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JAPANESE INDUSTRIAL AND LABOR POLICY

HEARING

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WEDNESDAY, JUNE 23, 1982

CONGRESS OF THE UNITED STATES,
JOINT ECONOMIC COMMITTEE,
Washington, D.C.

The committee met, pursuant to notice, at 10 a.m., in room 2212, Rayburn House Office Building, Hon. Frederick W. Richmond (member of the committee) presiding.

Present: Representatives Richmond and Heckler.

Also present: Louis C. Krauthoff II, assistant director; and Kent H. Hughes, professional staff member.

OPENING STATEMENT OF REPRESENTATIVE RICHMOND, PRESIDING

Representative RICHMOND. Good morning, ladies and gentlemen.

This is a hearing of the Joint Economic Committee on Japanese Industrial and Labor Policy. In the period since World War II, the Japanese economy has been the marvel of the industrial world. Having successfully reconstructed the prewar industrial base, Japan went on to build industries in steel, autos, and consumer electronics. She is now an international competitor in such high technology fields as computers, robotics, and semiconductors and has set her national sights on the frontiers of science and technology.

The Japanese record of rapid industrial transformation has corresponded with very high rates of productivity growth and of overall growth in GNP. By West European and American standards, Japanese unemployment has remained low and, except for the oil shock period, Japan has had an enviably low rate of inflation.

The Japanese record of economic growth has inevitably spawned the question: How have they done it? Americans have not been reluctant about advancing a variety of theories for the Japanese success. Some have focused on culture, others on management, and still others on a cooperative spirit between labor and management. There is general agreement that the high savings rate has been important, but disagreement about what has caused it: Are the Japanese savers by nature? Have they underestimated their high growth rate and therefore oversaved? Or are high savings rates a product of low taxes on personal savings and investment income?

The most common theme in discussing the Japanese economy is that its strength reflects the success of Japan's industrial policy. There is already a growing debate in the United States over the design and implementation of an American industrial policy.

Because the interest in an American industrial policy stemmed largely from the Japanese experience, the chairman of the Joint Economic Committee asked the GAO to take a close look at the workings of Japanese industrial policy. The GAO was asked to put the Japanese industrial policy in the context of monetary and fiscal policies as well as the broad macroeconomic goals developed by Japan's Economic Planning Agency. In addition, the GAO was asked to focus on the role industrial policy played in stimulating a range of new industries and in managing the decline of some older, less competitive sectors.

In their preparation of the report, the GAO drew on a talented and experienced staff, many of whom have worked on a previous Joint Economic Committee-requested study on "United States-Japan Trade: Issues and Problems (1979)." Peggy McGregor acted as the leader of the research team under the able direction of Allan Mendelowitz, associate director, international division, and Frank C. Conahan, director of the international division.

We are very pleased to have Mr. Conahan with us this morning to present the GAO study.

Before proceeding, and without objection, I will place Senator Hawkins' opening statement in the hearing record at this point.

[The opening statement of Senator Hawkins follows:]

OPENING STATEMENT OF HON. PAULA HAWKINS

Today's hearing before the Joint Economic Committee focuses on the Japanese Government's methods of promoting industrial development and achieving spectacular rates of economic growth. As the GAO study on this subject reveals, Japan has emphasized the need for a flexible approach to both economic objectives and the means of attaining those objectives.

While Japan's early post-World War II approach to growth was to rebuild its industrial base with close government control over production and trade, the emphasis had shifted recently to cross-sectoral technological advance and the achievement of social goals by means of tax and other incentives. These goals and government responses have important repercussions for the United States, and we must be prepared to deal effectively with the serious challenges we will continue to face from Japan.

While the GAO study takes us one step in the direction of understanding Japanese policies and their impact on industrial sectors, it gives us few clues as to the role of agriculture in Japan's setting of priorities. Despite years of progress in dismantling many of the formal barriers to trade in manufactured goods, Japan still maintains a vast array of agriculture import quotas, including those on citrus fruits and juices. Growers in Florida and elsewhere in the United States continue to face import quotas so prohibitive that it hardly pays to try to export to Japan.

