulating growth, reducing poverty, and promoting democratic and humanitarian ideals.

**Applied Research Laboratory, Pennsylvania State University**

Research at the Applied Research Laboratory at Pennsylvania State University focuses on naval science and technologies in support of the U.S. Navy, private industry, and education.

**Center for Urban Policy Research, Rutgers University**

The Center for Urban Policy Research at Rutgers University conducts research on a broad range of public policy issues. These include urban poverty, community development, housing, land use, economic development, environmental policy, and studies of special-needs populations.

**Commission on United States–Pacific Trade and Investment Policy**

The Commission on United States–Pacific Trade and Investment Policy is composed of fifteen members appointed by the president from the private sector (businesses, unions, academic institutions, and nonprofit corporations). The members have substantial experience with selling agricultural products, manufactured goods, or high-value-added services to Asian and Pacific markets or knowledge from their personal or professional experience about the trade barriers or their industry and government policies and practices, formal and informal, that have restricted access by U.S. business to Asian and Pacific markets.

The commission reported on the opening of Japan, China, and other Asian and Pacific markets to U.S. business. The report identified trade and investment impediments to U.S. business in Asian and Pacific markets and provided recommendations for reducing the impediments. The report's recommendations reflected the goal of securing increased access for U.S. business to Asian and Pacific markets, by the turn of the century, in such a way that a maximum number of high-wage jobs are created and maintained in the United States. The commission also recommended measures to strengthen ongoing programs for regular monitoring of progress toward this goal.

**Community and Regional Planning Program, University of Texas at Austin**

Community and regional planning is concerned with analyzing the forces that shape the growth and development of cities and regions, formulating plans and policies to meet the needs of the area's inhabitants, and coordinating programs and projects to implement these plans and policies. Planning is an integral function of a public agency at all levels of government—city, county, state, or federal.

Planners apply their problem-solving skills in a broad variety of physical, economic, social, and political arenas, in both the public and private sectors. Planners may be employed in community facilities, housing environmental projection, land use regulation, urban design, transportation, parks and recreation, historic preservation, criminal justice, health and human services, urban and regional economic development, real estate and land development, and other fields. Comprehensive planning attempts to integrate all of these concerns into a single overall framework for the orderly development of a community or region.

**Department of Fisheries and Oceans, Government of Canada**

Fisheries and Oceans Canada is responsible for policies and programs in support of Canada's economic, ecological, and scientific interests in oceans and inland

waters; for the conservation and sustainable utilization of Canada's fisheries resources in marine and inland waters; for leading and facilitating federal policies and programs on oceans; and for safe, effective, and environmentally sound marine services responsive to the needs of Canadians in a global economy.

**East-West Center**

The East-West Center (EWC), a national education and research institution, is a major resource of knowledge and information about Asia and the Pacific. Establishment of the center in Hawaii in 1960 was a bipartisan effort of the Eisenhower administration and Congress. The center's establishment in Hawaii was based on Hawaii's unique position within the United States, which offered special advantages for a national institution with Asian/Pacific perspectives.

In line with its mandate, the EWC works to promote better relations and understanding between the United States and the nations and peoples of Asia and the Pacific through cooperative study, training, and research. Presidents, prime ministers, ambassadors, scholars, business executives, and journalists have used the EWC as a forum to advance international cooperation. Among the center's resources is a network of some forty-three thousand "alumni" around the world—men and women who have collaborated on research or pursued degrees under EWC grants. The center has become a preeminent national source of knowledge and information about the environment; resources; Northeast Asia development and cooperation; and investment in China, Indonesia, Vietnam, and other countries.

The EWC is a public, nonprofit institution with an eighteen-member international board of governors. Principal funding comes from the U.S. government, with additional support provided by private agencies, individuals, corporations, and more than twenty Asian and Pacific governments.

**Energy Modeling Forum, Stanford University**

The Energy Modeling Forum at Stanford University was established in 1976. It aims to provide energy experts from government, industry, universities, and other research organizations with a forum to study important energy and environmental issues.

**Engineering Management Department, George Washington University**

The Engineering Management Department at George Washington University was established in 1953 in order to provide managerial training to engineers. The department focuses on providing education in management techniques that can be applied in technological and scientific organizations. The department also tries to develop innovative programs that reach across the boundaries of various educational disciplines.

**European Space Agency**

The European Space Agency, founded in 1975, coordinates the activities of the national space agencies of fifteen European nations and provides a common vision for Europe's future in space.

**Highway Safety Research Center, University of North Carolina**

The Highway Safety Research Center at the University of North Carolina was created by an act of the North Carolina State legislature in 1965 to help address

issues of highway safety. The center has been involved in initiatives such as studies of seatbelt safety, increasing the minimum age for school bus drivers, and getting drunk drivers off the road. The center also conducts research in other areas, including pedestrian and bicycle safety and the effects of aging on drivers.

**Innovation Associates**

Innovation Associates (IA), cofounded by MIT's Peter Senge, is best known as the company that operationalizes the learning organization concept. In practice, this entails teaching, training, coaching, and consulting with clients to clarify and revitalize their sense of purpose, articulate a shared vision of the future they aspire to create, understand the complexity and systemic nature of their key issues and decisions, and work together in "smart" teams that grow stronger and more effective over time. IA's specific offerings include public training programs, customized on-site programs, train-the-trainer and licensing programs, and consulting services.

**Lawrence Livermore National Laboratory**

Lawrence Livermore National Laboratory (LLNL) is a DOE laboratory operated by the University of California. LLNL's mission is to apply science and technology in the national interest, with a focus on global security, global ecology, and bioscience. Laboratory employees work with industrial and academic partners to increase national economic competitiveness and improve science education.

**Massachusetts Institute of Technology Japan Program (Japan Service and Technology Program)**

The MIT Japan Program offers programs in three areas: education, research, and outreach. Now the largest center of applied research on Japan and Asia, the program brings together corporations, government organizations, and academics to share research and information and to form networks to enhance understanding with the Japanese science, technology, and business communities.

**Ministry of International Trade and Industry, Japan**

In 1949, Japan's Trade Agency and Ministry of Commerce and Industry merged to formed the Ministry of International Trade and Industry (MITI). Since its founding, MITI has assumed responsibility for overseeing Japan's international trade policy. Throughout its history, MITI also was a key shaper of Japanese industrial policy and provided Japanese industries with information concerning modernization, technological development, and foreign competition. MITI also played an essential role in the development of many of Japan's major industries by providing protection from foreign imports and by helping Japanese industries to expand to foreign markets. During the 1980s, MITI was involved in efforts to liberalize Japanese import policies.

**National Center for Manufacturing Sciences**

The National Center for Manufacturing Sciences aims to promote cooperation between research and development teams in diverse industries in order to promote the global competitiveness of the overall manufacturing industry. The center also provides information on other areas of importance to the manufacturing industry, such as funding sources, project management services, and legislative issues, and it helps manufacturing business to form alliances with government agencies.

**Oak Ridge National Laboratory**

Established in 1943, Oak Ridge National Laboratory is managed by the DOE. The laboratory conducts research in a wide array of fields and is particularly concerned with increasing the availability of clean, abundant energy, protecting the environment, and contributing to national security.

**Pacific Northwest National Laboratory**

Pacific Northwest National Laboratory's (PNNL's) core mission is to deliver environmental science and technology in the service of the nation and humanity. Through basic research the PNNL creates fundamental knowledge of natural, engineered, and social systems that is the basis for both effective environmental technology and sound public policy. The PNNL solves legacy environmental problems by delivering technologies that remedy existing environmental hazards, addresses environmental needs with technologies that prevent pollution and minimize waste, and lays the technical foundation for inherently clean energy and industrial processes. The PNNL applies its capabilities to meet selected national security, energy, and human health needs; strengthen the U.S. economy; and support the education of future scientists and engineers.

**Sandia National Laboratories**

Sandia is a national security laboratory operated for the DOE by the Sandia Corporation, a Lockheed Martin company. Sandia designs nonnuclear components for the nation's nuclear weapons, performs a wide variety of energy research and development projects, and works on assignments that respond to national security threats—both military and economic. It encourages and seeks partnerships with appropriate U.S. industry and government groups to collaborate on emerging technologies that support Sandia's mission.

Sandia National Laboratories began in 1945 on Sandia Base in Albuquerque, New Mexico, as Z Division, part of what is now Los Alamos National Laboratory. Both labs were created as a result of America's World War II atomic bomb development effort—the Manhattan Project. Sandia came into being as an ordnance design, testing, and assembly facility, and it was located on Sandia Base in order to be close to an airfield and so its scientists could work closely with the military.

**Teleconsult**

Founded in 1970, Teleconsult provides consulting services in the field of telecommunications. The company has an international reach and has served clients in more than sixty countries.

**U.S.–Japan Center for Technology Management, Vanderbilt University**

The U.S.–Japan Center for Technology Management was established in 1991. The center's goal is to create a group of American scientists, engineers, and managers familiar with Japanese technology management practices.

**World Bank, Multilateral Investment Guarantee Agency**

This agency within the World Bank was created in 1985 to encourage foreign direct investment by national and private agencies.

# SOURCE NOTE

This microform collection includes materials filmed from selected holdings of a variety of U.S. government departments and agencies, U.S. military academies and advanced training schools, and several “think tanks” that provided research commentary and analyses under contract to the federal government.

# EDITORIAL NOTE

The *Multinational Corporations, OPEC, Cartels, Foreign Investments, and Technology Transfer, 1989–1998 Supplement* collection consists of studies that became available during the period 1989 through 1998 from a variety of sources, including U.S. executive branch departments, agencies, and commissions; U.S. military educational institutions and organizations; and U.S. government contracts to universities, corporations, “think tanks,” and individuals.

# ABBREVIATIONS

The following acronyms and abbreviations are used throughout this guide.

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| **AID** | Agency for International Development |
| **ASM** | Annual Survey of Manufactures |
| **BEA** | Bureau of Economic Analysis |
| **BLS** | Bureau of Labor Statistics |
| **CFC** | controlled foreign corporation |
| **CFIUS** | Committee on Foreign Investment in the United States |
| **COCOM** | Coordinating Committee for Multilateral Export Controls |
| **DFA** | Development Fund for Africa |
| **DOE** | Department of Energy |
| **EMF** | Energy Modeling Forum |
| **EU** | European Union |
| **FDI** | foreign direct investment |
| **FDIUS** | foreign direct investment in the United States |
| **GAO** | General Accounting Office |
| **GATT** | General Agreement on Tariffs and Trade |
| **INPAC** | Investment Policy Advisory Committee |
| **MIT** | Massachusetts Institute of Technology |
| **MITI** | Ministry of International Trade and Industry |
| **MNC** | multinational corporation |
| **NAFTA** | North American Free Trade Agreement |
| **NASA** | National Aeronautics and Space Administration |
| **NAWC** | Naval Air Warfare Center |
| **OAPEC** | Organization of Arab Petroleum Exporting Countries |
| **OECD** | Organization for Economic Cooperation and Development |
| **OPEC** | Organization of Petroleum Exporting Countries |
| **OTA** | Office of Technology Assessment |
| **PFIC** | passive foreign investment company |

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|---|---|
| **P.L.** | Public Law |
| **R&D** | research and development |
| **TRIMS** | trade-related investment measures |
| **USSR** | Union of Soviet Socialist Republics |
| **WL** | Wright Laboratory |
| **WTN** | Wright Technology Network |

# REEL INDEX

The following index is a guide to the documents in this microfilm edition. The four-digit number on the far left is the frame number at which a particular document begins. This is followed by the document title, the originating institution and author, the date of the document, and the total number of pages in the document. A brief abstract follows.

## Reel 1

*Frame No.*

**Multinational Corporations**

**1992**

0001 **Internal and External Linkages in the MNC: The Case of R&D Subsidiaries in Japan.**
*Massachusetts Institute of Technology Japan Service and Technology Program, Cambridge, Massachusetts. Eleanor Westney. 1992. 29pp.*
This paper explores the sources and implications for organization design of the potentially competing pressures toward convergence and divergence within the MNC in the context of one function, R&D, and in one society, Japan. It begins by looking at some of the perspectives in the international management field that can be brought to bear on these issues. This is followed by an examination of the dominant patterns of R&D human resource development systems and research management systems within large Japanese firms, which provide the local model for the new facility. The final section addresses the question of how the MNC can make the necessary choices between those patterns and its own as it moves to establish an R&D facility in Japan.

0030 **R&D Subsidiaries in Japan: Managing Internal and External Linkages in the Multinational Corporation.**
*Massachusetts Institute of Technology Japan Service and Technology Program, Cambridge, Massachusetts. Eleanor Westney. 1992. 28pp.*
The rapid emergence of Japanese MNCs as significant global competitors and the size and wealth of the Japanese market have caused many MNCs to reevaluate their strategies toward Japan. They are increasingly anxious to capture a share of the Japanese market. This requires developing an organization in Japan that can compete effectively with local firms, tapping into Japan’s growing technological capacity, and creating an organizational structure that is effectively integrated with the rest of the MNC. The problems posed by this “dual focus” are particularly clear in R&D. R&D is a function where both intraorganizational linkages with other functions

and with R&D elsewhere in the MNC and interorganizational linkages with local sources of scientific and technical expertise and knowledge are of critical importance. The report briefly looks at some of the relevant perspectives in the international management and organization theory fields. It also presents the dominant organizational patterns in R&D systems within large Japanese firms. The final section addresses the question of how the MNC can make the necessary choices between those patterns and its own as it moves to establish an R&D facility in Japan.

0058 **JPRS Report. Science & Technology, Europe: Economic Competitiveness.**
*Foreign Broadcast Information Service, Joint Publications Research Service, Arlington, Virginia. July 27, 1992. 31pp.*
This publication consists of a number of different articles that appeared in international newspapers and periodicals. The majority of the articles cover science and technology policies in Western Europe. Topics covered in these articles include European Community R&D funding, Germany's research system, and France's space program. There are also articles on several corporate alliances and corporate strategies among Western European companies. The publication concludes with several articles on relations between Europe and companies in Japan, China, and the Republic of Korea.

**1993**

0089 **National Security Implications of Transnational Economic Activity.**
*Industrial College of the Armed Forces, Washington, D.C. Joseph B. Wismann. April 1993. 50pp.*
This paper discusses the impact of regional trading arrangements, MNCs, and transnational financial activity on U.S. national security. The National Security Strategy (January 1993) is used as the framework to define U.S. security interests and objectives. The size and importance of the U.S. economy to the world economy is recognized, as is the significance of global economic interdependence. Each transnational economic activity is presented in turn. The nature and scope of the activity is explained followed by analysis of its potential contributions to U.S. national security. The author makes three recommendations regarding transnational economic activities. The United States should encourage development of regional trading arrangements that comply with the GATT, should support international regulation of MNC investment and taxation, and must strengthen its national economy in order to be a world class player in transnational financial activity. The paper concludes with a reminder of the power of transnational economic activity in today's interdependent world and with a call for the United States to provide economic leadership.

0139 **Foreign Industry Analysis: Advanced Composites.**
*U.S. Department of Commerce, Bureau of Export Administration, Office of Foreign Availability, Washington, D.C. Franklin J. Carvalho. May 1993. 151pp.*
This paper presents an overview of one of the critical technology areas—advanced composites—and summarizes development trends for some of the leading foreign companies and research institutions in Japan, Germany, France, the United Kingdom, the Netherlands, and Switzerland. The paper analyzes government

technology policies and industry trends in each of these countries and asserts that Japan's leading role in the advanced composites industry is a result of a combination of government-funded research and industry-led marketing. The report also includes descriptions of several of the leading firms in the advanced composites area.

0290 **U.S. Direct Investment Abroad: Operations of U.S. Parent Companies and Their Foreign Affiliates. Revised 1990 Estimates.**
*U.S. Department of Commerce, Economics and Statistics Administration, Bureau of Economic Analysis, Washington, D.C. July 1993. 90pp.*
This publication presents financial and operating data (including balance sheets and income statements), as well as data on sales, income taxes, employee compensation, and exports and imports, for U.S. parent companies and their foreign affiliates for 1990. Data on the foreign affiliates are presented by country and industry of the affiliate and by industry of the U.S. parent company. Data on U.S. parent companies are presented by industry. Industries covered include petroleum, food products, chemical products, primary and fabricated metals, machinery, electronic and electric equipment, transportation equipment (including motor vehicles), tobacco products, textile products, lumber products, paper products, service industries, insurance, real estate, and publishing. Countries covered include France, Germany, Italy, the Netherlands, Switzerland, the United Kingdom, Austria, Finland, Spain, Portugal, Canada, Argentina, Brazil, Chile, Colombia, Ecuador, Peru, Venezuela, Costa Rica, Guatemala, Honduras, Mexico, Panama, Egypt, Nigeria, South Africa, Israel, Saudi Arabia, China, India, Malaysia, Thailand, Japan, and Australia.

0380 **U.S. Direct Investment Abroad: Operations of U.S. Parent Companies and Their Foreign Affiliates. Preliminary 1991 Estimates.**
*U.S. Department of Commerce, Economics and Statistics Administration, Bureau of Economic Analysis, Washington, D.C. July 1993. 88pp.*
This publication presents financial and operating data (including balance sheets and income statements), as well as data on sales, income taxes, employee compensation, and exports and imports, for U.S. parent companies and their foreign affiliates for 1991. Data on the foreign affiliates are presented by country and industry of the affiliate and by industry of the U.S. parent company. Data on U.S. parent companies are presented by industry. Industries covered include petroleum, food products, chemical products, primary and fabricated metals, machinery, electronic and electric equipment, transportation equipment (including motor vehicles), tobacco products, textile products, lumber products, paper products, service industries, insurance, real estate, and publishing. Countries covered include France, Germany, Italy, the Netherlands, Switzerland, the United Kingdom, Austria, Finland, Spain, Portugal, Canada, Argentina, Brazil, Chile, Colombia, Ecuador, Peru, Venezuela, Costa Rica, Guatemala, Honduras, Mexico, Panama, Egypt, Nigeria, South Africa, Israel, Saudi Arabia, China, India, Malaysia, Thailand, Japan, and Australia.

*Frame No.*

0468 **Multinationals and the National Interest: Playing by Different Rules.**
*U.S. Congress, Office of Technology Assessment, Washington, D.C. September 1993. 173pp.*
This report was written at the request of the Senate Committee on Commerce, Science, and Transportation and the Senate Committee on Banking, Housing, and Urban Affairs. The report primarily analyzes the divergence between national interests and the interests of MNCs. The report also covers foreign direct investment in the United States, Japanese MNCs in the United States, the growth of international strategic alliances among MNCs, and the impact of global capital markets on both national financial networks and MNCs.

**1994**

0641 **Cross-Pacific Internationalisation of R&D by U.S. and Japanese Firms.**
*Massachusetts Institute of Technology Japan Program, Cambridge, Massachusetts. Eleanor Westney. 1994. 25pp.*
This paper examines the strategies of cross-Pacific internationalization of R&D in U.S. and Japanese firms in the electronics industry. It examines the context of these strategies in the changing models of the MNC and different trends in the evolution of R&D function. It also considers differences and similarities in the management challenges these firms have faced and expect to face in the coming decade.

0666 **"Supplier Research and Development": How Japanese Multinational Companies Are Innovating in Their Global Networks.**
*Massachusetts Institute of Technology Japan Program, Cambridge, Massachusetts. Christopher J. Voisey. 1994. 45pp.*
This paper discusses some of the ways that Japanese high-technology companies in the electronics industry have been trying to internationalize their R&D activities at the divisional or business (as opposed to corporate) unit level. Instead of indigenous offshore development by a division, or acquisition of offshore R&D capabilities followed by subsequent mandated integration within the MNC network, some Japanese high-technology MNCs seem to have been adopting a more localized strategy. The local MNC–owned organization retains nearly all of its preexisting management systems and internal consistency, but nevertheless develops a strong and effective relationship with the Japanese parent. Four instances of supplier R&D organizations, two each owned by Fujitsu Ltd. and Toshiba Corporation, are identified and described in this paper. These organizations are Open Systems Solutions, Intellistor, Toshiba America MRI, and Vertex Semiconductor.

0711 **Uruguay Round of Multilateral Trade Negotiations: Report of the Investment Policy Advisory Committee (INPAC) on the Investment-Related Provisions of the Uruguay Round of the General Agreement on Tariffs and Trade.**
*Office of the United States Trade Representative, Washington, D.C. January 15, 1994. 23pp.*
INPAC was created pursuant to the Trade Act of 1974 to provide advice from the private sector to the president, Congress, and the United States Trade Representative on investment policy issues related to international economic activity. In fulfillment of this responsibility, INPAC has prepared this report on the investment-related provisions of the Uruguay Round of GATT. The report begins

with a review of the effect of transnational investment on U.S. and global economic growth, concluding that fostering more open transnational investment promotes the economic interests of the United States. The report also discusses the TRIMS agreement and compares it with objectives set forth in the Omnibus Trade and Competitiveness Act of 1988 (1988 Trade Act), with the goals set by GATT members in the 1986 Punta del Este Declaration, and with the objectives of the U.S. private sector. The report finds that the TRIMS agreement will bring some improvement in the treatment of international investment and that the Uruguay Round, on balance, will advance U.S. economic interests.

0734 **U.S. Direct Investment Abroad: Operations of U.S. Parent Companies and Their Foreign Affiliates. Revised 1991 Estimates.**
*U.S. Department of Commerce, Economics and Statistics Administration, Bureau of Economic Analysis, Washington, D.C. June 1994. 89pp.*
This publication presents financial and operating data (including balance sheets and income statements), as well as data on sales, income taxes, employee compensation, and exports and imports, for U.S. parent companies and their foreign affiliates for 1991. Data on the foreign affiliates are presented by country and industry of the affiliate and by industry of the U.S. parent company. Data on U.S. parent companies are presented by industry. Industries covered include petroleum, food products, chemical products, primary and fabricated metals, machinery, electronics and electric equipment, transportation equipment (including motor vehicles), tobacco products, textile products, lumber products, paper products, service industries, insurance, real estate, and publishing. Countries covered include France, Germany, Italy, the Netherlands, Switzerland, the United Kingdom, Austria, Finland, Spain, Portugal, Canada, Argentina, Brazil, Chile, Colombia, Ecuador, Peru, Venezuela, Costa Rica, Guatemala, Honduras, Mexico, Panama, Egypt, Nigeria, South Africa, Israel, Saudi Arabia, China, India, Malaysia, Thailand, Japan, and Australia.

0823 **Do Repatriation Taxes Matter? Evidence from the Tax Returns of U.S. Multinationals.**
*U.S. Treasury Department, Office of Tax Analysis, Washington, D.C. Rosanne Altshuler, T. Scott Newlon, and William C. Randolph. August 1994. 30pp.*
An open question in the literature on the taxation of MNCs is if repatriation taxes influence whether the profits of foreign subsidiaries are repatriated or reinvested abroad. Theoretical models suggest that dividend remittances should not be influenced by repatriation taxes. The results of recent empirical work indicate that dividend remittances are sensitive to repatriation taxes. This paper investigates whether the empirical evidence can be reconciled with the theoretical results by recognizing that repatriation taxes on dividends may vary over time and provide firms with an incentive to time repatriations so that they occur in years when repatriation tax rates are relatively low. The report uses information about cross-country differences in tax rates to separately estimate the influence of permanent tax changes, as would occur due to changes in statutory tax rates, and transitory tax changes on dividend repatriations. The data presented contain U.S. tax return information for a large sample of U.S. corporations and their foreign subsidiaries. The report finds that the permanent tax price effect is significantly different from the transitory price effect and is not significantly different from zero, while the transitory

tax price effect is negative and significant. This suggests that repatriation taxes do affect dividend repatriation behavior but only to the extent that they vary over time.

# Reel 2

**Multinational Corporations cont.**

**1994 cont.**

0001 **Multinationals and the U.S. Technology Base. Final Report of the Multinationals Project.**
*U.S. Congress, Office of Technology Assessment, Washington, D.C. September 1994. 212pp.*
This is the second and final report of OTA's assessment of MNCs and the U.S. technology base. The first report, *Multinationals and the National Interest: Playing by Different Rules,* was published in September 1993. The report focuses on MNCs in the United States, Europe, and Japan. Even though MNCs exert strong influence on technology development in the United States, as of 1994, the U.S. government had not developed the institutions or the capability to monitor and analyze FDI on a global basis or to evaluate fully the investments by foreign-based companies in the United States. A comprehensive understanding of the operations of MNCs is necessary to facilitate their benefits to the U.S. technology base, as well as to inform future U.S. economic policies, both foreign and domestic. The report concentrates on three broad areas of multinational business: the location of technology development by MNCs, the linkage between foreign economic policy and domestic technology investment, and the influence of differing systems of MNC governance and finance on technology development among advanced industrial nations. The report identifies the national interest in maintaining the U.S. technology base and describes the contribution that multinational firms—both foreign and domestic—make to it.

**1995**

0213 **Multinationals and the U.S. Technology Base. Summary of the Multinationals Final Report.**
*U.S. Congress, Office of Technology Assessment, Washington, D.C. 1995. 47pp.*
This is a summary of the second and final report of OTA's assessment of MNCs and the U.S. technology base, *Multinationals and the U.S. Technology Base.* This assessment was requested by the Senate Committee on Commerce, Science, and Transportation and the Senate Committee on Banking, Housing, and Urban Affairs. The report focuses on MNCs based in the United States, Europe, and Japan. The report concentrates on three broad areas of multinational business: the location of technology development by MNCs, the linkage between foreign economic policy and domestic technology investment, and the influence of differing systems of MNC governance and finance on technology development among advanced industrial nations. The report identifies the national interest in maintaining the U.S. technology base and describes the contribution that multinational firms—both foreign and domestic—make to it.

*Frame No.*

0260 **Asia-Pacific Initiatives to Develop Technology-Based Economies.**
*Innovation Associates, Inc., Arlington, Virginia. December 1995. 127pp.*
Over the course of the last three decades, Japan, Hong Kong, South Korea, Singapore, and Taiwan emerged from economic obscurity to become prominent players in the international economic arena. This report examines technology-based economic development programs in Japan, South Korea, Singapore, and Taiwan as of 1994. The report focuses on efforts of each of the four governments to stimulate and strengthen industries and economies in their countries based on science and technology. The report is intended to show how these economies, which were underdeveloped thirty years ago, have gained such rapid economic ascent. The programs and initiatives discussed include industrial development; education and training; stimulation of small- and medium-sized enterprises; regional initiatives such as extension services, science parks, and the building of technopolises; and R&D programs.

**1996**

0387 **U.S. Direct Investment Abroad. Operations of U.S. Parent Companies and Their Foreign Affiliates. Revised 1993 Estimates.**
*U.S. Department of Commerce, Economics and Statistics Administration, Bureau of Economic Analysis, Washington, D.C. October 1996. 89pp.*
This publication presents financial and operating data (including balance sheets and income statements), as well as data on sales, income taxes, employee compensation, and exports and imports, for U.S. parent companies and their foreign affiliates for 1993. Data on the foreign affiliates are presented by country and industry of the affiliate and by industry of the U.S. parent company. Data on U.S. parent companies are presented by industry. Industries covered include petroleum, food products, chemical products, primary and fabricated metals, machinery, electronics and electric equipment, transportation equipment (including motor vehicles), tobacco, textile products, wood products, paper products, service industries, insurance, real estate, and publishing. Countries covered include France, Germany, Italy, the Netherlands, Switzerland, the United Kingdom, Austria, Finland, Spain, Portugal, Canada, Argentina, Brazil, Chile, Colombia, Ecuador, Peru, Venezuela, Costa Rica, Guatemala, Honduras, Mexico, Panama, Egypt, Nigeria, South Africa, Israel, Saudi Arabia, China, India, Malaysia, Thailand, Japan, and Australia.

**1997**

0476 **Production Sharing: Use of U.S. Components and Materials in Foreign Assembly Operations, 1992–1995 (U.S. Imports Under Production-Sharing Provisions of Harmonized Tariff Schedule Heading 9802).**
*United States International Trade Commission, Washington, D.C. April 1997. 119pp.*
This report annually monitors developments in the use of U.S. production-sharing tariff provisions, focusing on shifts in trade and product mix and analyzing recent trends by principal source countries and industry groups. Although incentives to use these provisions have diminished somewhat as NAFTA has reduced or eliminated tariffs and Customs user fees on articles entering from Mexico and Canada, the production-sharing tariff provisions will likely continue to be of importance to U.S. companies. Key issues include the extent to which U.S. production and component

manufacture relies on foreign assembly, how production sharing is used globally by manufacturers for competitive advantage, and developments in the global integration of specific industries.

## OPEC

### 1988

0595 **OPEC and Lower Oil Prices: Impacts on Production Capacity, Export Refining, Domestic Demand and Trade Balances.**

*East-West Center, Resource Systems Institute, Honolulu, Hawaii. Fereidun Fesharaki, David Fridley, David Isaak, Lisa Totto, and Tom Wilson. December 1988. 162pp.*

During the two oil crises of the 1970s, much attention was focused on the production capacity of OPEC countries. At that time, there was a great deal of concern that the production capacity would not be able to keep pace with the rising demand for petroleum. It was observed that as demand for OPEC oil approached production capacity, the prices could rise substantially. Therefore, energy policy and energy security had to be concerned with how much oil OPEC could put on the market. At the time this study was commissioned, however, most government officials had stopped paying attention to OPEC's production capacity. This study, therefore, was begun because it was felt that the issue of OPEC production capacity had been neglected for too long and that it was important for the U.S. government to keep abreast of developments in OPEC production capacity.

### 1990

0757 **Non-OPEC Oil Production—The Key to the Future.**

*Lawrence Livermore National Laboratory, University of California, Livermore, California. I. Y. Borg. May 11, 1990. 25pp.*

The dramatic increase in non-OPEC oil production that has occurred since the fuel crises of the 1970s was accelerated by the subsequent increases in oil prices on world markets. Current moderate world prices are attributable to increased supply in the last decade from these countries. Among those nations whose production has more than doubled since 1973 are China, Mexico, the United Kingdom, Norway, Egypt, India, Oman, Brazil, Colombia, Angola, and Syria. In this context, non-OPEC nations include the communist oil-producing countries, since their ability to meet their own domestic demand has forestalled the day when they will compete for supplies on world markets. As of 1990, the prospect for continued growth in non-OPEC oil production was good. Production will be increasingly countered by growing demand, however, especially in South America, Central America, and Asia. The report predicts that by the mid-1990s competition for oil supplies in world markets would elevate the price of oil available from the well-endowed OPEC nations. It also notes that the possibility of supply disruptions exists as surpluses on world markets disappear.

*Frame No.*

**1991**

0782 **International Oil Supplies and Demands. Volume I.**
*Energy Modeling Forum, Stanford University, Stanford, California. September 1991. 45pp.*
Since the mid-1980s, the world economy has increased its dependence on oil supplies from the Persian Gulf. The oil price response to the Iraqi invasion of Kuwait in August 1990, and the ensuing war, served to underscore the world's vulnerability to oil price shocks. This report summarizes the key results of the eleventh EMF study, focusing on international oil supplies and demands through 2010. The report focuses on several key questions: How rapidly will world oil demand grow? Will supplies outside OPEC increase, stabilize, or decline? What are the long-run implications of these demand and supply trends for the world's dependence on oil from OPEC member countries and particularly from the Persian Gulf? And what do these trends mean with regard to the possibility of future oil disruptions? The study uses eleven world oil models to investigate these questions. The report concludes that oil production will need to expand significantly in the period through 2010. It also notes that dependence on oil imports will be particularly acute in the United States.

# Reel 3

**OPEC cont.**

**1992**

0001 **International Oil Supplies and Demands. Volume 2.**
*Energy Modeling Forum, Stanford University, Stanford, California. April 1992. 294pp.*
Since the mid-1980s, the world economy increased its dependence on oil supplies from the Persian Gulf. The oil price response to the Iraqi invasion of Kuwait in August 1990, and the ensuing war, served to underscore the world's vulnerability to oil price shocks. This report summarizes the key results of the eleventh EMF study, focusing on international oil supplies and demands through 2010. The report focuses on several key questions: How rapidly will world oil demand grow? Will supplies outside OPEC increase, stabilize, or decline? What are the long-run implications of these demand and supply trends for the world's dependence on oil from OPEC member countries and particularly from the Persian Gulf? And what do these trends mean with regard to the possibility of future oil disruptions? The study uses eleven world oil models to investigate these questions. The report concludes that oil production will need to expand significantly in the period through 2010. It also notes that dependence on oil imports will be particularly acute in the United States.

0295 **International Energy Outlook, 1992.**
*U.S. Department of Energy, Energy Information Administration, Office of Integrated Analysis and Forecasting, Washington, D.C. April 8, 1992. 54pp.*
This report presents the current Energy Information Administration (EIA) assessment of the long-term outlook for international energy markets. It was predicted that the historic political and economic changes that occurred in Eastern Europe and the former USSR would have a significant impact on regional markets and world trade. This report pays particular attention to energy markets and

resources in those countries and how changes in those countries would influence the energy outlook for the rest of the world.

0349 **Oil and OPEC: An Analysis of United States Oil Dependency and the Changing Face of OPEC.**

*U.S. Army War College, Carlisle Barracks, Pennsylvania. Joseph J. Simmons IV. April 15, 1992. 65pp.*

Throughout the twentieth century, major oil companies have been the object of intense scrutiny, suspicion, and mistrust. In their heyday before World War II, they controlled over 90 percent of the world oil production. As World War II was coming to an end, it became clear that the United States would no longer continue to be a major exporter of oil and that the Middle East would be called upon to meet the rising needs of the world. In the 1960s and 1970s, OPEC wrested more power from the major Western companies either through sweeping new agreements or through nationalization movements. Oil power catapulted these countries into the international arena and into positions of great wealth and influence. Just as oil has enabled nations to accumulate wealth and power, it has also proven that it is a prize that can be overvalued and can lead to a country's demise. Oil imports threaten to impair the national security of the United States. The United States, as of 1992, found itself more vulnerable to political or economic blackmail because of its reliance on foreign oil suppliers. The most pressing question raised by foreign oil dependency is what will happen if the United States and its allies become more dependent on oil supplies from the Persian Gulf region and other oil-producing countries. The market share for all OPEC countries was projected to rise from 40 percent to 60 percent by 1995. The challenge for U.S. policy makers is to find the proper balance between relying on free, competitive markets and alternative energy resources. Given the complexity of the challenges and issues mentioned above, the chief aim of this paper is to provide a historical recapitulation of the individuals and attitudes and psychological changes that shaped the oil industry's evolution. This paper also attempts to focus on issues that have raised questions regarding the role of OPEC in the international market and its future.

**1993**

0414 **The Social Costs to the U.S. of Monopolization of the World Oil Market, 1972–1991.**

*U.S. Department of Energy, Oak Ridge National Laboratory, Oak Ridge, Tennessee. David L. Greene and Paul N. Leiby. March 1993. 74pp.*

The partial monopolization of the world oil market by the OPEC cartel has produced significant economic costs to the economies of the world. This paper reports estimates of the costs of monopolization of oil to the United States over the period 1972 to 1991. Two fundamental assumptions of analysis are (1) that OPEC has acted as a monopoly, albeit with limited control, knowledge, and ability to act, and (2) that the United States and other consuming nations could, through collective (social) action, affect the cartel's ability to act as a monopoly. The paper measures total costs by comparing actual costs for the 1972 to 1991 period to a hypothetical, "more competitive" world oil market scenario. By measuring past costs, the analysis avoids speculating about the enormous uncertainties regarding the future course of the world oil market. The total cost numbers are useful for describing the overall size

of the petroleum problem and are one important factor in deciding how much effort should be devoted to solving it. Monopoly pricing of oil transfers wealth from U.S. oil consumers to foreign oil producers and, by increasing the economic scarcity of oil, reduces the economy's potential to produce. The actions of the OPEC cartel have also produced oil price shocks, both upward and downward, that generate additional costs because of the economy's inherent inability to adjust quickly to a large change in energy prices. Estimated total costs to the United States for the 1972 to 1991 period are put at $4.1 trillion in 1990 dollars.

**1995**

0488 **The Oil Policies of the Gulf Arab Nations.**
*East-West Center, Program on Resources: Energy and Minerals, Honolulu, Hawaii. Ronald D. Ripple and Ronald E. Hagen. March 1995. 40pp.*
At its heart, Arab oil policy is inseparable from Arab economic and social policy. This holds whether we are talking about the Arab nations as a group or each separately. The seven Arab nations covered in this report—Bahrain, Iraq, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates—participate in several organizations focusing on regional cooperation regarding economic development, social programs, and Islamic unity, as well as organizations concerned with oil policies. This report focuses on the oil-related activities of the countries that may reveal the de facto oil policies of the seven Persian Gulf nations. It should also be kept in mind that the decision makers participating in the oil policy organizations are also involved with the collaborative efforts of these other organizations. Oil policies of five of the seven Arab nations are expressed within the forums of OPEC and OAPEC. Only Oman, among the seven, is not a member of either OAPEC or OPEC; Bahrain is a member of OAPEC but not of OPEC. OPEC and OAPEC provide forums for compromise and cooperation among their members. Nevertheless, each member state maintains its own sovereignty and follows its own policies. Each country deviates from the group prescription from time to time, depending upon individual circumstances.

0528 **The Outlook for U.S. Oil Dependence.**
*U.S. Department of Energy, Oak Ridge National Laboratory, Oak Ridge, Tennessee. David L. Greene, Donald W. Jones, and Paul N. Leiby. May 11, 1995. 85pp.*
Market share that OPEC lost in defending higher prices from 1979 to 1985, as of 1995, was being steadily regained and projected to reach 50 percent by 2000. This report predicts that world oil markets were likely to be as vulnerable to monopoly influence as they were in 1975, especially as OPEC regains lost market share. The U.S. economy looked as vulnerable in 1995 as it was in the early 1970s to losses from monopoly oil pricing. A simulated two-year supply reduction in 2005–2006 boosts OPEC revenues by roughly half a trillion dollars and costs the U.S. economy an approximately equal amount. The Strategic Petroleum Reserve appears to be of little benefit against such a determined, multiyear supply curtailment either in reducing OPEC revenues or protecting the U.S. economy. The paper contends that increasing the price elasticity of oil demand and supply in the United States and the rest of the world would be an effective strategy.