In light of this, perhaps a useful followup to this GAO study of manufacturing would be one that, first, assesses government objectives and approaches to agriculture and, second, suggests policy responses for the United States. I am sure GAO would find—as the Japan-United States economic relations group has found—that, unlike in industry, "Japan is now making a much greater effort to protect existing inefficient patterns of agricultural production rather than adjusting to a new more competitive pattern. . . . Protectionism, however, has hurt these (beef and citrus) industries by preserving inefficiencies, discouraging rationalization, and limiting market development." In addition, I am sure the GAO would recommend, as the Japan-United States group has recommended, "That Japan continue its efforts to shift away from the use of quantitative restrictions on agricultural imports and to ultimately eliminate them by redirecting support policies so that international prices are more adequately reflected in determining the level of domestic price supports."

Such policies would only serve to help our two countries achieve greater economic growth and efficient methods of production.

Representative RICHMOND. Congresswoman Heckler, it's a pleasure to have you here. Do you have an opening statement?

Representative HECKLER. No, I prefer to move forward with the testimony. Thank you.

Representative RICHMOND. But I know how interested you are in Japanese-American relations.

Representative HECKLER. Very much so, especially with the high technology industry in Massachusetts. Persons within this industry have their own perspectives on Japanese industrial, labor, and trade practices. So I look forward to hearing what you have to say.

Representative RICHMOND. Mr. Conahan, please proceed, sir.

STATEMENT OF FRANK C. CONAHAN, DIRECTOR, INTERNATIONAL DIVISION, GENERAL ACCOUNTING OFFICE, ACCOMPANIED BY ALLAN I. MENDELOWITZ, ASSOCIATE DIRECTOR; AND KATHERINE VUICICH, STAFF MEMBER

Mr. CONAHAN. Thank you.

Congressman, at this time, I would like to present to the committee the report that we have prepared at Chairman Reuss' request. I do have a prepared statement which, with your permission, I would submit for the record and briefly summarize.

Representative RICHMOND. Without objection, they will be made a part of the hearing record at the end of your oral statement.

Mr. CONAHAN. Thank you, sir. I think that we have covered the items that the committee has asked us to cover.

Briefly, in Japan, both macroeconomic and microeconomic policies have worked together to achieve governmental goals. Microeconomic industrial policies helped to achieve broad economywide goals through their impacts on individual industries and sectors, and monetary and fiscal policies reinforced the effectiveness of industrial policy tools by creating conditions that favored investment and growth.

I would like to very briefly talk first about the macropolicies, go into industrial policy, and then talk about both the declining and the growing industries towards the end of my statement.

JAPAN'S TOOLS OF PROGRESS

The widely accepted consensus in Japan from World War II through the early 1970's strongly supported Government efforts to reconstruct the Japanese economy by rebuilding the nation's basic industries and by working to catch up with the technology of the United States and Western Europe.

Japan, in the early postwar period, marshaled a large array of industrial policy tools which enabled the Government to strongly influence the rate and direction of economic growth.

The tools included:

Strict foreign exchange controls;

Commercial policies which gave incentives to exports and restricted imports; and

Controls over foreign investment and the acquisition of technology.

MONETARY AND FISCAL POLICY

Monetary and fiscal policies reinforced the effectiveness of these tools in a number of ways, primarily by:

One, keeping interest rates low;

Two, placing strict controls over domestic capital markets;

Three, administering a tax system which favored savings and investment; and

Four, channeling Government expenditures into productive investment.

By restricting capital markets and keeping interest rates artificially low, the Government was able to effectively control which industries had access to Japan's limited capital. Nontargeted industries, therefore, were denied access to this cheap capital.

Fiscal authorities, as well, allocated budgetary funds to targeted industries.

Now, the key feature of Japanese industrial policy, as we see it, has been its flexibility in responding to changes both in its domestic economy and international situation. During the early postwar period, industrial policies were geared towards achieving rapid economic growth and establishing an industrial infrastructure. As these goals were achieved, efforts were refocused on catching up with the West and developing new technology. By the mid-1970's, Japan was giving more recognition to such concerns as the quality of life, the environment, and other social conditions, while at the same time continuing to support the development of new technology and selected industries.

With changes in the goals of industrial policy, tools to implement these goals also changed and, to some extent, direct Government influence over key industrial sectors began to weaken.

As trade and investment laws were amended to remove controls over foreign exchange, and international trade agreements provided for reductions in tariffs, quotas, and nontariff barriers, the Government lost a major source of its power to direct industry.