*Frame No.*

**1996**

0613 **International Petroleum Statistics Report: April 1996.**
*U.S. Department of Energy, Energy Information Administration, Office of Energy Markets and End Use. Washington, D.C. April 1996. 77pp.*
This report presents data on international oil production, demand, imports and exports, and stocks. The report has four sections. Section 1 contains time series data on world crude oil production, on natural gas plant liquids production, and on oil demand and stocks in the OECD. This section contains annual data beginning in 1985 and monthly data for 1995 and 1996. Section 2 presents an oil supply/demand balance for the world. The balance is presented in yearly totals for 1991 to 1993 and in quarterly intervals for 1994 and 1995. Section 3 presents data on oil imports by OECD countries. This section contains annual data for 1995, quarterly data for the third and fourth quarters of 1995, and monthly data for 1995. Section 4 presents annual time series data on world oil production and oil stocks, demand, and trade in OECD countries. World oil production and OECD demand data are for the years 1970 through 1995, OECD stocks from 1973 through 1995, and OECD imports for 1984 through 1994.

0690 **International Petroleum Statistics Report. December 1996.**
*U.S. Department of Energy, Energy Information Administration, Office of Energy Markets and End Use, Washington, D.C. December 1996. 81pp.*
This report presents data on international oil production, demand, imports, and stocks. The report has four sections. Section 1 contains time series data on world oil production and on oil demand and stock in the OECD. This section contains annual data beginning in 1985 and monthly data for 1995 and 1996. Section 2 presents an oil supply/demand balance for the world. This balance is presented in yearly totals for 1992 to 1994 and in quarterly intervals for 1995 and 1996. Section 3 presents data on oil imports by OECD countries. This section contains annual data for 1995, quarterly data for the first and second quarters of 1996, and monthly data for September 1995 to August 1996. Section 4 presents annual time series data on world oil production and oil stocks, demand, and trade in OECD countries. World oil production and OECD demand data are for the years 1970 through 1995, OECD stocks from 1973 through 1995, and OECD trade from 1985 through 1995.

## Foreign Investment

**1988**

0771 **Foreign Direct Investment in the United States: Operations of U.S. Affiliates of Foreign Companies. Preliminary 1986 Estimates.**
*U.S. Department of Commerce, Bureau of Economic Analysis, Washington, D.C. June 1988. 54pp.*
This publication presents financial and operating data (including balance sheets and income statements), as well as data on property, plant, and equipment ownership; employment and employee compensation; imports and exports; and R&D expenditures, for U.S. affiliates of foreign companies for 1986. Industries covered include mining, petroleum, food products, chemical products, primary and fabricated metals, machines and machinery, electric equipment, transportation equipment (including motor vehicles), textile products, lumber products, paper products, service industries, insurance, real estate, and publishing. Countries covered include France,

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Germany, Italy, the Netherlands, Switzerland, the United Kingdom, Austria, Finland, Spain, Portugal, Canada, Argentina, Brazil, Chile, Colombia, Ecuador, Peru, Venezuela, Costa Rica, Guatemala, Honduras, Mexico, Panama, Egypt, Nigeria, South Africa, Israel, Saudi Arabia, China, India, Malaysia, Thailand, Japan, and Australia.

0825 **Profiles of Foreign Direct Investment in U.S. Energy, 1987.**
*U.S. Department of Energy, Energy Information Administration, Office of Energy Markets and End Use, Washington, D.C. December 1988. 40pp.*
This report summarizes the activities in the United States by foreign-affiliated companies that own or control U.S. energy sources and supplies. The report reviews the patterns of foreign ownership interest in U.S. energy enterprises. The report profiles the involvement of foreign-affiliated U.S. companies in the following areas: domestic petroleum production, reserve holdings, refining and marketing activities, coal production, and uranium exploration and development. Of the approximately eighty separate companies profiled, the major foreign-affiliated U.S. companies identified in the report are Shell Oil Company, BP America, E. I. du Pont de Nemours and Company, and American Petrofina.

# Reel 4

**Foreign Investment cont.**

**1988 cont.**

0001 **The Application of Exchange Network Theory to the Analysis of Foreign Direct Investment in the People's Republic of China.**
*University of Hawaii, Department of Sociology. Keric Blaine On Chin. December 1988. 121pp.*
The establishment of an "open door" policy in 1978 marked China's return to the capitalist world economy. The self-reliance policies of the Maoist era were renounced in favor of modernization. As such, China then adopted a vigorous program of attracting foreign investments. Foreign investors responded favorably to China's invitation and over the course of the period from 1978 to 1988, thousands of direct investment projects, particularly joint ventures, were set up. Many foreign investors, however, including the American Motor Company, found it difficult and less beneficial to establish ventures in China. This study seeks to understand why foreign investors faced such difficult circumstances in China. The primary goal of this study is to determine whether a foreign investor's activities, including its success or failure in China, can be explained by an exchange network model, rather than by mere cultural differences.

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**1989**

0122 **Foreign Investment in U.S. Cropland: Some Evidence on the Role of Exchange Rates, Interest Rates, and Returns on Cropland.**
*U.S. Department of Agriculture, Economic Research Service, Agriculture and Rural Economy Division, Washington, D.C. John Kitchen and J. Peter DeBraal. September 1989. 16pp.*
The paper examines the role of exchange rates, cropland returns, and the real interest rate as determinants of foreign investment in U.S. cropland. Investments from the top six countries of origin were analyzed. These countries are Canada, the Netherlands, Switzerland, the United Kingdom, West Germany, and Netherlands Antilles. Investments from Mexico were also examined because of that country's close physical proximity to the United States. The evidence presented suggests that foreign investment in U.S. cropland is negatively related to the value of the dollar and the level of U.S. real interest rates and positively related to returns on U.S. cropland.

0138 **Foreign Investment, Industrial Linkages, and Regional Development.**
*Rutgers University, Center for Urban Policy Research, New Brunswick, New Jersey. University of Texas, Community and Regional Planning Program and Economics Department, Austin, Texas. Norman J. Glickman, Amy Glasmeier, Geoffrey J. Bannister, and William Luker Jr. October 1989. 177pp.*
This study focuses on the regional and rural implications of foreign direct investment in the United States. The study analyzes existing government data on this topic and surveys foreign and domestic firms in the automobile, semiconductor, and computer industries. The main goal of the study was to understand the job creation potential and industrial linkages of foreign companies. The study also examines state and local policies designed to attract foreign investment. As part of the research, firms in the sample were asked to rank location factors and public industrial development incentives to determine which were most important to them. A separate survey was also distributed to state and local development officials to see which incentives they considered most useful.

**1990**

0315 **Foreign Investment Analyzing National Security Concerns.**
*General Accounting Office, National Security and International Affairs Division, Washington, D.C. May 29, 1990. 29pp.*
The possibility that key segments of defense-related industries could come under foreign control is one of the central concerns in the debate about increased foreign investment in the United States. This study examined (1) the definition of industry sectors and technologies that are national security–related, (2) the government system for learning of foreign investments before they take place, (3) the difficulties the government encounters in analyzing specific investments, and (4) the broader questions not addressed in the present system of analyzing foreign investments. In response to concerns about the national security implications of foreign investment, in 1988 Congress enacted the Exon-Florio Amendment to the Omnibus Trade and Competitiveness Act of 1988. This amendment gave the president new authority to investigate and block foreign investments threatening to impair national security. The president delegated his authority to review transactions to the existing interagency

CFIUS, which is chaired by the Treasury Department. As a result of the 1988 amendment, the interagency committee now receives information on specific foreign investments. The report notes that preventing the erosion of defense technology leadership is more than a matter of reviewing foreign investments. It also concludes that although the committee is carrying out its foreign investment reviews as provided for by the Exon-Florio Amendment, it cannot be expected to provide the types of answers to questions about preserving commercial competitiveness that need to be addressed at higher policy-making levels.

0344 **Foreign Direct Investment in the United States: Balance of Payments and Direct Investment Position Estimates, 1980–1986.**
*U.S. Department of Commerce, Bureau of Economic Analysis, Washington, D.C. December 1990. 54pp.*
This publication presents estimates of foreign direct investment position in the United States and balance of payments transactions between U.S. affiliates and their foreign parent groups for the period 1980 to 1986. The balance of payments transactions consist of capital inflows and their components (equity capital inflows, reinvested earnings, and intercompany debt inflows); income; royalties and license fees; and charges for other services. Industries covered include mining, petroleum, food products, chemical products, primary and fabricated metals, machinery, electronic equipment, textiles, lumber, paper products, banking, insurance, and real estate. Countries covered include Belgium, France, the Federal Republic of Germany, Italy, Luxembourg, the Netherlands, the United Kingdom, Sweden, Switzerland, Japan, Argentina, Brazil, Chile, Colombia, Iran, Iraq, Israel, Jordan, and Saudi Arabia.

**1991**

0398 **Industrialized Countries' Policies Affecting Foreign Direct Investment in Developing Countries. Volume 1: Main Report.**
*World Bank, Multilateral Investment Guarantee Agency, Washington, D.C. Heinz B. Bachman. 1991. 44pp.*
This report tries to assess what industrialized countries could do to help relieve the severe foreign debt burden and balance of payments difficulties faced by many developing countries. The study focuses its analysis exclusively on policies and institutions in industrialized countries that have a bearing on foreign investment flows to developing countries. The report focuses on the United States, the United Kingdom, Japan, Germany, the Netherlands, and Sweden. The report has three main conclusions: (1) as a whole, over the last twenty years, developing countries have been relatively successful in attracting foreign investment; (2) foreign investment flows to developing countries are influenced strongly by fiscal, monetary, and foreign trade policies pursued by industrialized countries; and (3) industrialized countries use measures such as double taxation, tax sparing and bilateral investment agreements, investment guarantees, and investment financing to stimulate foreign investment flows to developing countries.

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0442 **Industrialized Countries' Policies Affecting Foreign Direct Investment in Developing Countries. Volume 2: Country Studies.**
*World Bank, Multilateral Investment Guarantee Agency, Washington, D.C. Jacob S. Dreyer, Andrew Singer, Kenneth A. Froot, Andrea Gubitz, and Janardan Prasad Singh. 1991. 197pp.*
This report tries to assess what industrialized countries could do to help relieve the severe foreign debt burden and balance of payments difficulties faced by many developing countries. The study focuses its analysis exclusively on policies and institutions in industrialized countries that have a bearing on foreign investment flows to developing countries. The report focuses on the United States, the United Kingdom, Japan, Germany, the Netherlands, and Sweden. The report has three main conclusions: (1) as a whole, over the last twenty years, developing countries have been relatively successful in attracting foreign investment; (2) foreign investment flows to developing countries are influenced strongly by fiscal, monetary, and foreign trade policies pursued by industrialized countries; and (3) industrialized countries use measures such as double taxation, tax sparing and bilateral investment agreements, investment guarantees, and investment financing to stimulate foreign investment flows to developing countries.

0639 **Japanese Foreign Investment in Tennessee: A Case Study.**
*Vanderbilt University, U.S.–Japan Program in Technology Management, Nashville, Tennessee. Dona T. Mularkey, 1991. 22pp.*
Discussions about Japanese investment in the United States have often generated emotional responses that tend to give the issue a political cast even before the facts are understood. While Japanese investment in the United States has grown considerably, as of 1991, it still totaled less than that from England or the Netherlands. This study examines Japanese FDI in Tennessee. The study sheds new light on Japanese investment and local attitudes toward it. The results run counter to the conventional wisdom in that they show a far greater acceptance of Japanese investment in American communities where the investment is located than the often negative treatment of it in the media. As of December 1991, Tennessee had received almost $4 billion of Japanese capital and planned investment in the state, and Japanese companies in the state employed approximately twenty thousand Tennesseans.

0661 **National Security Reviews of Foreign Investment.**
*General Accounting Office, General Government Division, International Trade, Energy, and Finance Issues, Washington, D.C. February 26, 1991. 11pp.*
This document consists of testimony of Allan I. Mendelowitz, director of International Trade, Energy, and Finance Issues for the General Government Division of the GAO, before the House Committee on Energy and Commerce's Subcommittee on Commerce, Consumer Protection, and Competitiveness regarding the possible renewal of the Exon-Florio Amendment. The 1988 Exon-Florio Amendment to the Defense Production Act gave the president authority to investigate and block or suspend foreign investments that threaten to impair national security. This authority lapsed on October 20, 1990, with the expiration of the Defense Production Act. Mendelowitz's testimony covers four main areas: (1) the nature of the administration's authority to review and if necessary block foreign investments

during the period since the lapse of Exon-Florio authority; (2) the reasons why it took the Bush administration more than one year to implement a presidential divestiture order in the one case ordered to be blocked under the Exon-Florio provision; (3) the types of difficulties experienced by the interagency CFIUS; and (4) larger public policy questions such as how much of the defense industrial base has been acquired by foreign-owned firms or which industry sections, if any, should be preserved for U.S. ownership.

0672 **Foreign Direct Investment in the United States: Review and Analysis of Current Development.**
*U.S. Department of Commerce, Economics and Statistics Administration, Office of the Chief Economist, Washington, D.C. August 1991. 150pp.*
After years of concern about the effect of U.S. direct investments abroad on U.S. trade, employment, and growth, public attention began turning in the mid-1980s to the impact of foreign investment in the United States. This study examines the role and significance of FDI in the United States from 1977 to 1988. The study first reviews definition and measurement issues and then provides the macroeconomic and microeconomic theoretical foundations underlying factors motivating international investment flows, including their relation to balance of payments current and capital account balances. It also examines the macroeconomic factors influencing foreign investment. The next section analyzes trends and patterns in foreign investment in the United States. This is followed by an exploration of the characteristics and performance of U.S. affiliates of foreign firms. The report examines foreign investment in five key industries—electronics, automobiles, steel, chemicals, and banking—in which foreign ownership is significant.

0822 **Foreign Direct Investment in the United States: Operations of U.S. Affiliates of Foreign Companies. Revised 1988 Estimates.**
*U.S. Department of Commerce, Economics and Statistics Administration, Bureau of Economic Analysis, Washington, D.C. August 1991. 85pp.*
This publication presents financial and operating data (including balance sheets and income statements), as well as data on property, plant, and equipment ownership; employment and employee compensation; imports and exports; and R&D expenditures, for U.S. affiliates of foreign companies for 1988. Industries covered include mining, petroleum, food products, chemical products, primary and fabricated metals, machinery, electronic equipment, transportation equipment (including motor vehicles), textile products, wood products, paper products, service industries, insurance, real estate, and publishing. Countries covered include France, Germany, Italy, the Netherlands, Switzerland, the United Kingdom, Austria, Finland, Spain, Portugal, Canada, Argentina, Brazil, Chile, Colombia, Ecuador, Peru, Venezuela, Costa Rica, Guatemala, Honduras, Mexico, Panama, Egypt, Nigeria, South Africa, Israel, Saudi Arabia, China, India, Malaysia, Thailand, Japan, and Australia.

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**Foreign Investment cont.**

**1991 cont.**

0001 **U.S. Direct Investment Abroad: 1989 Benchmark Survey, Preliminary Results.**
*U.S. Department of Commerce, Economics and Statistics Administration, Bureau of Economic Analysis. Washington, D.C. October 1991. 109pp.*
This publication presents financial and operating data (including balance sheets and income statements), as well as data on sales, employee compensation, exports and imports, and R&D expenditures, for U.S. parent companies and their foreign affiliates for 1989. Data on the foreign affiliates are presented by country and industry of the affiliate and by industry of the U.S. parent company. Data on U.S. parent companies are presented by industry. Industries covered include petroleum, food products, chemical products, primary and fabricated metals, machinery, electric equipment, transportation equipment (including motor vehicles), tobacco, textile products, wood products, paper products, service industries, insurance, real estate, and publishing. Countries covered include France, Germany, Italy, the Netherlands, Switzerland, the United Kingdom, Austria, Finland, Spain, Portugal, Canada, Argentina, Brazil, Chile, Colombia, Ecuador, Peru, Venezuela, Costa Rica, Guatemala, Honduras, Mexico, Panama, Egypt, Nigeria, South Africa, Israel, Saudi Arabia, China, India, Malaysia, Thailand, Japan, and Australia.

**1992**

0110 **Foreign Investment. Issues Raised by Taiwan's Proposed Investment in McDonnell Douglas.**
*General Accounting Office, National Security and International Affairs Division, Washington, D.C. February 1992. 11pp.*
On November 19, 1991, McDonnell Douglas and Taiwan Aerospace (partially owned by the Taiwanese government) signed a memorandum of understanding to form and jointly own a new aerospace company. According to McDonnell Douglas officials, this understanding would allow Taiwanese investors to acquire for $2 billion a 40 percent share of McDonnell Douglas's commercial aircraft operations—both its ongoing programs and its proposed development of the MD-12 aircraft. As of the end of January 1992, negotiations on this agreement were still continuing. Taiwan Aerospace's proposed investment in McDonnell Douglas raised important public policy questions regarding the interrelationships between U.S. commercial and national security interests. These questions concern the nature of the government's role in enhancing the vitality of the U.S. technology base as the foundation of both U.S. commercial competitiveness and national security.

0121 **Foreign Direct Investment: Assessment of Commerce's Annual Report and Data Improvement Efforts.**
*General Accounting Office, National Security and International Affairs Division, Washington, D.C. March 1992. 67pp.*
To assist public debate on foreign investment issues by improving existing government information, Congress enacted the Foreign Direct Investment and International Financial Data Improvements Act of 1990 (P.L. 101-533). This act

requires the secretary of commerce to prepare an annual report addressing the history, scope, trends, market concentrations, and effects on the U.S. economy of FDI. Commerce issued the first such report on September 20, 1991. The act also allows statistical data to be shared among federal agencies in order to improve analysis of the effects of FDI on the U.S. economy. The act directs the GAO to (1) analyze Commerce's annual report on FDI and make recommendations for changes in the report due the following year and (2) review government efforts to improve the quality of FDI data, including the status and process for reconciliation of data exchanged among certain federal agencies. FDI is one component of overall foreign investment and is defined as foreign investment representing 1 percent or more of a firm's equity. Other components of foreign investment include investments in bonds and treasury securities. As FDI in the United States has increased over the past decade, so have concerns regarding the effects of that investment on the U.S. economy. Questions have arisen particularly concerning foreign investment in critical high-technology industries that affect the economic as well as the national security interests of the United States. The Commerce report examines, among other issues, factors driving FDI and patterns and trends in foreign investment in the United States.

0188 **Foreign Direct Investment in the United States. Establishment Data for 1987.**
*U.S. Department of Commerce, Economics and Statistics Administration, Bureau of Economic Analysis and Bureau of the Census, Washington, D.C. June 1992. 682pp.*
This volume presents the first set of comprehensive establishment data for U.S. affiliates of foreign companies. The data were obtained by linking the BEA company or enterprise level data with Census Bureau plant or establishment level data for all U.S. companies. The data presented in this volume show employee compensation, shipments or sales, and number of establishments. Industries covered include agriculture, mining, construction, food products, tobacco products, textiles, wood products, furniture, paper products, publishing, chemical products, petroleum, rubber and plastics, leather products, primary and fabricated metals, electronic equipment, transportation equipment (including motor vehicles), insurance, real estate, service industries, motion pictures, health services, educational services, and social services. Countries covered include Austria, Belgium, Denmark, Finland, France, the Federal Republic of Germany, Ireland, Italy, Norway, Spain, Sweden, Switzerland, the United Kingdom, Brazil, Mexico, Panama, Venezuela, South Africa, Israel, Kuwait, Lebanon, Saudi Arabia, United Arab Emirates, Australia, Japan, South Korea, Malaysia, New Zealand, the Philippines, and Taiwan. All fifty states and the District of Columbia are covered.

0869 **Foreign Investment: Analyzing National Security-Related Investments Under the Exon-Florio Provision. Statement of Allan I. Mendelowitz, Director, International Trade and Finance Issues, General Government Division, General Accounting Office.**
*General Accounting Office, General Government Division, International Trade and Finance Issues, Washington, D.C. June 4, 1992. 8pp.*
This document is a transcript of Allan I. Mendelowitz's testimony before the Subcommittee on International Finance and Monetary Policy of the Senate Committee on Banking, Housing, and Urban Affairs. Mendelowitz discussed some of the issues raised regarding the Bush administration's reviews of proposed foreign

acquisitions. The 1988 Exon-Florio Amendment to the Defense Production Act authorized U.S. government review, and if warranted blockage, of foreign acquisitions of U.S. firms related to national security. The amendment's review criteria, requiring "credible evidence" of a threat to national security, applied in practice to a narrow range of circumstances. President Bush blocked only one of seven hundred foreign investments reviewed under the provision; that case involved the People's Republic of China. Mendelowitz stated that the Exon-Florio process did not address public concerns about the broader issues of U.S. competitiveness in industry sectors essential to leadership in defense technology. He also said that it does not cover the range of international business relationships that raise technology transfer issues similar to those raised by direct equity investments. Mendelowitz concluded that increasing global interdependence would require U.S. policies designed to assure that the U.S. technology base benefits from international relationships.

# Reel 6

**Foreign Investment cont.**

**1992 cont.**

0001 **Foreign Direct Investment in the United States. Operations of U.S. Affiliates of Foreign Companies. Preliminary 1990 Estimates.**
*U.S. Department of Commerce, Economics and Statistics Administration, Bureau of Economic Analysis, Washington, D.C. August 1992. 86pp.*
This publication presents financial data covering the operations of U.S. affiliates of foreign companies for 1990. It contains tables on the financial structure and operations, including balance sheets; income statements; property, plant, and equipment ownership; employment and employee compensation; imports and exports; and sales, for U.S. affiliates of foreign companies for 1990. Industries covered include petroleum, food products, chemical products, primary and fabricated metals, machinery, electrical equipment, transportation equipment (including motor vehicles), textile products, wood products, paper products, service industries, insurance, real estate, and publishing. Countries covered include France, Germany, Italy, the Netherlands, Switzerland, the United Kingdom, Austria, Finland, Spain, Argentina, Brazil, Chile, Colombia, Ecuador, Peru, Venezuela, Costa Rica, Guatemala, Honduras, Mexico, Panama, Egypt, Nigeria, South Africa, Israel, Saudi Arabia, China, India, Malaysia, Thailand, Japan, and Australia.

0087 **Foreign Direct Investment in the United States. Operations of U.S. Affiliates of Foreign Companies. Revised 1989 Estimates.**
*U.S. Department of Commerce, Economics and Statistics Administration, Bureau of Economic Analysis, Washington, D.C. August 1992. 86pp.*
This publication presents financial data covering the operations of U.S. affiliates of foreign companies for 1989. It contains tables on the financial structure and operations, including balance sheets; income statements; property, plant, and equipment ownership; employment and employee compensation; imports and exports; sales; and U.S. land owned and leased, for U.S. affiliates of foreign companies for 1989. Industries covered include petroleum, food products, chemical

products, primary and fabricated metals, machinery, electrical equipment, transportation equipment (including motor vehicles), textile products, wood products, paper products, service industries, insurance, real estate, and publishing. Countries covered include France, Germany, Italy, the Netherlands, Switzerland, the United Kingdom, Austria, Finland, Spain, Argentina, Brazil, Chile, Colombia, Ecuador, Peru, Venezuela, Costa Rica, Guatemala, Honduras, Mexico, Panama, Egypt, Nigeria, South Africa, Israel, Saudi Arabia, China, India, Malaysia, Thailand, Japan, and Australia.

**1993**

0173 **Foreign Direct Investment in the United States: 1991 Transactions.**
*U.S. Department of Commerce, International Trade Administration, Office of Trade and Economic Analysis, Washington, D.C. May 1993. 106pp.*
The purpose of the report is to identify specific FDI transactions in the United States during 1991, to analyze recent trends in such investment, and to provide data and related information on significant transactions. Japan was the source country for the largest number of transactions, the United Kingdom was second, and Germany and Canada were third and fourth. There were investments from forty-three countries in 1991. The manufacturing sector was the dominant recipient of FDI transactions. California and New York State were the two most popular states for investment transactions. The report covers the following industries: oil and gas, printing and publishing, chemical products, industrial machinery and equipment, electronic and electric equipment, transportation equipment, air transportation, communications, motion pictures, and real estate.

0279 **Foreign Direct Investment in the United States: An Update. Review and Analysis of Current Developments.**
*U.S. Department of Commerce, Economics and Statistics Administration, Office of the Chief Economist, Washington, D.C. June 1993. 260pp.*
This report examines three key issues—trade, technology, and taxes. The study first reviews recent developments in direct investment in major world economies. It examines recent trends in the flows of FDI into the United States through 1991 and recent operations of nonbank and bank U.S. affiliates of foreign firms. The report addresses questions about the impact of U.S. affiliates on U.S. trade performance and on U.S. technological developments and transfer. The study also examines the extent to which foreign-controlled companies shift their income away from the United States through transfer pricing practices. The study found that FDI slowed considerably during the 1990–1992 period. It also concluded that FDI was slightly more heavily concentrated in high-technology industries than are U.S.–owned firms. The report also includes a brief survey of recent nongovernment, analytical literature on this subject and a large collection of statistical tables on FDI in the United States.

0539 **Foreign Direct Investment in the United States. Operations of U.S. Affiliates of Foreign Companies. Revised 1990 Estimates.**
*U.S. Department of Commerce, Economics and Statistics Administration, Bureau of Economic Analysis, Washington, D.C. June 1993. 85pp.*
This publication presents financial data covering the operations of U.S. affiliates of foreign companies for 1990. It contains tables on the financial structure and

operations, including balance sheets; income statements; property, plant, and equipment ownership; employment and employee compensation; imports and exports; sales; and U.S. land owned and leased, for U.S. affiliates of foreign companies. Industries covered include petroleum, food products, chemical products, primary and fabricated metals, machinery, electrical equipment, transportation equipment (including motor vehicles), textile products, wood products, paper products, service industries, insurance, real estate, and publishing. Countries covered include France, Germany, Italy, the Netherlands, Switzerland, the United Kingdom, Austria, Finland, Spain, Argentina, Brazil, Chile, Colombia, Ecuador, Peru, Venezuela, Costa Rica, Guatemala, Honduras, Mexico, Panama, Egypt, Nigeria, South Africa, Israel, Saudi Arabia, China, India, Malaysia, Thailand, Japan, and Australia.

0624 **Foreign Direct Investment in the United States. Operations of U.S. Affiliates of Foreign Companies. Preliminary 1991 Estimates.**
*U.S. Department of Commerce, Economics and Statistics Administration, Bureau of Economic Analysis, Washington, D.C. June 1993. 85pp.*
This publication presents financial data covering the operations of U.S. affiliates of foreign companies for 1991. It contains tables on the financial structure and operations, including balance sheets; income statements; property, plant, and equipment ownership; employment and employee compensation; imports and exports; sales; and U.S. land owned and leased, for U.S. affiliates of foreign companies. Industries covered include petroleum, food products, chemical products, primary and fabricated metals, machinery, electrical equipment, transportation equipment (including motor vehicles), textile products, lumber products, paper products, service industries, insurance, real estate, and publishing. Countries covered include France, Germany, Italy, the Netherlands, Switzerland, the United Kingdom, Austria, Finland, Spain, Argentina, Brazil, Chile, Colombia, Ecuador, Peru, Venezuela, Costa Rica, Guatemala, Honduras, Mexico, Panama, Egypt, Nigeria, South Africa, Israel, Saudi Arabia, China, India, Malaysia, Thailand, Japan, and Australia.

0709 **Sub-Saharan Africa: Investment Climate Reference Chart.**
*U.S. Department of Commerce, International Trade Administration, Office of Africa, Washington, D.C. July 22, 1993. 33pp.*
This report is a compilation from the individual investment climate statements prepared by U.S. embassies in sub-Saharan Africa. The topics covered include openness to foreign investment, transfer policies, expropriation and compensation, major dispute settlement organizations, protection of property rights, incentives, foreign trade zones, capital markets and portfolio investment, custom/monetary union membership, and international agreements.

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0742 **Foreign Direct Investment in the United States. Establishment Data for Manufacturing, 1990.**
*U.S. Department of Commerce, Economic and Statistics Administration, Bureau of Economic Analysis and Bureau of the Census, Washington, D.C. August 1993. 204pp.*
This volume presents detailed establishment data on the manufacturing operations of U.S. affiliates of foreign companies. The data were obtained by linking BEA enterprise, or company, data on FDI in the United States with more detailed Census Bureau establishment, or plant, data for all U.S. companies. The data are from the Census Bureau's ASM, which covers all U.S. manufacturing establishments. Data are presented for U.S. affiliate manufacturing establishments for most of the ASM items, including value added, shipments, employment and employee compensation, capital expenditures, cost of materials, and inventories. The data are disaggregated by detailed industry (up to 459 industries), by state, and by country of owner. Industries covered include food products, tobacco products, textile products, wood products, paper products, chemical products, petroleum and coal products, rubber and plastics products, metal products, electronic and electric equipment, and transportation equipment.

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**Foreign Investment cont.**

**1993 cont.**

0001 **Foreign Direct Investment in the United States: 1992 Transactions.**
*U.S. Department of Commerce, International Trade Administration, Office of Trade and Economic Analysis, Washington, D.C. August 1993. 87pp.*
The purpose of this report is to identify specific FDI transactions in the United States during 1992, to analyze recent trends in such investment, and to provide data and related information on significant transactions. The report incorporates information from a wide variety of public sources. The transaction listings are arranged by the primary standard industrial classification of the U.S. company owned or controlled by foreign investors, by the source country of the foreign investors, and by the U.S. state location of the foreign investment. Japan was the source country for the largest number of transactions, followed by Germany and the United Kingdom. California and New York were the two most popular states for investment. The manufacturing sector was the dominant recipient of foreign investment. The report also covers investment in the following industries: printing and publishing, chemicals and allied products, industrial machinery and equipment, electronic and electric equipment, transportation equipment, insurance, hotels and other lodging places, and real estate.

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0088 **Foreign Direct Investment in the United States. Establishment Data for Manufacturing, 1989.**
*U.S. Department of Commerce, Economics and Statistics Administration, Bureau of Economic Analysis and Bureau of the Census, Washington, D.C. September 1993. 196pp.*
This volume presents detailed establishment data on the manufacturing operations of U.S. affiliates of foreign companies. The data were obtained by linking BEA enterprise, or company, data on FDI in the United States with more detailed Census Bureau establishment, or plant, data for all U.S. companies. The data are from the Census Bureau's ASM, which covers all U.S. manufacturing establishments. Data are presented for U.S. affiliate manufacturing establishments for most of the ASM items, including value added, shipments, employment and employee compensation, capital expenditures, cost of materials, and inventories. The data are disaggregated by industry, by state, and by country of owner. Industries covered include food products, tobacco products, textile products, wood products, paper products, printing and publishing, chemical products, petroleum and coal products, rubber and plastics products, metal products, electronic and electric equipment, and transportation equipment.

**1994**

0284 **Measures for Promoting Foreign Direct Investment in Japan.**
*Ministry of International Trade and Industry, International Business Affairs Division, Tokyo, Japan. 1994. 50pp.*
This publication of the International Business Affairs Division of MITI addresses trends in FDI in Japan, including several measures taken by the Japanese government to promote such investment such as establishing the Japan Investment Council, relaxing investment regulations, supporting measures such as enactment of laws and tax schemes, providing supports to foreign investment in the Japan Development Corporation, and making available low-interest loans to foreign affiliates. JETRO (Japan External Trade Organization), a part of MITI, is also active in promoting FDI in Japan. This report is in both English and Japanese.

0334 **Export and Investment Promotion Services. Service Use and Its Impact on Export Performance: Results of the Asia Surveys.**
*U.S. Agency for International Development, Center for Development Information and Evaluation, Washington, D.C. Jennifer Bremer, Charles Bell, and Cressida McKean. February 1994. 58pp.*
AID has devoted considerable resources over the past several years to services that directly support exports or export-related foreign investment. This study summarizes results of a survey of 131 exporting firms in India, Indonesia, and Thailand on their use of thirty-three export services, ranging from foreign market information to production technical assistance. The survey findings demonstrate that direct services play a vital role in encouraging new firms to enter into exporting and in assisting foreign investors. Key services are provided predominantly by business partners. A final section of the report discusses the match between the mix of services provided and those sought by firms, focusing on evidence of potential roles for governments in filling the gaps left by private service providers. Three overall conclusions are reached: (1) firms rely on networks of associates as their primary

source of assistance; (2) business relationships evolve over time, and the distinction between export promotion and investment promotion will blur due to close business ties; and (3) international ventures are fragile in their early stages, particularly if long geographic and/or cultural distances are involved.

0392 **Foreign Ownership of U.S. Agricultural Land through December 31, 1993.**
*U.S. Department of Agriculture, Economic Research Service, Resources and Technology Division, Washington, D.C. J. Peter DeBraal. April 1994. 58pp.*
Foreign persons owned 14.6 million acres of U.S. agricultural land as of December 31, 1993. This is slightly more than 1 percent of all privately held agricultural land and 0.65 percent of all land in the United States. Corporations owned 71 percent of the acreage; partnerships, 21 percent; and individuals, 6 percent. Foreign persons from Canada, the United Kingdom, Germany, France, Switzerland, Netherlands Antilles, and the Netherlands owned 72 percent of the foreign-held acreage. Foreign persons from Japan owned only 3 percent of the foreign-owned acres. The largest number of acres owned by foreign persons was reported in Maine. Foreign ownership of U.S. agricultural land has remained relatively steady from 1981 through 1993, slightly above or below 1 percent of the privately owned agricultural land in the United States. The findings in this report are based on an analysis of reports submitted in compliance with the Agricultural Foreign Investment Disclosure Act of 1978.

0450 **Foreign Ownership of U.S. Agricultural Land through December 31, 1993: County-Level Data.**
*U.S. Department of Agriculture, Economic Research Service, Resources and Technology Division, Washington, D.C. Gertrude S. Butler and J. Peter DeBraal. May 1994. 131pp.*
Foreign investment in U.S. agricultural land has been reported for 14.6 million acres in 1,928 of the 3,041 counties in the United States. Data are presented for each county to show the number of acres and parcels, value, country of origin, and use of foreign-owned agricultural land. Aggregation of the data at the county level supplements “Foreign Ownership of U.S. Agricultural Land Through December 31, 1993, Statistical Bulletin No. 879.”

0581 **Foreign Direct Investment in the United States: Establishment Data for Manufacturing, 1988.**
*U.S. Department of Commerce, Economics and Statistics Administration, Bureau of Economic Analysis and Bureau of the Census, Washington, D.C. May 1994. 193pp.*
This volume presents detailed establishment data on the manufacturing operations of U.S. affiliates of foreign companies. The data were obtained by linking BEA enterprise, or company, data on FDI in the United States with more detailed Census Bureau establishment, or plant, data for all U.S. companies. The data are from the Census Bureau’s ASM, which covers all U.S. manufacturing establishments. Data are presented for U.S. affiliate manufacturing establishments for most of the ASM items, including value added, shipments, employment and employee compensation, capital expenditures, cost of materials, and inventories. The data are disaggregated by industry, by state, and by country of owner. Industries covered include food products, tobacco products, textile products, wood products, paper products, printing

and publishing, chemical products, petroleum and coal products, rubber and plastics products, metal products, electronic and electric equipment, and transportation equipment.

0774 **Profiles of Foreign Direct Investment in U.S. Energy, 1992.**
*U.S. Department of Energy, Energy Information Administration, Office of Energy Markets and End Use, Washington, D.C. May 16, 1994. 43pp.*
Foreign companies, through their U.S.–based affiliates, play a significant role in U.S. energy production and processing. In 1992, foreign-affiliated companies accounted for 28 percent of U.S. refining capacity, 26 percent of U.S. coal production, 16 percent of U.S. oil production, and 8 percent of U.S. natural gas production. Foreign-affiliated companies also accounted for one-third of all U.S. gasoline sales. This report profiles the involvement of foreign-affiliated U.S. companies in the following areas: domestic petroleum production (including natural gas), reserve holdings, refining and marketing activities, coal production, and uranium exploration and development.

0817 **A Study of the Long-Term Effect of the North American Free Trade Agreement on the U.S. Investment in Mexico and the Resulting Impact on U.S. Exports to Mexico.**
*U.S. Naval Academy, Annapolis, Maryland. Lewis P. Rhodes. May 19, 1994. 58pp.*
This paper is a study of the dynamic impact of NAFTA on U.S. foreign investment to Mexico and the level of U.S. exports to Mexico. A dynamic estimation is an estimation that accounts for decision making over time. NAFTA decreases risk and leads to a large increase in U.S. investment to Mexico. As this investment increases, the Mexican economy will grow. As Mexicans' income goes up, they will increase their level of imports. Since over 70 percent of Mexico's imports come from the United States, U.S. exporters will benefit. The dynamic effect of NAFTA is estimated in two stages. First, an ordinary least-squares regression equation is used to predict the level of U.S. investment under NAFTA. The estimated value for U.S. investment to Mexico is entered into a computable general equilibrium model to estimate the impact Mexico's growth will have on U.S. exports. This study finds that over the long term, NAFTA will lead to a substantial increase in U.S. exports to Mexico.