MINISTRY DEFINES GOALS

Today, the Ministry of International Trade and Industry continues to influence Government and industry views concerning the direction of industrial development. As a result of a number of legislative and structural changes, the Ministry has redefined the goals in two ways: First, the need for Japan to move up the technological ladder in order to increase productivity and promote conservation of resources and address some social goals; and second, the need to ease the adjustment problems of declining industries.

The emphasis of current industrial policies towards expanding industries has shifted from industry-specific to technology-specific targets. Industries are assisted in developing and diffusing technologies throughout the economy that contribute to achieving the goals of high value added, greater productivity, and resource conservation.

As you mentioned, Mr. Chairman, some of the industries that meet these criteria are computers, robotics, and aircraft.

DECLINING INDUSTRY POLICY

Now, insofar as industrial policy toward declining industries is concerned, a number of problems has contributed to severe economic disruptions for some Japanese industries. The Government has attempted to assist declining industries adjust to new circumstances by providing incentives to scrap excess production capacity. The Government also assists workers in these industries through a number of unemployment and reemployment programs. Such industries have been assisted since the sixties.

In summary, Mr. Chairman, I would say that the key element of Japanese industrial policy over time has been its flexibility in developing programs which respond to the pressures and constraints of both the domestic and the international economies. Government credit rationing is today a less effective tool for directing the private sector because Japanese companies have become financially stronger and alternative means of financing have become available to them. Debt financing has begun to decline, although it still accounts for a large proportion of total corporate funding in Japan. The city banks' dependence on Bank of Japan funds has begun to decrease as Government-set interest rates move closer to market rates and as financial deregulation occurs.

Increased budgetary deficits, coupled with increased difficulty in financing these deficits, have placed constraints on the Government's ability to finance industrial development. Industrial policy now focuses on increasing productivity and promoting resource conservation and social goals, in part, through enhancing technology, as well as easing adjustment problems of certain declining industries.

I think, Mr. Chairman, that is sufficient for us to take whatever questions you have.

Representative RICHMOND. Thank you, Mr. Conahan. Mr. Conahan, I have a whole series of questions which I'll submit to you and leave the record open for 2 weeks in order to allow you to give us comprehensive answers.[1]

Mr. CONAHAN. Yes, sir.

[The prepared statement of Mr. Conahan, together with the GAO report referred to, follows:]

[1] See response to additional written questions at the end of the hearing.

Prepared Statement of Frank C. Conahan

Mr. Chairman and Members of the Committee:

We are pleased to be with you today to discuss our report, "Industrial Policy: Japan's Flexible Approach" (GAO/ID-82-32). Our work was performed in response to your request to (1) explore the contribution of macroeconomic policy to industrial growth and (2) identify those policies which support growing industries and those which assist declining industries.

We answered the questions you posed by reviewing Japan's past and present experiences with industrial policy. We reviewed the changing goals and tools of industrial policy and assessed how and why they have changed over the postwar period. In addition, we discussed how macroeconomic monetary and fiscal policies have contributed to achieving the goals of industrial policy.

In Japan, macro- and microeconomic policies have worked together to achieve governmental goals. Microeconomic industrial policies helped to achieve broad economy-wide goals through their impacts on individual industries and sectors, and monetary and fiscal policies reinforced the effectiveness of industrial policy tools by creating conditions that favored investment and growth.

INDUSTRIAL POLICY AFTER WORLD WAR II

The widely accepted consensus in Japan from World War II through the early 1970s strongly supported government efforts to reconstruct the Japanese economy by rebuilding the nation's basic industries and by working to catch up with the technology of the United States and Western Europe.

Japan, in the early postwar period, marshalled a large array of industrial policy tools which enabled the government to strongly influence the rate and direction of economic growth. These tools included

--strict foreign exchange controls;

--commercial policies which gave incentives to exports and restricted imports; and

--controls over foreign investment and the acquisition of technology.

For example, foreign exchange controls were used to direct resources to targeted industries and to limit foreign competition in the domestic market. The Foreign Exchange and Foreign Trade Control Law operated through a system consisting of a foreign exchange budget and import controls. The foreign exchange budget set the amount of foreign currency available for the year and allocated it among sectors of the economy. This

enabled the government to effectively allocate foreign exchange and, thereby, to direct raw material imports and the acquisition of foreign technology to targeted sectors; for example, steel, and chemicals. During this period, the government protected domestic industry by carefully restricting competition from imports and foreign industry through the use of import controls and controls over foreign investment in Japan.