0875 **Foreign Direct Investment in the United States. Operations of U.S. Affiliates of Foreign Companies. Revised 1991 Estimates.**
*U.S. Department of Commerce, Economics and Statistics Administration, Bureau of Economic Analysis, Washington, D.C. June 1994. 84pp.*
This publication presents financial data covering the operations of U.S. affiliates of foreign companies for 1991. It contains tables on the financial structure and operations, including balance sheets; income statements; property, plant, and equipment ownership; employment and employee compensation; imports and exports; sales; and U.S. land owned and leased, for U.S. affiliates of foreign companies for 1991. Industries covered include petroleum, food products, chemical products, primary and fabricated metals, machinery, electric equipment, transportation equipment (including motor vehicles), textile products, lumber products, paper products, service industries, insurance, real estate, and publishing. Countries covered include France, Germany, Italy, the Netherlands, Switzerland, the

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United Kingdom, Austria, Finland, Spain, Argentina, Brazil, Chile, Colombia, Ecuador, Peru, Venezuela, Costa Rica, Guatemala, Honduras, Mexico, Panama, Egypt, Nigeria, South Africa, Israel, Saudi Arabia, China, India, Malaysia, Thailand, Japan, and Australia.

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**Foreign Investment cont.**

**1994 cont.**

0001 **Foreign Direct Investment in the United States: 1992 Benchmark Survey, Preliminary Results.**
*U.S. Department of Commerce, Economics and Statistics Administration, Bureau of Economic Analysis, Washington, D.C. August 1994. 114pp.*
This publication presents financial data covering the operations of U.S. affiliates of foreign direct investors from the 1992 Benchmark Survey of Foreign Direct Investment in the United States. Benchmark surveys are the most comprehensive surveys of FDI conducted by the BEA in terms of both coverage of companies and subject matter. The 1992 survey covered all U.S. affiliates of foreign direct investors that had assets, sales, or net income of more than $1 million. It contains tables on the financial structure and operations, including balance sheets; income statements; property, plant, and equipment ownership; employment and employee compensation; imports and exports; sales; and R&D expenditures of U.S. land owned and leased, for U.S. affiliates of foreign companies for 1992. Industries covered include petroleum, food products, chemical products, primary and fabricated metals, machinery, electric equipment, transportation equipment (including motor vehicles), textile products, lumber products, paper products, service industries, insurance, real estate, and publishing. Countries covered include France, Germany, Italy, the Netherlands, Switzerland, the United Kingdom, Austria, Finland, Spain, Brazil, Mexico, Panama, Venezuela, Israel, Kuwait, Lebanon, Saudi Arabia, China, Malaysia, Thailand, Korea, Japan, and Australia.

0115 **Foreign Direct Investment in the United States. Establishment Data for Manufacturing, 1991.**
*U.S. Department of Commerce, Economics and Statistics Administration, Bureau of Economic Analysis and Bureau of the Census, Washington, D.C. September 1994. 207pp.*
This volume presents detailed establishment data on the manufacturing operations of U.S. affiliates of foreign companies. The data were obtained by linking BEA enterprise, or company, data on FDI in the United States with more detailed Census Bureau establishment, or plant, data for all U.S. companies. The data are from the Census Bureau's ASM, which covers all U.S. manufacturing establishments. Data are presented for U.S. affiliate manufacturing establishments for most of the ASM items, including value added, shipments, employment and employee compensation, capital expenditures, cost of materials, and inventories. The data are disaggregated by industry, by state, and by country of owner. Industries covered include food products, tobacco products, textile products, wood products, paper products, printing and publishing, chemical products, petroleum and coal products, rubber and plastic

products, metal products, electronic and electric equipment, and transportation equipment.

0322 **Report to the Congress on Adjusting the Excess Passive Assets Rules and the Passive Foreign Investment Company Rules to Account for Marketing Intangibles.**
*U.S. Department of the Treasury, Office of the Assistant Secretary for Tax Policy, Washington, D.C. November 1994. 24pp.*
This report examines whether the excess passive assets rules for the current taxation of certain earnings of CFCs and the PFIC rules should be amended to account for intangible assets created by marketing expenditures, in a manner similar to that used to account for assets created by research or experimental expenditures. It begins by providing background on the new rules for taxing certain earnings of CFCs and the asset test for CFC-PFICs. It then focuses on the problems in identifying marketing expenditures that may be capitalized and included in the total assets of a CFC. Finally, it looks at the evidence on the average economic lifetime of the assets created by these expenditures and provides an estimate of the revenue consequences of including marketing assets in the asset tests.

**1995**

0346 **Foreign Direct Investment in the United States: An Update. Review and Analysis of Current Developments.**
*U.S. Department of Commerce, Economics and Statistics Administration, Office of the Chief Economist, Washington, D.C. January 1995. 100pp.*
This report by the U.S. Department of Commerce on FDIUS continues U.S. government efforts to analyze changes in patterns and trends in FDIUS and its impact on the U.S. economy. The report updates information on FDIUS, including recent changes in stocks and flows, the operations of U.S. affiliates of foreign firms, acquisitions and establishments of new affiliates, and the international trade of foreign-owned firms. It also provides an examination of the characteristics of U.S. affiliates by detailed industry groups, using the results of the BEA–Census data link project. Lastly, the report analyzes the occupational structure of foreign-owned manufacturing establishments, based on the results of the BEA–BLS data link project. The report made several key findings. FDIUS grew at a slower pace from 1990 to 1992 than in the 1980s. In 1992, Japan surpassed the United Kingdom as the largest foreign direct investor in the United States and remained so in 1993. Foreign-owned U.S. firms tend to invest in establishments that are larger and more capital-intensive than U.S.–owned establishments. Foreigners on average tend to invest in research-intensive U.S. industries. U.S. affiliates of foreign firms tend to be more heavily unionized than U.S.–owned companies. The international trade of U.S. affiliates of foreign firms represents an important share of total U.S. trade.

0446 **Investment Climate Reports: Sub-Saharan Africa.**
*U.S. Department of State, Bureau of African Affairs. March 1995. 94pp.*
This publication is a compilation of reports regarding the climate for investment in sub-Saharan Africa. Countries covered include Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gabon, the

Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, Tanzania, Togo, Uganda, Zaire, Zambia, and Zimbabwe.

0540 **Economic Growth, Sustainability, and Sustainable Development. Research and Reference Services Project.**
*Academy for Educational Development, Inc., Washington, D.C. Agency for International Development, Center for Development Information and Evaluation, Research and Reference Services, Washington, D.C. Dana Wichterman. March 1995. 27pp.*
This paper explores the concepts of sustainable development and sustainability in relation to four AID activities within the economic growth sector: economic policy reform, microenterprise development, privatization, and export and investment promotion. Key findings are as follows: (1) Operating without a common working definition of sustainable development, AID lacks a comprehensive approach to incorporating sustainability at the project and program levels. (2) Although AID increasingly emphasizes financial and institutional sustainability, it generally fails to consider the critical links between sustainable economic development and other sectors, such as health and democracy. (3) Few AID evaluations identify lessons learned in achieving sustainability beyond the project level. More program level assessments focusing on sustainability are needed. (4) The World Bank appears to be more advanced in integrating sustainability concerns into its approach and analysis, notably in its poverty assessment literature.

0567 **Foreign Acquisitions of U.S. Companies.**
*National Defense University, Washington, D.C. Syed Anwar Karim. April 1995. 33pp.*
There has been a significant increase in FDI in the United States. The United States has traditionally pursued an open-door policy toward FDI. There is a growing congressional fear, however, that foreign acquisitions are sometimes motivated by a desire to obtain technology and sometimes result in the takeover of technologies considered critical to national security. There has been loss of U.S. high-technology industries whose research and development could have an impact on national defense. In support of the tightening of technology controls, especially in licensing of firms selling dual-use items, the Pentagon and the Central Intelligence Agency (CIA) released reports about illegal transfers and dramatic interceptions of controlled national security technologies. Cases of diversion included very-high-speed integrated circuits, sonar devices, nuclear triggers, and long-range cannon tubing. This paper looks into the background of foreign acquisitions, the Exon-Florio Amendment (which empowers the president to deny a foreign takeover), and the loss of U.S. industries.

0600 **U.S. Direct Foreign Investment Abroad: Operations of U.S. Parent Companies and Their Foreign Affiliates. Revised 1992 Estimates.**
*U.S. Department of Commerce, Economics and Statistics Administration, Bureau of Economic Analysis. June 1995. 88pp.*
This publication presents revised estimates covering the financial structure and operations of U.S. MNCs and their foreign affiliates for fiscal year 1992. It contains

tables on the financial structure and operations, including balance sheets; income statements; sales; imports and exports; employee compensation; and R&D expenditures, for U.S. affiliates of foreign companies. Data on the foreign affiliates are presented by country and industry of the affiliate and by industry of the U.S. parent company. Data on U.S. parent companies are presented by industry. Industries covered include petroleum, food products, chemical products, primary and fabricated metals, machinery, electric equipment, transportation equipment (including motor vehicles), tobacco, textile products, wood products, paper products, service industries, insurance, real estate, and publishing. Countries covered include France, Germany, Italy, the Netherlands, Switzerland, the United Kingdom, Austria, Finland, Spain, Portugal, Canada, Argentina, Brazil, Chile, Colombia, Ecuador, Peru, Venezuela, Costa Rica, Guatemala, Honduras, Mexico, Panama, Egypt, Nigeria, South Africa, Israel, Saudi Arabia, China, India, Malaysia, Thailand, Japan, and Australia.

0688 **Foreign Ownership of U.S. Agricultural Land through December 31, 1994.**
*U.S. Department of Agriculture, Economic Research Service, Natural Resources and Environment Division, Washington, D.C. J. Peter DeBraal. June 1995. 57pp.*
Foreign persons owned 14.1 million acres of U.S. agricultural land as of December 3, 1994. This is slightly more than 1 percent of all privately held agricultural land and 0.65 percent of all land in the United States. This represented a decrease of 530,445 acres from the 1993 data. Corporations owned 71 percent of the acreage; partnerships, 21 percent; and individuals, 6 percent. Foreign persons from Canada, the United Kingdom, Germany, Switzerland, Netherlands Antilles, and the British Virgin Islands accounted for 67 percent of the foreign-held acreage. Foreign persons from Japan owned only 3 percent of the foreign-owned acres. This paper is based on an analysis of reports submitted in compliance with the Agricultural Foreign Investment Disclosure Act of 1978.

0745 **Foreign Direct Investment in the United States. Operations of U.S. Affiliates of Foreign Companies. Preliminary 1993 Estimates.**
*U.S. Department of Commerce, Economics and Statistics Administration, Bureau of Economic Analysis, Washington, D.C. June 1995. 95pp.*
This publication presents financial data covering the operations of U.S. affiliates of foreign companies for 1993. It contains tables on the financial structure and operations, including balance sheets; income statements; property, plant, and equipment ownership; employment and employee compensation; imports and exports; sales; and R&D expenditures, for U.S. affiliates of foreign companies. Industries covered include petroleum, food products, chemical products, primary and fabricated metals, machinery, electric equipment, transportation equipment (including motor vehicles), textile products, lumber products, paper products, service industries, insurance, real estate, and publishing. Countries covered include France, Germany, Italy, the Netherlands, Switzerland, the United Kingdom, Austria, Finland, Spain, Argentina, Brazil, Chile, Colombia, Ecuador, Peru, Venezuela, Costa Rica, Guatemala, Honduras, Mexico, Panama, Egypt, Nigeria, South Africa, Israel, Saudi Arabia, China, India, Malaysia, Thailand, Japan, and Australia.

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0840 **Foreign Direct Investment in the United States: 1994 Transactions.**
*U.S. Department of Commerce, International Trade Administration, Office of Trade and Economic Analysis, Washington, D.C. July 1995. 101pp.*
The purpose of this report is to identify specific FDI transactions in the United States during 1994, to analyze recent trends in such investment, and to provide data and related information on significant transactions. The report incorporates information from a wide variety of public sources. For the first time since 1977, no Japanese investment in the real estate sector was identified, and foreign investment in the U.S. hotel industry hit its lowest point since 1976. In addition, the lowest total investment value since 1983 was recorded in the electronic and electric equipment industry. Japan was the source country for the largest number of transactions, as it had been for the previous ten years. Japan, the United Kingdom, Germany, Canada, France, the Netherlands, and Switzerland account for 80 percent of the total number of transactions. The report also covers investment in the following industries: metal mining, oil and gas extraction, food products, tobacco products, paper products, printing and publishing, chemicals and allied products, industrial machinery and equipment, transportation equipment, communications, banking, hotels and other lodging places, business services, and real estate.

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**Foreign Investment cont.**

**1995 cont.**

0001 **Foreign Direct Investment in the United States: 1992 Benchmark Survey, Final Results.**
*U.S. Department of Commerce, Economics and Statistics Administration, Bureau of Economic Analysis, Washington, D.C. September 1995. 295pp.*
This publication presents financial data covering the operations of U.S. affiliates of foreign direct investors from the 1992 Benchmark Survey of Foreign Direct Investment in the United States. Benchmark surveys are the most comprehensive surveys of FDI conducted by the BEA in terms of both coverage of companies and subject matter. It contains tables on the financial structure and operations, including balance sheets; income statements; property, plant, and equipment ownership; employment and employee compensation; imports and exports; sales; and R&D expenditures of U.S. land owned and leased, for U.S. affiliates of foreign companies for 1992. Industries covered include petroleum, food products, chemical products, primary and fabricated metals, farm and garden machinery, construction machinery, electronic and electric equipment, transportation equipment (including motor vehicles), textile products, wood products, printing and publishing, paper products, service industries, insurance, and real estate. Countries covered include France, Germany, Italy, the Netherlands, Switzerland, the United Kingdom, Austria, Finland, Spain, Brazil, Mexico, Panama, Venezuela, Israel, Kuwait, Lebanon, Saudi Arabia, China, Malaysia, Thailand, Korea, Japan, and Australia.

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0296 **U.S. Direct Investment Abroad: Balance of Payments and Direct Investment Position Estimates, 1982–88.**
*U.S. Department of Commerce, Economics and Statistics Administration, Bureau of Economic Analysis, Washington, D.C. September 1995. 87pp.*
This publication presents final data on the U.S. direct investment position abroad and balance of payments transactions between U.S. parents and their foreign affiliates for calendar years 1982–1988. The data shown include the U.S. direct position abroad, capital flows, royalties and license fees, and other services transactions between U.S. parent companies and their foreign affiliates. The estimates are presented by country and by industry of affiliate. This publication is the third in a series; the previous two publications contained data for 1950 through 1976 and 1977 through 1981, respectively. Countries covered include France, Germany, Italy, the Netherlands, Switzerland, Norway, Portugal, Spain, Austria, the United Kingdom, Finland, Argentina, Brazil, Chile, Colombia, Costa Rica, Guatemala, Honduras, Mexico, Panama, Ecuador, Peru, Egypt, Nigeria, South Africa, Israel, Saudi Arabia, Australia, China, Hong Kong, India, Japan, South Korea, Malaysia, and Thailand. Industries covered include petroleum, food products, chemicals and allied products, primary and fabricated metals, farm and garden machinery, construction machinery, electric and electronic equipment, transportation equipment (including motor vehicles), tobacco products, textile products, wood products, paper products, banking, insurance, real estate, printing and publishing, and service industries.

0383 **Foreign Direct Investment. Review of Commerce Department Reports and Data-Sharing Activities.**
*General Accounting Office, General Government Division, Washington, D.C. September 1995. 41pp.*
This is the GAO's final report responding to a requirement under the Foreign Direct Investment and International Financial Data Improvements Act of 1990 (P.L. 101-533) to analyze the secretary of commerce's first three annual reports on FDIUS and review the federal government efforts to improve the quality of FDI data. Specifically, GAO's objectives were to (1) assess the extent to which Commerce's second and third reports—issued in 1993 and 1995—fulfilled the requirements of the 1990 act and addressed the recommendations in the 1992 report; (2) review the process by which federal agencies collect FDI data; (3) review the status and processes of the data exchanges, or links, initiated by the 1990 act between the Commerce Department's BEA and its Bureau of the Census and between the BEA and the Labor Department's BLS; and (4) evaluate the extent to which implementation of the act has brought about the intended improvements in public information on FDIUS.

0424 **Foreign Direct Investment: Review of Commerce Department Reports and Data-Sharing Activities.**
*General Accounting Office, General Government Division, Washington, D.C. September 1995. 41pp.*
This is GAO's final report responding to a requirement under the Foreign Direct Investment and International Financial Data Improvements Act of 1990 (P.L. 101-533) to analyze the secretary of commerce's first three annual reports on FDIUS and review federal government efforts to improve the quality of FDI data. Specifically,

GAO's objectives were to (1) assess the extent to which Commerce's second and third reports—issued in 1993 and 1995—fulfilled the requirements of the 1990 act and addressed the recommendations in the 1992 report; (2) review the process by which federal agencies collect FDI data; (3) review the status and processes of the data exchanges, or links, initiated by the 1990 act between the Commerce Department's BEA and its Bureau of the Census and between BEA and the Labor Department's BLS; and (4) evaluate the extent to which implementation of the act has brought about the intended improvements in public information on FDIUS.

0465 **Foreign Investment: Implementation of Exon-Florio and Related Amendments.**
*General Accounting Office, National Security and International Affairs Division, Washington, D.C. December 1995. 45pp.*
In 1988 Congress enacted Exon-Florio legislation authorizing the president to suspend or prohibit foreign acquisitions, mergers, or takeovers of U.S. companies when there is credible evidence that a foreign controlling interest might threaten national security and when other legislation cannot provide adequate protection. The president delegated authority to review foreign investment transactions to an interagency group, CFIUS. In this report, the GAO examined CFIUS implementation of the Exon-Florio legislation and related amendments. The report focuses on (1) the characteristics of foreign investments and the extent to which these investments are reported to CFIUS and (2) the factors CFIUS considers in making decisions on whether the foreign investment would result in foreign companies' control of U.S. companies, whether the acquiring company is controlled by a foreign government, and whether there are associated national security risks.

**1996**

0510 **Investment Climate Reports: Sub-Saharan Africa.**
*U.S. Department of State, Bureau of African Affairs. March 1996. 91pp.*
This publication is a compilation of reports regarding the climate for investment in sub-Saharan Africa. Countries covered include Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gabon, the Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, São Tomé and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, Tanzania, Togo, Uganda, Zaire, Zambia, and Zimbabwe.

0601 **International Science and Technology: Emerging Trends in Government Policies and Expenditures.**
*U.S. Department of Commerce, Office of Technology Policy, Washington, D.C. April 1996. 17pp.*
In the period following World War II, the United States led the world economy through investments in basic science, commercial spin-offs from government mission R&D, and technological growth through more recent government-industry partnerships. European nations are accelerating investment in commercial technologies through national programs and through the EU joint R&D initiatives. Japan plans to double the government science and technology budget by the year 2000. China is planning to triple its investment in R&D by 2000, targeting computers,

software, telecommunications, pharmaceuticals, and infrastructure. South Korea has considerably boosted its R&D efforts in key technology areas and is actively acquiring foreign technology. The newly emerging Asian economies are planning to significantly increase the percentage of their GDP devoted to science and technology. This paper presents surveys of government policies and expenditures regarding science and technology in France, the United Kingdom, Germany, the EU, Japan, the People's Republic of China, South Korea, Indonesia, Malaysia, Thailand, Taiwan, and Canada.

0618 **Foreign Direct Investment in the United States. Operations of U.S. Affiliates of Foreign Companies. Preliminary 1994 Estimates.**
*U.S. Department of Commerce, Economics and Statistics Administration, Bureau of Economic Analysis, Washington, D.C. July 1996. 95pp.*
This publication presents financial data covering the operations of U.S. affiliates of foreign companies for 1994. It contains tables on the financial structure and operations, including balance sheets; income statements; property, plant, and equipment ownership; employment and employee compensation; imports and exports; sales; R&D expenditures; and U.S. land owned and leased, for U.S. affiliates of foreign companies for 1994. Industries covered include petroleum, food products, chemical products, primary and fabricated metals, machinery, electric equipment, transportation equipment (including motor vehicles), textile products, lumber products, paper products, service industries, insurance, real estate, and publishing. Countries covered include France, Germany, Italy, the Netherlands, Switzerland, the United Kingdom, Austria, Finland, Spain, Argentina, Brazil, Chile, Colombia, Ecuador, Peru, Venezuela, Costa Rica, Guatemala, Honduras, Mexico, Panama, Egypt, Nigeria, South Africa, Israel, Saudi Arabia, China, India, Malaysia, Thailand, Japan, and Australia.

0713 **Foreign Direct Investment in the United States. Operations of U.S. Affiliates of Foreign Companies. Revised 1993 Estimates.**
*U.S. Department of Commerce, Economics and Statistics Administration, Bureau of Economic Analysis, Washington D.C. July 1996. 95pp.*
This publication presents financial data covering the operations of U.S. affiliates of foreign companies for 1993. It contains tables on the financial structure and operations, including balance sheets; income statements; property, plant, and equipment ownership; employment and employee compensation; imports and exports; and sales, for U.S. affiliates of foreign companies for 1993. Industries covered include petroleum, food products, chemical products, primary and fabricated metals, machinery, electric equipment, transportation equipment (including motor vehicles), textile products, lumber products, paper products, service industries, insurance, real estate, and publishing. Countries covered include France, Germany, Italy, the Netherlands, Switzerland, the United Kingdom, Austria, Finland, Spain, Argentina, Brazil, Chile, Colombia, Ecuador, Peru, Venezuela, Costa Rica, Guatemala, Honduras, Mexico, Panama, Egypt, Nigeria, South Africa, Israel, Saudi Arabia, China, India, Malaysia, Thailand, Japan, and Australia.

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0808 **The Venture Capital Mirage: Assessing USAID Experience With Equity Investment.**
*U.S. Agency for International Development, Center for Development Information and Evaluation. August 1996. 35pp.*
This study looks broadly at previous experience with equity investment to determine if AID funding in this area has been a useful way to reduce poverty and stimulate development. This report looks at thirteen AID venture capital projects and also reviews AID's recent experience with enterprise funds in Eastern Europe. The study finds that AID venture capital projects have almost uniformly failed. One major problem, the report argues, was that AID often promoted venture capital projects in unpromising country environments where the business climate was uncertain or the prospects for expanding firms were poor. The study also posits that AID usually treated projects requiring flexibility and initiative as if they were straightforward and simple. The report concludes that the allure of equity investment in emerging companies is a mirage and that because donor programs are unable to produce results, venture capital should be left to private organizations willing to accept the risks.

0843 **Foreign Ownership of U.S. Agricultural Land through December 31, 1995.**
*U.S. Department of Agriculture, Economic Research Service, Natural Resources and Environment Division, Washington, D.C. Kenneth S. Krupa, Charles H. Barnard, and Jacqueline S. Ross. August 1996. 55pp.*
Foreign persons owned 15.1 million acres of U.S. agricultural land as of December 31, 1995. This is slightly more than 1 percent of all privately held agricultural land and 0.67 percent of all land in the United States. This was an increase of 899,744 acres from 1994. Corporations owned 72 percent of the acreage; partnerships, 20 percent; and individuals, 6 percent. Foreign persons from Canada, the United Kingdom, Germany, Switzerland, Netherlands Antilles, and the British Virgin Islands account for 63 percent of the foreign-held acreage. Foreign persons from Japan own only 3 percent of the foreign-owned acres. The findings in this study are based on an analysis of reports submitted in compliance with the Agricultural Foreign Investment Disclosure Act of 1978.

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**Foreign Investment cont.**

**1997**

0001 **U.S. Direct Investment Abroad: 1994 Benchmark Survey, Preliminary Results.**
*U.S. Department of Commerce, Economics and Statistics Administration, Bureau of Economic Analysis, Washington, D.C. January 1997. 124pp.*
This publication presents financial data covering the operations of direct investment of U.S. companies abroad for 1994. Benchmark surveys are the most comprehensive surveys of U.S. direct investment abroad conducted by the BEA in terms of both coverage of companies and subject matter. It contains tables on the financial structure and operations, including balance sheets; income statements; property, plant, and equipment ownership; employment and employee compensation; imports and exports; sales; and R&D expenditures, for U.S. affiliates

of foreign companies. The tables for U.S. parent companies are presented by industry. Most of the tables for foreign affiliates are presented by country or industry of affiliate; some are presented by industry of U.S. parent company. Industries covered include petroleum, food products, chemical products, primary and fabricated metals, farm and garden machinery, construction machinery, electronic and electric equipment, transportation equipment (including motor vehicles), textile products, wood products, printing and publishing, paper products, service industries, insurance, and real estate. Countries covered include France, Germany, Italy, the Netherlands, Switzerland, the United Kingdom, Austria, Finland, Spain, Brazil, Mexico, Panama, Venezuela, Israel, Kuwait, Lebanon, Saudi Arabia, China, Malaysia, Thailand, South Korea, Japan, and Australia.

0125 **Investment Climate Reports: Sub-Saharan Africa.**
*U.S. Department of State, Bureau of African Affairs. April 1997. 91pp.*
This publication is a compilation of reports regarding the climate for investment in sub-Saharan Africa. Countries covered include Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gabon, the Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, São Tomé and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, Tanzania, Togo, Uganda, Zaire, Zambia, and Zimbabwe.

0216 **Building American Prosperity in the 21st Century: U.S. Trade and Investment in the Asia Pacific Region.**
*Commission on United States–Pacific Trade and Investment Policy, Washington, D.C. 1997. 141pp.*
The goal of this report was to recommend steps the United States could take to achieve greater opening of Asia Pacific markets for U.S. companies in order to create better jobs for American workers. Asia Pacific was defined to include Brunei, China, Hong Kong, Indonesia, Japan, Malaysia, the Philippines, Singapore, South Korea, Taiwan, and Thailand. As of 1995, U.S. trade with other nations amounted to 30 percent of the GDP and Asia Pacific is a very important region. The report notes that Asia Pacific presents some of America's most vexing trade barriers and most unbalanced trade relationships. The report also calls for placing a higher priority on U.S. engagement in the region.

0357 **Foreign Direct Investment in the United States: An Update. Review and Analysis of Current Developments.**
*U.S. Department of Commerce, Economics and Statistics Administration, Office of the Chief Economist, Washington, D.C. September 1997. 151pp.*
The rapid increase in FDIUS in the 1980s raised serious concerns about possible negative impacts of foreign ownership of U.S. firms on the U.S. economy, employment, and technological competitiveness. The direct investment inflow surged in the late 1980s, peaked in 1989, dropped sharply between 1989 and 1992, and rose sharply between 1992 and 1995. This report reviews changes in patterns and trends in FDIUS. It also analyzes the characteristics of foreign-owned U.S. affiliates, and it provides special coverage of bilateral related-party FDI flows and

trade between U.S. and EU parent and affiliate firms. There is also an assessment of the influence of FDI on U.S. development and transfer of technology.

0508 **Newly Independent States and Baltic Update, October 20, 1997. Spotlight on Foreign Direct Investment (FDI).**
*U.S. Department of Agriculture, Economic Research Service, Washington, D.C. October 20, 1997. 11pp.*
FDI in the Newly Independent States (NIS) and Baltic countries, though lagging well behind other emerging markets, has increased in recent years. So far, FDI in the NIS and Baltics' food and related products sectors has been concentrated in beverages, confectionery, and tobacco products. An underdeveloped legal system, weak tradition of rule of law, inconsistent tax system, and deficient market infrastructure have fostered a high degree of risk and uncertainty, impeding FDI in the region. Despite the slow progress, the report argues that the long-term outlook for the NIS and Baltic investment climate indicates that total FDI could increase at a quicker pace. Continued (or improved) political stability, projected economic growth, and greater awareness of the benefits of FDI (such as technology transfer and increase employment) point to a possibility for greater growth.

**1998**

0519 **Investment Climate Reports: Sub-Saharan Africa.**
*U.S. Department of State, Bureau of African Affairs. March 1998. 117pp.*
This publication is a compilation of reports regarding the climate for investment in sub-Saharan Africa. Countries covered include Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Democratic Republic of the Congo, Republic of Congo, Côte d'Ivoire, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gabon, the Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, São Tomé and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, Tanzania, Togo, Uganda, Zambia, and Zimbabwe.

0636 **U.S. Foreign Direct Investment in the Western Hemisphere Processed Food Industry.**
*U.S. Department of Agriculture, Economic Research Service, Market and Trade Economics Division and Food and Rural Economics Division, Washington, D.C. Christine Bolling, Steve Neff, and Charles Handy. March 1998. 64pp.*
FDI has become the leading means for U.S. processed food companies to participate in international markets. Affiliates of U.S.–owned food processing companies had $30 billion in sales throughout the Western Hemisphere in 1995, nearly four times the level of processed food exports. This report puts U.S. FDI and trade in processed foods to the region into global perspective and finds evidence that, in the aggregate for the 1990s, trade and FDI are complementary—not competitive—means of accessing international food markets. Incomes have grown sufficiently in most countries to support growth in affiliate sales and U.S. exports, indicating a strong demand for a wide variety of processed foods.

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0700 **U.S. Direct Investment Abroad. 1994 Benchmark Survey, Final Results.**
*U.S. Department of Commerce, Economics and Statistics Administration, Bureau of Economic Analysis, Washington, D.C. May 1998. 426pp.*
This publication presents financial data covering the operations of direct investment abroad of U.S. companies for 1994. Benchmark surveys are the most comprehensive surveys of U.S. direct investment abroad conducted by the BEA in terms of both coverage of companies and subject matter. It contains tables on the financial structure and operations, including balance sheets; income statements; property, plant, and equipment ownership; employment and employee compensation; imports and exports; sales; and R&D expenditures, for U.S. affiliates of foreign companies. The tables for U.S. parent companies are presented by industry. Most of the tables for foreign affiliates are presented by country or industry of affiliate; some are presented by industry of the U.S. parent company. Industries covered include petroleum, food products, chemical products, primary and fabricated metals, farm and garden machinery, construction machinery, electronic and electric equipment, transportation equipment (including motor vehicles), textile products, wood products, printing and publishing, paper products, service industries, insurance, and real estate. Countries covered include France, Germany, Italy, the Netherlands, Switzerland, the United Kingdom, Austria, Finland, Spain, Brazil, Mexico, Panama, Venezuela, Israel, Saudi Arabia, Egypt, Nigeria, South Africa, China, Malaysia, Thailand, Korea, Japan, and Australia.

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**Foreign Investment cont.**

**1998 cont.**

0001 **Foreign Ownership of U.S. Agricultural Land through December 31, 1996.**
*U.S. Department of Agriculture, Economic Research Service, Resource Economics Division, Washington, D.C. Charles H. Barnard and Jacqueline Stokes. July 1998. 62pp.*
Foreign persons owned 14.5 million acres of U.S. agricultural land as of December 31, 1996. This is slightly more than 1 percent of all privately held agricultural land and 0.64 percent of all land in the United States. Corporations owned 76 percent of the acreage; partnerships, 12 percent; and individuals, 6 percent. Foreign persons from Canada, the United Kingdom, Germany, and France accounted for 56 percent of the foreign-owned acreage. Foreign persons from Japan owned less than 4 percent of the foreign-owned acres. The findings in this paper are based on an analysis of reports submitted in compliance with the Agricultural Foreign Investment Disclosure Act of 1978.

0063 **International Direct Investment: Studies by the Bureau of Economic Analysis.**
*U.S. Department of Commerce, Economics and Statistics Administration, Bureau of Economic Analysis, Washington, D.C. [March 1999.] 274pp.*
The first group of studies in this compilation address the valuation of direct investment and how the standard current-account presentation in the balance of payment—which records intrafirm trade indistinguishably from trade with unrelated parties—can be supplemented with frameworks that take greater account of the

ownership relationships among transactors. The second group of articles examine the production patterns of U.S. affiliates of foreign MNCs and of U.S. MNCs, the sources of inputs to production, and the trade in goods of U.S. affiliates and U.S. MNCs. The third section of articles looks at detailed establishment-, or plant-, level data to examine the characteristics of foreign-owned U.S. establishments. The fourth section provides an introduction to the direct investment data series produced by the BEA. The fifth section reprints the BEA's methodologies from its benchmark surveys on U.S. direct investment abroad and FDIUS.

## Technology Transfer

**1988**

0337 **JPRS Report, Science & Technology. USSR: Science & Technology Policy.**
*Foreign Broadcast Information Service, Joint Publications Research Service, Arlington, Virginia. April 28, 1988. 54pp.*
This publication consists of a number of different articles that appeared in international newspapers and periodicals. The articles cover issues related to science and technology policy in the Soviet Union, including research management and changes to the temporary charter of the Academic Science Research Institute.

0391 **China's Import of Foreign Technology, Survey, and Chronology.**
*Library of Congress, Federal Research Division, Washington, D.C. Donald R. DeGlopper. June 30, 1988. 42pp.*
This compilation of significant transfers of technology to China since 1984 concentrates on technology with basic industrial or potential military applications. Consulting services and training in generalized skills, such as management and computer programming, are also included. This study is based on a variety of sources, including U.S. and foreign newspapers, trade journals, newsletters, and wire services.

0433 **Technology Transfer: Transferring Federal R&D Results for Domestic Commercial Utilization.**
*U.S. Department of Energy, Sandia National Laboratories, Albuquerque, New Mexico. Jeffrey P. DeBruin and James D. Corey. August 1988. 149pp.*
This study provides a policy-oriented overview and grounding in concepts, issues, and considerations involved in the complex field of federal technology transfer. A major problem for people attempting to develop a solid understanding of technology transfer is that so much of the existing information, experience, and insight exists in bits and pieces scattered throughout many different media in many different places. A primary objective of this study is to assemble, condense, and interpret a significant amount of the existing knowledge and wisdom relating to technology transfer. It also attempts to clarify and comment on the important issues and concerns that affect the federal government, and the DOE in particular.

0582 **JPRS Report, Science & Technology. Europe.**
*Foreign Broadcast Information Service, Joint Publications Research Service, Arlington, Virginia. October 13, 1988. 58pp.*
This publication consists of a number of different articles that appeared in international newspapers and periodicals. The articles focus on advanced

composites; aerospace and civil aviation; biotechnology; computers; factory automation and robotics; lasers, sensors, and optics; marine technology; microelectronics; nuclear engineering; science and technology policy; superconductivity; and technology transfer.

**1989**

0640 **Technology Transfer and Innovation in the Canadian Residential Construction Industry.**

*James F. Hickling Management Consultants Ltd., Ottawa, Ontario, Canada. 1989. 29pp.*

The low-rise residential construction industry is the sum of all of the activities performed by contractors and others engaged in the assembly of housing units, as well as engineers and design professionals, manufacturers of materials, those who regulate the industry, and the people who own the house produced. This study focuses on the path taken by an innovation after it has left the supplier. The study has several aims: to identify how circumstances influence the pace of adoption of new residential construction technology and how the technology diffusion process may differ depending on what is the driving force in the process; to identify the impediments to technology diffusion in residential construction; to identify factors conducive to technology diffusion; and to identify ways in which both government and industry can work to encourage the effective dissemination and adoption of new technologies in the residential construction industry.

0669 **International Technology Transfer: The Rope to Hang the West.**

*U.S. Army War College, Carlisle Barracks, Pennsylvania. Neil W. Grotegut. March 28, 1989. 37pp.*

The United States relies on the superior technology of its defense systems as a competitive edge against overwhelming Soviet numerical advantages. As of 1989, there was strong evidence to suggest that the Soviet Union was rapidly reducing the U.S. technology lead through the transfer and assimilation of technology gained from the West. This paper examines the relevant issue of West-to-East technology transfer in order to provide awareness and appreciation of its importance to the security of the United States.

0706 **Technology Transfer to the United States: The MIT–Japan Science and Technology Program.**

*U.S. Congress, Office of Technology Assessment, Washington D.C. April 1989. 22pp.*

On September 13, 1988, the OTA and the MIT–Japan Science and Technology Program held a one-day workshop to discuss its internship program and its technical language workshop. This paper gives a brief description of the MIT–Japan Science and Technology Program and reports on the principal themes and issues raised at the workshop.

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0728 **COCOM, Technology Transfer and Its Impact on National Security.**
*Naval Postgraduate School, Monterey, California. Warren E. Rhoades III. June 1989. 152pp.*
This thesis examines six key members of the Paris-based COCOM, as well as the Soviet methods of acquiring Western technology. As of 1989, the Soviet acquisition of Western technology was a pressing concern for the Western world. This thesis analyzes the shortcomings of COCOM and the policy-making process in West Germany, Great Britain, the United States, France, Italy, and Japan. It also seeks to explain the flow of technology to the East. Critical variables considered in the study include the informal nature of COCOM itself, each country's commercial orientation, the lack of national security input when conducting export transactions, the specific country's political will and technological proficiency, and the amount of trade the specific country did with the Soviet bloc in conjunction with their export process, laws, and sanctions against violators, as well as their participation within COCOM.

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**Technology Transfer cont.**

**1989 cont.**

0001 **International Technology Transfer in Agriculture.**
*U.S. Department of Agriculture, Economic Research Service, Washington, D.C. Margot Anderson. August 1989. 13pp.*
International technology transfer, which occurs when a country acquires, imitates, or adapts technology developed elsewhere, helps determine a country's level of agricultural productivity. Private firms are becoming more important in agricultural technology transfer, a field once dominated by public-sector institutions such as governments, international organizations, and universities. New crop varieties, farm chemicals, and farm operating systems are some of the advances spread through technology transfer. The report discusses the implications of and reasons for the private sector's expanding role in agricultural technology transfer.

0014 **Technology Transfer and the FSX: Effects on the U.S./Japanese Relationship.**
*Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio. Peter C. Leahy. September 1989. 90pp.*
The purpose of this study was to examine the role that technology transfer assumes in the relationship between the United States and Japan. The objective of the thesis was to determine if U.S. policy should look not only at the transfer of technology to help maintain its strategic military interests with Japan but also to see if U.S. economic interests should play a more significant part in the technology transfer decision. The study found that U.S. policy broadened its focus so that both military and economic interests were examined when transferring technology to Japan. The study also discovered that the FSX (Fighter Support Experimental aircraft program) agreement between the United States and Japan was one of the reasons for the shift in U.S. policy.

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0104 **Solar Energy Technology Transfer, Guatemala City, Guatemala and Tegucigalpa, Honduras, August 20–August 30, 1989: Foreign Trip Report.**
*Oak Ridge National Laboratory, Tennessee. D. B. Waddle. September 5, 1989. 11pp.*
The author of this report traveled to Guatemala City, Guatemala, and Tegucigalpa, Honduras, to gather information regarding the possibility of transferring photovoltaic technology for rural household uses in both countries. Meetings were held with U.S. government officials in each country mission (AID and the commercial attachés), utility officials, cooperative managers, and private voluntary organizations. The overall response was positive; two of the electric utilities wanted to begin program design immediately. A coffee cooperative with thirty-eight thousand members expressed interest in putting into place a program similar to the photovoltaic household energy program established in the Dominican Republic. The report notes that the purpose of the trip was to establish lines of communication with perspective project cooperators and that that objective was accomplished.

0115 **ESA/Eurospace Workshop: Promotion of European Space Technology Transfer, Versailles, France, 10–11 May 1989.**
*European Space Agency, Paris, France. November 1989. 74pp.*
This document represents the proceedings of a European Space Agency workshop on the promotion of the transfer of European space technology. Papers on various aspects of this subject, including several case studies, were presented.

0189 **Technology Forecasting and Technology Information Systems In Japan: Decision Making for Catching Up in Technology. Report 2. Study 1. Technological Decision Making.**
*Government of India, Ministry of Science and Technology, Technology Information, Forecasting and Assessment Council, New Delhi, India. B. Bowonder and T. Miyake. December 1989. 110pp.*
The objective of this study is to highlight how Japan used technology forecasting and technology information for catching up with the West in high-technology areas. The focus is to discover how a small country like Japan became a pioneer in the field of electronics. The basic premise of the study is that catching up is a strategic decision and needs coordinated efforts by industry and government. It will involve changes such as stimulating demand, industrial restructuring, forward looking and intensive technology development, and selection and nurturing of new industries. The report considers the innovation process in Japan, the role of MITI, Japan's use of technology forecasting, and Japan's commercial intelligence systems. There is also a case study of the Japanese computer industry and a concluding chapter on lessons for India that can be drawn from the Japanese experience.

**1990**

0299 **Technology '89: R&D Laboratory Technology Transfer Program. Accomplishments in Technology Transfer from DOE and IT Laboratories.**
*U.S. Department of Energy, Washington, D.C. January 1990. 218pp.*
This publication describes the technology transfer accomplishments of DOE's research programs and from its R&D laboratories. Topics covered pertaining to DOE's research programs include energy research, defense programs, nuclear

energy, conservation and renewable energy, and fossil energy. The first part of the report concludes with a discussion of opportunities to work with DOE laboratories. The second part of the report focuses on energy technologies, environment and waste management, biology and medicine, computers and communications, and materials science and manufacturing processes. The third portion of the report discusses specific DOE laboratories.

0517 **The Technology Transfer Process: Background for the U.S. National Energy Strategy.**
*U.S. Department of Energy, Pacific Northwest Laboratory, Richland, Washington. D. E. Deonigi, N. L. Moore, S. A. Smith, R. L. Watts, M. A. Brown, and R. J. Noun. January 1990. 66pp.*
This paper describes the objectives, strategies, and mechanisms used by DOE and other government and private technology development organizations in their technology transfer programs. Its scope is limited to listing the technology transfer mechanisms and defining the situations when these particular mechanisms are most effective. The specific mechanisms for transferring technology, and the advantages and disadvantages of each, are listed based on federal and industrial experiences in using these mechanisms. In addition, there are also several case studies illustrating how technology transfer strategies using multiple mechanisms were successfully carried out.

0583 **The Technology Transfer Application in the Republic of Indonesia.**
*Naval Postgraduate School, Monterey, California. Umar Abubakar. June 1990. 60pp.*
The main emphasis of this thesis is the examination of technology transfer from a theoretical perspective and comparison of this perspective with its application in the Republic of Indonesia. The elements of a transfer mechanism concept, such as organization, project, documentation, distribution, linker, capacity, credibility, willingness, and rewards, are used in the study. Particular attention is paid to the role of the Body of the Assessment and Application of Technology as the link between the source of technology from foreign countries and technology users in Indonesia. The paper concludes that the technology transfer process, as of 1990, was being conducted successfully.

0643 **The Improvement of Technology Transfer from Government Laboratories to Industry.**
*George Washington University, Engineering Management Department, Washington, D.C. Joseph W. Lee. June 1990. 17pp.*
This paper is the result of research conducted under the sponsorship of George Washington University's Engineering Management Department. The research was conducted in order to provide a better understanding of the issues and to identify the barriers to government-industry technology transfer. The findings indicate thirteen significant impediments to government-industry technology transfer. These include lack of funds designated for technology transfer activities, ineffective communication, cultural differences, ineffective mechanisms, bureaucratic inertia, not-invented-here syndrome, and mission conflicts in government laboratories. The report concludes that the dismal progress in technology transfer from government laboratories to industry is primarily due to the lack of government commitment and industry interest.

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The paper presents recommendations for improving the government-industry technology transfer process.

0660 **Will the United States Eventually Be Held Hostage by Its Own High Technology Conventional Weapons? The Effect of Technology Transfer on International Terrorism.**
*Air Force Institute of Technology, School of Systems and Logistics, Wright-Patterson Air Force Base, Ohio. Paul C. Kovarovic. September 1990. 173pp.*
This paper finds that, as of 1990, international terrorists' previously unsophisticated arsenals were evolving into high-technology conventional weaponry. An increasing portion of this arsenal came from U.S. and Western technology because of technology transfer. This paper finds that through product and process technology transfers, the number of organizations that possess the technological capabilities to produce advanced weapons skyrocketed during the 1980s. This thesis recognizes that it is virtually impossible to restrict U.S. exports to industrial countries without severely restricting American competition. The paper argues, however, that "strong fences" must be built around "small areas" to thwart the terrorist acquisition of U.S. and Western technology.

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**Technology Transfer cont.**

**1990 cont.**

0001 **Research and Development Strategy for the 1990s. 1990 Summer Study. Volume 5. Technology and Technology Transfer Task Force.**
*U.S. Department of Defense, Defense Science Board, Washington, D.C. November 1990. 132pp.*
As of 1990, the Defense Department had formulated "Defense Critical Technologies Lists," which identified areas of concern, but the department had yet to develop a comprehensive "Defense Technology Investment Strategy." The Technology and Technology Transfer Task Force was requested to assist the Defense Department in the formulation of an investment strategy including an examination of all defense technologies and the identification of those with high potential to provide "leapfrog" capabilities to U.S. forces into the twenty-first century. The task force examined two broad areas related to technology and technology transfer policy: issues concerned with a technology investment strategy and with the defense industrial base.

**1991**

0133 **The Role of Corporate Linkages in U.S.–Japan Technology Transfer.**
*U.S. Department of Commerce, Economics and Statistics Administration and The Technology Administration, Washington, D.C. Donald H. Dalton and Phyllis A. Genther. March 1991. 63pp.*
The rapid growth in technology flows between the United States and Japan has led to concern about the long-term effect of technology transfer on U.S. competitiveness and economic security. The lack of detailed industry-specific data about two-way technology flows contributed to public misunderstanding about the real benefits to the U.S. economy of U.S.–Japan corporate linkages. The study analyzes technology

flows resulting from business linkages between U.S. and Japanese corporations. The database constructed for this study attempts to increase public knowledge about technology transfer through U.S.–Japan corporate linkages and alliances. It includes 450 joint ventures and linkages in six high-technology industries: aerospace, biotechnology, computers, software, semiconductors, and semiconductor manufacturing equipment. The study shows several things: the United States continues to be a net exporter of technology to the world; access to new technology is a major motivation for Japanese firms to form alliances with U.S. companies; access to Japanese financial capital is a major motivation for U.S. companies to form alliances; marketing agreements accounted for the largest share of U.S.–Japan corporate linkages; joint ventures for R&D and production of new products were the second most common type of alliance; and about half of the linkages were located in the United States and about 41 percent in Japan.

0196 **Protection and Management of Intellectual Property: The Role of Licensing and Technology Transfer.**

*Jay Erstling, Minneapolis, Minnesota. March 25, 1991. 53pp.*

As of 1991, private-sector technology transfer was playing an increasing role in stimulating economic growth in developing countries and providing enhanced opportunities for U.S. industry. To reach its full potential, however, technology transfer requires an adequate framework for the protection and licensing of intellectual property rights. The purpose of the report is to provide an analysis of that framework within the countries of the Asian region. Following a general overview of licensing and technology transfer procedures, the report focuses on legislation and practices in the following countries: Bangladesh, India, Indonesia, Malaysia, Nepal, Papua New Guinea, Singapore, Sri Lanka, and Thailand. The report also includes an examination of the U.S. Trade Representative's reaction to some of those practices and legislation.

0249 **Feasibility Study for the Expansion and Renovation of the Polish Telecommunications Network and Implementation of Technology Transfer for the Production of Telecommunications Equipment for the Ministry Post and Telecommunications. Volume 1. Task A.1.**

*Teleconsult Inc., Washington, D.C. September 1991. 264pp.*

This study describes a demand forecast of all current and new services in the telecommunications industry. The report consists of two parts. In the first part background information and principal concepts in the telecommunications field are presented. A range of forecasting methods are also described. The second part of the report comprises the data used to forecast demand for telecommunications services in Poland and the forecast itself. In general, the study predicts a high demand for telecommunications services.

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0513 **Feasibility Study for the Expansion and Renovation of the Polish Telecommunications Network and Implementation of Technology Transfer for the Production of Telecommunications Equipment in Poland for Ministry Posts and Telecommunications. Final Report. Executive Summary.**
*Teleconsult Inc., Washington, D.C. September 1991. 99pp.*
This paper addresses the problem of the expansion and renovation of the Polish telecommunications industry. The study consists of several different elements, including demand and market forecast, network development strategy, financing strategy, regulation and management policy, review of the Polish telecommunications market, technology transfer restrictions, assessment of Polish production possibilities, and procurement policy.

0612 **JPRS Report, Science & Technology: Japan. Technology Transfer: Investment in East Asia.**
*Foreign Broadcast Information Service, Joint Publications Research Service, Arlington, Virginia. November 29, 1991. 34pp.*
This publication consists of a case study of direct investment in East Asian countries by Japanese companies. The objectives of the study are the following: (1) to measure the state of technology transfer accompanying the shift of production to overseas countries; (2) to analyze the cause and effect of technological advance on technology transfer in a period when the competition for technological innovation was being fiercely waged; and (3) to analyze the structure of technology transfer between Japan and East Asia.

**1992**

0646 **Partners in Technology Transfer: Exploring the Oceans.**
*Government of Canada, Department of Fisheries and Oceans, Ottawa, Ontario, Canada. 1992. 50pp.*
As of 1992, Canada's Department of Fisheries and Oceans had been at the forefront of the scientific effort to understand Canada's oceans and freshwater areas and the resources they contain. This report looks at some of the scientific disciplines, tools, and technologies used in carrying out this research. The report also includes profiles of some of the major sources of funding for the exploration of Canada's oceans and freshwater areas.

0696 **Technology Transfer in a Changing National Security Environment (1992).**
*Massachusetts Institute of Technology, Japan Program, Cambridge, Massachusetts. Ronald A. Finkler, Gordon L. Boezer, Erling J. Foss, Norman D. Jorstad, and A. James Ramsbotham. 1992. 54pp.*
For over twenty years, the U.S. national program for export control, critical technologies, and technology security, developed in an environment characterized by an adversarial relationship with the Soviet Union, an evolving but mostly adversarial relationship with the People's Republic of China, U.S. dominance of critical areas of technology development, a major U.S. positive trade balance with the free world, and U.S. political leadership of the industrial West. In the 1980s, the paper notes that this dominance was diffused across a broad community of nations and cultures. The purpose of this paper was to revisit the policy and technical bases of export control policy and, reflective of the significant changes in the U.S. position

in all facets of the international environment, review the policy and technical framework within which the Defense Department executes policy. The paper examines technology transfer, with particular emphasis on technical aspects of U.S. export control. It places these matters in a framework of historical evolution and then makes some observations about trends that are most likely to be important factors in assessing future events. It concentrates on considerations that are of particular interest to the United States and Japan.

0750 **Technology Transfer: Japanese Firms Involved in F-15 Coproduction and Civil Aircraft Programs.**
*General Accounting Office, National Security and International Affairs Division, Washington, D.C. June 1992. 25pp.*
This paper examines the Japanese aerospace industry's production, employment, market share, and trade during the 1980s. The study obtained information on Japanese aerospace companies' participation in the U.S. civil jet aircraft industry, specifically in Boeing and Douglas Aircraft Company programs. It identified Japanese companies participating in the F-15 coproduction program, and it determined which companies were involved in the development and production of Boeing and Douglas civil aircraft.

0775 **Ukrainian Technology Transfer Workshops Proceedings.**
*National Center for Manufacturing Sciences, Ann Arbor, Michigan. June 11, 1992. 9pp.*
The National Center for Manufacturing Sciences (NCMS) and University Science Partners Holdings, agreed to work together to transfer eight key technologies from the E. O. Paton Electric Welding Institute and the Dnepropetrovsk Metallurgical Institute in Ukraine. The Ukrainian technologies chosen were all in areas where, as of 1992, the United States did not have a technical lead. The technologies of particular interest were electron beam carbides and diamond-like carbon coatings, electron beam fiber coating, electron beam thermal barrier coatings, gyroton processing of electronic circuit boards, microlaminates, anisotropic porous materials, and PICT-iron and diamond honing. Through discussions with the technology inventors, government agencies, and industry, the need for firsthand information to be presented to the NCMS membership and U.S. government was discovered. Workshops covering the technical areas identified were held during March, April, and May 1992. This document is a summary of the proceedings of those meetings.

**1993**

0784 **Strategic Factors in the Development of the National Technology Transfer Network.**
*National Aeronautics and Space Administration, Office of Advances Concepts and Technology, Washington, D.C. Jonathan F. Root and Barbara A. Stone. 1993. 10pp.*
During the 1980s and early 1990s, a growing commitment to better harness the unparalleled potential of federal R&D to enhance and support U.S. economic growth and industrial competitiveness emerged in tandem with an ongoing shift in national priorities. One indication of this commitment was NASA's initiative to establish the basis for a national transfer technology network. This plan supports NASA's mission to transfer federally funded technologies to commercial and industrial applications

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throughout the U.S. economy. Under NASA's leadership, six Regional Technology Transfer Centers (RTTC) and the National Technology Transfer Center (NTTC) were established as the core elements of a national network to transfer federal technology to the marketplace. This paper reviews the key factors and considerations that shaped the develop of RTTCs and the NTTC. The paper also explores the future role of the national network in support of emerging technology policy initiatives.

0794 **Report of the U.S.–Japan Technology Transfer Joint Study Panel.**
*U.S. Department of Commerce, Technology Transfer Joint Study Panel, Washington, D.C. Ministry of International Trade and Industry, Tokyo, Japan. May 3, 1993. 24pp.*
At a 1990 meeting of the Joint High-Level Committee, discussions were held on initiatives under the auspices of the Head of Government U.S.–Japan Science and Technology Agreement signed in 1988 by President Ronald Reagan and Prime Minister Noboru Takeshita. Innovation and how it occurs in the two countries were major themes of the discussions. The Commerce Department and Japan's MITI organized a Technology Transfer Joint Study Panel. Discussions were in held in Washington, D.C., and in Tokyo in 1992. The roundtable discussions examined technology transfer in the context of industry, government laboratories and universities, and the overall structure of technology transfer systems. This report summarizes the findings of those discussions.

0818 **Information Systems Related to Technology Transfer: A Report on Federal Technology Transfer in the United States.**
*Ball & Associates Technology Transfer and Commercialization Services, Springfield, Virginia. August 1993. 70pp.*
This report examines all aspects of domestic technology transfer in the United States. The first section provides a perspective on the meanings of technology transfer, its importance to the economic development of the nation, and legislative initiatives concerning the process. The second section describes the prominent agencies and crosscutting organizations principally involved in technology transfer, their programs, and their information systems. Among the agencies and crosscutting organizations covered are the National Technical Information Service; the Federal Laboratory Consortium; the National Technology Transfer Center; the Commerce Department; NASA; the Departments of Defense, Energy, Health and Human Services, Agriculture, Transportation, and Education; and the Environmental Protection Agency (EPA).

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**Technology Transfer cont.**

**1994**

0001 **Technology Transfer, 1994.**
*U.S. Department of Energy, Washington, D.C. January 1994. 244pp.*
DOE was established in 1977 with five main mission areas: energy resources, national security, science and technology, environmental cleanup, and industrial competitiveness. DOE laboratories employ thousands of scientists, engineers, and

technicians, who performed about $6.6 billion worth of R&D in fiscal year 1993. Although technology transfer has always been an element of the activities of DOE and its laboratories, it received increasing emphasis from U.S. policy makers in the 1980s and early 1990s as an avenue for enhancing the nation's competitiveness. A number of laws enacted in this period, culminating in the National Competitiveness and Technology Transfer Act of 1989 and the Energy Policy Act of 1992, firmly established technology transfer as a mission of all federal laboratories and facilities. This report shows that there are many opportunities available to U.S. industry and academic institutions to work with DOE and its laboratories and facilities in improving technology transfer to meet national needs. The first section of the report, technology transfer activities, highlights DOE's recent developments in technology transfer and describes plans for the future. The next section of the report deals with laboratories and facilities. The first part of this section describes the avenues for cooperation between DOE laboratories and facilities and industry, academia, and other government agencies. This is followed by profiles of DOE laboratories and facilities involved in technology transfer. The next section, DOE offices, summarizes the major R&D programs within DOE. The final section provides descriptions of some of the new technologies developed at DOE laboratories and facilities.

0245 **Conflicts in East-West Trade and Technology Transfer (1949–1989): Were Export Controls Worth the Costs?**

*Air University, Maxwell Air Force Base, Alabama. Larry D. Strawser. December 16, 1994. 40pp.*

From 1949 to 1989, an important topic of debate among Western governments was how to balance the conflicting interests of economic benefits against security risks inherent in trade with adversaries. This paper outlines the evolution of U.S. and Western export control policies from the early years of the cold war to 1989 in order to answer one central question: were the export control policies adopted by the United States and its Western allies worth the associated economic and political costs? The paper begins by describing the 1949 establishment of the collective Western export control organization known as COCOM. The paper details the rationale for COCOM's existence, its organizational characteristics, and why it chose the export control strategy of economic warfare during its early years. This is followed by an analysis of the evolving relationship and policies of COCOM during four time periods: 1954–1957, 1958–1968, 1969–1979, and 1980–1989. The paper concludes that COCOM was worth the cost because the Western allies survived while the Soviet Union disintegrated.

**1995**

0285 **Technology Transfer Today.**

*Naval Air Warfare Center Aircraft Division, Patuxent River, Maryland. Summer 1995. 9pp.*

This publication presents opportunities for partnerships between NAWC and industry. This issue includes articles on Shields Environmental Corporation, Naval Aviation Science and Technology Office, NAWC technology transfer board, the Canadian Technical Information Exchange Conference, and partnerships between NAWC and industry.

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0294 **Technology Transfer 1995.**
*U.S. Department of Energy, Washington, D.C. January 1995. 176pp.*
This DOE report was intended to inform the U.S. industrial and academic sectors about the many opportunities to form partnerships with DOE for the mutual advantage of the individual institutions, DOE, and the nation as a whole. It describes the growing number of achievements resulting from such partnerships. As with the "Technology Transfer 1994" report, a section in this report provides information about the facilities and resources that are located throughout the DOE complex and available for the nation's use. The section on DOE offices summarizes the major R&D programs supported by DOE. The section on technologies provides descriptions of some of the new technologies development at DOE's laboratories during 1994.

0470 **Planning for an Instruction Program Related to Highway Safety Technology Transfer in the Americas.**
*University of North Carolina at Chapel Hill, Highway Safety Research Center, Chapel Hill, North Carolina. B. J. Campbell. April 1995. 70pp.*
This report addresses several topics pertaining to the possible establishment of a comprehensive and continuing training program intended to foster technology transfer on the subject of highway safety. The discussion includes (1) a description of the road accident problem in the Americas, including some road accident statistics; (2) a discussion of options for establishing a highway safety technology transfer program for the Americas; (3) the presentation of ideas concerning implementation of the plan through the Pan American Institute of Highways; and (4) a summary of topics that might be included in highway safety courses from which an initial program of instruction could be constructed.

0540 **FBIS Report, Science and Technology: Europe/International. Germany: MaTech Program for Materials R&D.**
*Foreign Broadcast Information Service, Washington, D.C. November 1995. 54pp.*
This report on the MaTech (New Materials for Key Technologies of the 21st Century) program in Germany describes the multiyear government program for R&D of advanced materials. In a highly industrialized country such as the Federal Republic of Germany, which has small amounts of raw materials, the development of new materials is one of the strategically important fields of technology in the economy.

**1996**

0594 **Federal Research: Preliminary Information on the Small Business Technology Transfer Program.**
*General Accounting Office, Resources, Community and Economic Development Division, Washington, D.C. B. Steinhardt, R. Nazzaro, and D. Carroll. January 1, 1996. 36pp.*
The nation's research institutions—its universities, federal laboratories, and nonprofit research institutions—account for about a quarter of all the scientists and engineers in the United States. In an effort to move new knowledge from research institutions to industry, Congress authorized the Small Business Technology Transfer (STTR) pilot program for three years, beginning in fiscal year 1994. Congress also required that GAO report on the implementation of the program. For this report, GAO

reviewed (1) the quality and commercial potential of the STTR program's research as shown by technical evaluations of the winning proposals in the first year of the program, (2) how agencies addressed potential conflicts of interest resulting from the involvement of federally funded research and development centers in the program, and (3) agencies' views on the effects of and need for STTR in view of its close similarity to the Small Business Innovation Research (SBIR) program.

0630 **Foreign Science and Technology Information Sources in the Federal Government and Select Private Sector Organizations.**
*Electronic Knowledge Corporation, Herndon, Virginia. U.S. Department of Commerce, International Technology Policy, Technology Administration, Washington, D.C. Department of State, Bureau of Oceans and International Environmental and Scientific Affairs, Office of Science Technology and Health, Technological Competitiveness Division, Washington, D.C. July 1996. 233pp.*
This report contends that to compete effectively in global markets and to hold their own in the domestic market, U.S. companies and researchers need to track and remain current with foreign science and technology developments. To help track these developments, this publication provides an overview of the mandate, functions, and key contacts of U.S. federal organizations and select private-sector organizations that monitor, collect, disseminate, or analyze information involving foreign science and technology. Federal departments covered are Agriculture, Commerce, Defense, Energy, Health and Human Services, Interior, Justice, State, and Transportation. Government agencies covered are the EPA, Library of Congress Federal Research Division, NASA, National Science Foundation, Nuclear Regulatory Commission, and Office of Science and Technology Policy. Military services covered are the air force, army, and navy. Private-sector organizations covered are Battelle, Critical Technologies Institute, International Technology Research Institute, Transportation Technology Evaluation Center, Microelectronics and Computer Technology Corporation, and Sematech.

0863 **The Utility of Using a Third Party in Military to Commercial Technology Transfer.**
*Air Force Institute of Technology, Air Education and Training Command, Wright-Patterson Air Force Base, Ohio. David A. Taylor. September 1996. 126pp.*
In the wake of the defense downsizing and the end of the cold war, government laboratories are facing a changing mission. It is not only to maintain technology superiority, but also to promote commercialization of their technologies. Although Congress has tried to facilitate technology transfer from the government to the private sector, the transfer process has been inconsistent. The need for assistance has initiated the use of third parties or intermediaries in the technology transfer process. This thesis evaluates the utility of a third party in the technology transfer process. An examination of Wright Technology Network (WTN), a third party, is used to form a case study of its value added to Wright Laboratory (WL) in striving to meet WL's mission. Interviews with employees at WTN and WL are used to obtain the data for this case study. The key findings of this research suggest recommendations that can be applied to understand the utility of third parties. The recommendations are that third parties assist firms in targeting and defining a technology problem or interest and that third parties facilitate the transfer process through their ties with industry.

*Frame No.*

# Reel 15

**Technology Transfer cont.**

**1996 cont.**

0001 **An Exploratory Study of the Benefits Received by Wright Laboratory (WL) from Technology Transfer Activities.**
*Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio. Clinton J. Braun. September 1996. 130pp.*
The allocation of resources should be a rational decision-making process where alternatives can be compared based on their estimated costs and benefits to the organization. In order to justify technology transfer activities, a sound methodology must be developed that will document the benefits derived from transfer activities. The risks or uncertainties associated with those benefits must also be estimated and analyzed. By detailing the costs, benefits, and uncertainties associated with technology transfer activities, decision makers will have a logical framework that can be used to determine the cost-effectiveness of technology transfer. Leaders within the technology transfer arena are searching for better ways of quantifying the tangible and intangible benefits of technology transfer. The goal of this research is to build an acceptable methodology that can be used to identify and quantify the tangible and intangible benefits received within Air Force Materiel Command as a result of technology transfers. This study employs a structured interview methodology to identify and quantify the benefits received by the air force through its technology transfer activities. The study also identifies several findings on the benefits received by WL from technology transfer: the benefits received through technology transfers do match up with the benefits expected and identified by the Air Force Materiel Command technology transfer office; a majority of the cooperative R&D agreements in the study are producing revenues, and in some cases substantial revenues; and clearer objectives are needed in order to better focus future technology transfer activities.

**1997**

0131 **National Technology Transfer and Advancement Act: Plan for Implementation.**
*U.S. Department of Commerce, Technology Administration, National Institute of Standards and Technology, Gaithersburg, Maryland. Belinda L. Collins. January 1997. 19pp.*
The National Technology and Transfer Act (P.L. 104-113) gave the National Institute of Standards and Technology (NIST) responsibility to coordinate standards and conformity assessment activities with other federal agencies, state and local governments, and the private sector. Congress required NIST to submit a plan for implementing the coordinating activities. This plan describes specific activities in strategic standards management, responsiveness to international trade concerns, greater use of voluntary standards, and conformity assessment procedures. This plan also outlines responsibilities of governments, standards developers, and private-sector interests.

*Frame No.*

0150 **International Plans, Policies, and Investments in Science and Technology. Overview.**
*U.S. Department of Commerce, Technology Administration, Washington, D.C. April 1997. 26pp.*
Sustained economic growth and job creation have long been high on the list of priorities for many nations around the world. In recent years, the growth of technical capability outside the United States has resulted in three profound implications. First, sources of technology outside the United States are becoming increasingly important to the growth and survival of U.S. companies. Second, other nations have developed sophisticated technical infrastructures and are well able to directly use the results of basic research, whether developed domestically or elsewhere, including the United States. And third, some foreign nations have developed the ability to rapidly commercialize new and emerging technology and prosper in an environment of shorter product, process, and service life cycles. This report examines science and technology plans, policies, and investments in Japan, the People's Republic of China, the Republic of Korea, Indonesia, Malaysia, Thailand, Taiwan, India, the EU, France, Germany, the United Kingdom, the Czech Republic, Hungary, Poland, Canada, Mexico, Australia, Brazil, Chile, Argentina, and South Africa.

0176 **Critical Technology Assessment of the U.S. Semiconductor Materials Industry.**
*U.S. Department of Commerce, Bureau of Export Administration, Office of Strategic Industries and Economic Security, Strategic Analysis Division, Washington, D.C. April 1997. 12pp.*
This critical technology assessment of the domestic semiconductor materials industry was initiated to assess the capabilities and competitiveness of the U.S. industry. A primary objective of the assessment was to provide industry executives and government policy makers with information and analysis on the production and technology status, economic performance, and international competitiveness of private-sector firms involved in the semiconductor materials industry.

0188 **Proceedings of the Workshop on Commercialization and Transfer of Agricultural Technology in Africa, Accra, Ghana, November 4–7, 1996.**
*U.S. Agency for International Development, Bureau for Africa, Office of Sustainable Development, Productive Sector Growth and Environment Division. July 1997. 159pp.*
In sub-Saharan Africa, as of 1996, agriculture was a major source of employment, income, and foreign exchange and offered opportunities to stimulate economic growth. It was widely believed that substantial amounts of agricultural technologies that have been developed by the national agricultural research systems and the international agricultural research centers in Africa have not been transferred or commercialized. In response to this belief, AID's Bureau for Africa, Office of Sustainable Development, Productive Sector Growth and Environment Division, assembled a team of consultants to visit representative countries in East and West Africa and submit an assessment report and a concept paper on the state of agricultural technologies developed, transferred, and commercialized in Africa. A roundtable workshop was held in the United States followed by a workshop held in Accra, Ghana, on commercialization and transfer of agricultural technology. The

workshop focused on five main themes: (1) enabling environment; (2) generation of customer-focused technologies; (3) sharing of technologies; (4) access to inputs; and (5) innovative partnership development. This report covers two full papers from each of the five themes and abstracts of all papers presented during the workshop.

0347 **Agricultural Technology Development and Transfer in Africa: Impacts Achieved and Lessons Learned.**
*U.S. Agency for International Development, Bureau for Africa, Office of Sustainable Development, Productive Sector Growth and Environment Division. James F. Oehmke, P. Anandajayaskeram, and William A. Masters. November 1997. 65pp.*
When Congress established the Development Fund for Africa in 1987, AID faced a challenge to scrutinize the effectiveness and impact of its projects in Africa and to make needed adjustments to improve its development assistance programs. This report argues that AID, African governments, and other donor funding in technology-based programs in Africa has been a wise use of scarce resources. The report also notes that more could have been achieved through more efficient targeting of resources. The report concludes that, as of 1997, much remained to be done to improve the technology systems in Africa.

**1998**

0412 **Global Context for U.S. Technology Policy.**
*U.S. Department of Commerce, Office of Technology Policy, Washington, D.C. Graham R. Mitchell. 1998. 12pp.*
In the twenty-five years following World War II, the United States enjoyed global technological dominance. Many of the most important technical breakthroughs occurred in the United States. The competitive challenges of the 1970s and 1980s transformed the global technology landscape. Sole U.S. dominance gave way to competitive leadership shared by the United States, Europe, and Japan. In response to these challenges to the United States, federal technology policies were established to encourage a fuller and faster exploitation of publicly supported R&D by American firms. This report suggests that the global context for U.S. technology policy changes rapidly and that the conventional wisdom frequently lags behind reality. The report argues that, as of 1998, the need for broader and deeper analysis and understanding of the role of technology in creating sustained economic growth for the United States, and the effectiveness of technology policies, had never been greater. Further the report notes that as globalization speeds up, the gap between conventional perceptions and reality will continue to grow.

0424 **Technology Transfer for Economic Competitiveness: A Partnership of Industry, University, and Government.**
*Pennsylvania State University, Applied Research Laboratory, State College, Pennsylvania. 1998. 46pp.*
This report looks at research carried out at Pennsylvania State University's Applied Research Laboratory (ARL). As the largest of the affiliated laboratories, centers, and institutes that make up the university's Intercollege Research Programs, ARL draws on the intellectual, economic development, and technology transfer resources of Pennsylvania State University. ARL has a client-focused R&D environment serving large and small businesses and governmental agencies. Projects cover the whole

range of the technology transfer spectrum from providing off-the-shelf technology implementation assistance for productivity enhancement to implementation of advanced technologies for new product or process development. The report profiles some of the subjects in which ARL conducts research. These include acoustics, advanced composite materials, advanced sensing and system monitoring, communications, electron beam–physical vapor deposition, environmental compliance and monitoring, fluid dynamics and turbomachinery, gear and transmission technologies, information systems technology, and laser processing and manufacturing.

0470 **Technology in the National Interest.**
*U.S. Department of Commerce, Office of Technology Policy, Washington, D.C. Carol Ann Meares, John F. Sargent Jr., and Graham R. Mitchell. Committee on Civilian Industrial Technology. 1998. 80pp.*
In February 1993, President Clinton set forth the administration's technology policy in a report entitled "Technology for America's Economic Growth." The policy found that American technology needed to move in a new direction to spur economic growth. It established three overarching goals: long-term economic growth that creates jobs and protects the environment; a government that is more productive and more responsive to the needs of its citizens; and world leadership in basic science, mathematics, and engineering. This report addresses the first of these goals. This report highlights the important role technology plays in the American economy and challenges faced by the United States in an increasingly competitive, technology-based global economy. This report also describes federal technology initiatives designed to stimulate economic growth and job creation in the United States. It also traces the evolution of U.S. technology policy. This history of U.S. technology demonstrates a tradition of bipartisan support for science and technology and the invaluable contribution the federal government has made to technological progress and technology-driven economic growth.

0550 **The New Innovators: Global Patenting Trends in Five Sectors.**
*U.S. Department of Commerce, Office of Technology Policy, Washington, D.C. Michael B. Albert, Phyllis Genther Yoshida, and Debra van Opstal. September 1998. 41pp.*
This report analyzes the competitiveness of the research enterprises of the United States, the EU as a group, and fourteen other countries. This analysis uses key indicators generated from utility invention patents granted under the U.S. patent system, which is generally considered to be the best level playing field for quantitative, international technological comparisons. These indicators show that the United States, as of 1998, had a clear technological edge in each of the sectors examined—health, advanced materials, automotive, information technology, and express package transportation and logistics—and was not likely to relinquish this leadership to any nation in the near term. The analysis also reveals quickening technology cycle times and greater linkages to leading-edge research—trends that may enable countries to leapfrog generations of technologies within a brief span of time. The process of transitioning from imitator to innovator has been dramatically compressed. For example, during the 1990s, the Republic of Korea and Taiwan overtook the United Kingdom and Germany in the number of information technology patents granted in the United States. Ireland, Israel, and India also emerged as

global players in information technology. The countries studied in the report were Australia, Brazil, China, Germany, Hong Kong, India, Ireland, Israel, Japan, the Republic of Korea, Malaysia, Singapore, Taiwan, the United Kingdom, United States, and the EU.

0591 **Technology Transfer in Poland: An Investigation of U.S. Government, U.S. Corporate, and Polish Government Strategies.**
*Air Force Institute of Technology, Air Education and Training Command, Wright-Patterson Air Force Base, Ohio. Susan E. Hays. September 1998. 93pp.*
This case study examines how U.S. government policy, U.S. corporate policy, and Polish government policy affect the strategy of technology transfer of military and/or dual-use technologies in Poland. The traditional supplier/recipient relationship is explored and found to be insufficient to describe the process associated with military and/or dual-use technology transfer. An alternate model is proposed that accounts for the activities of the U.S. government, U.S. corporations, and the Polish government. These relationships are investigated in the context of six strategies to determine the validity of the model in the case of military and/or dual-use technology transfer to Poland. The analysis provides evidence that in an increasingly globalized economy, appropriate strategies for technology transfer are critical for each participant to attain their particular objectives. Further, these strategies are influenced by intraparticipant forces that shape goals and interparticipant relations that both create and inhibit opportunities to transfer technology.

0684 **Seller Beware: U.S. International Technology Transfer and Its Impact on National Security.**
*Air University, Maxwell Air Force Base, Alabama. Wayne M. Johnson. December 1998. 35pp.*
As was the case during the cold war, the national military strategy of the United States relies on technologically superior forces to achieve its objectives when called on to protect the United States and its interests. As the military downsizes, however, preserving a technologically superior force while also maintaining a robust defense industrial base becomes more difficult. One means the United States has used to preserve the industrial base has been to maintain demand by selling military goods to other countries. Foreign military sales can spell the difference between continued existence and bankruptcy for some defense contractors. The perceived need to sell overseas while safeguarding U.S. advanced technologies appears to be a conflicted goal because of the technology transfer involved. This study argues that systematic tightening of interagency cooperation and better work on defining sensitive technology prohibitions are needed to maintain the U.S. technological edge. The study also maintains that the U.S. government requires a new and disciplined export control process. The study explores the problem of defining which technologies the United States is willing to transfer (military or dual-use) and the need to ensure that national security objectives do not take a backseat to economic expediency. To accomplish this goal, the study argues for better interagency cooperation as a first step leading to a more centralized, coordinated, and strategic view of technology transfer and how it impacts national security.

*Frame No.*

0719 **Critical Technology Assessment: U.S. Assistive Technology Industry.**
*U.S. Department of Commerce, Bureau of Export Administration. U.S. Department of Education, National Institute on Disability and Rehabilitation Research. Federal Laboratory Consortium. [1999.] 22pp.*
This document is a survey intended to gauge the health and competitiveness of the U.S. assistive technologies industry and to determine the growth trends and emerging markets in this field. The survey also seeks to obtain information in order to improve the flow of federally funded (defense and commercial) technologies from government laboratories into the assistive technologies industry.

0741 **U.S. Commercial Technology Transfers to the People's Republic of China.**
*U.S. Department of Commerce, Bureau of Export Administration, Washington, D.C. [1999.] 141pp.*
The Bureau of Export Administration has a mandate to study the U.S. defense industrial and technology base and to develop and administer programs to ensure the continued economic health and competitiveness of industries that support U.S. national security. The Bureau of Export Administration had heard allegations that U.S. firms in high-technology sectors were being "forced" to transfer technology as a condition of accessing the China market. This study is intended to expand the existing body of knowledge on the extent to which U.S. firms have been pressured to transfer commercial technology as a condition of doing business in China. In addition, it examines the overall business and regulatory environment facing U.S. high-technology firms in China. The report does not identify any specific Chinese military advances made as a result of U.S. commercial technology transfers, but it does suggest that continued pressures on foreign high-tech firms to transfer advanced commercial technologies could indirectly benefit China's efforts to modernize its military.

# SUBJECT INDEX

The following index is a guide to the major subjects in this microform publication. The first number after each entry refers to the reel, while the four-digit number following the colon refers to the frame number at which a particular file folder containing information on the subject begins. Hence, 11: 0337 directs the researcher to the folder that begins at Frame 0337 of Reel 11. By referring to the Reel Index, which constitutes the initial section of this guide, the researcher will find the document title, author, issuing agency, publication date, and a brief abstract for the document.

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