Monetary and fiscal policies reinforced the effectiveness of these tools in a number of ways, primarily by

--keeping interest rates low, thereby lowering the cost of investment and generating demand for loanable funds that exceeded supply;

--placing strict controls over domestic capital markets, which effectively prevented these markets from becoming a major source of capital;

--administering a tax system which favored savings and investment; and

--channeling government expenditures into productive investment.

By restricting capital markets and keeping interest rates artificially low, the government was able to effectively control which industries had access to Japan's limited capital. Firms were largely dependent upon Japan's 13 major city banks for financing industrial development. The city banks, in turn, were dependent upon the Bank of Japan in order to expand their loanable funds. This interrelationship enabled monetary authorities to effectively ration credit through the city banks to targeted growth sectors. Non-targeted sectors were denied access to this cheap capital.

Fiscal authorities allocated budgetary funds to targeted industries as well. Household savings were primarily deposited in the savings system operated through the nation's post offices. These savings were channeled by the Ministry of Finance to the Fiscal Investment and Loan Program (FILP). The funds were in turn allocated to government financial institutions, such as the Japan Development Bank and Japan's Export-Import Bank, to implement government economic policy goals. Significant funds from the FILP were thus allocated to targeted industrial sectors to stimulate industrial development. The FILP account has been as large as 50 percent of Japan's general account budget and thus has accounted for significant assistance to Japanese industry.

CHANGING GOALS AND TOOLS OF INDUSTRIAL POLICY

A key feature of Japanese industrial policy has been its flexibility in responding to changes in the domestic and international economies. During the early postwar period, industrial policies were geared toward achieving rapid economic growth and establishing an industrial infrastructure. As these goals were achieved, efforts were refocused on catching up with the industrialized West and developing new technology. By the mid-1970s, Japan was giving more recognition to such concerns as the quality of life, the environment, and other social considerations. Furthermore, the rapid rise in the price of petroleum since 1973 had an especially strong impact on Japan. Roughly 75 percent of Japan's energy comes from oil imports, the highest of any major industrialized nation.

In the early postwar years, policy goals were primarily sector oriented; government and business addressed themselves to rebuilding specific industries and sectors of the economy. By the mid-1960s, Japan had largely achieved its postwar development goals and began placing growing emphasis on technology and social development issues. Following the economic turbulence of the early 1970s, Japan has focused on adjusting to stable growth, supporting resource conservation and environmental improvements, while continuing to support the development of new technology.

With changes in the goals of industrial policy, tools to implement these goals also changed. Such changes are attributed to numerous factors, including

--the financial success of Japanese firms which left them less dependent on debt financing;

--the relaxation of domestic regulation of financial markets, which opened new avenues of financing to firms;

--international pressure and obligations of Japan, such as those under the International Monetary Fund and the General Agreement on Tariffs and Trade; and

--increasing budget deficits, which placed constraints on the government's ability to finance industrial development.

Government influence over key industrial sectors began to weaken as a result of these factors.

As trade and investment laws were amended to remove controls over foreign exchange and international trade agreements provided for reductions in tariffs, quotas, and non-tariff barriers, the government lost a major source of its power to direct industry.

With increasing trade friction with developed nations,

competition from newly industrializing countries, and economic hardships resulting from the oil crisis, the Japanese Government finds itself restraining competitive Japanese industries from foreign markets and assisting other industries to adjust to declining competitiveness. A rising class of structurally depressed industries, a number of which are energy-intensive, and the attendant employment problems have led to new legislation and government involvement in easing the adjustment process. In recent years, government deficits, high consumer and energy prices, and inflation have contributed to increasing difficulties in decisionmaking and in achieving consensus. As many of the postwar tools of industrial policy were lost to legislative or structural changes, administrative guidance grew in relative significance.

Today, the Ministry of International Trade and Industry continues to influence government and industry views concerning the direction of industrial development. As a result of the constraints and legislative and structural changes mentioned above, however, the Ministry has redefined the goals of industrial policy as (1) the need for Japan to move up the technological ladder in order to increase productivity and to promote conservation of resources and social goals and (2) the need to ease the adjustment problems of certain declining industry sectors, particularly unemployment.

CURRENT INDUSTRIAL POLICIES TOWARD EXPANDING INDUSTRIES

The emphasis of industrial policy today has shifted from industry-specific to technology-specific targets; industries are assisted in developing and diffusing technologies throughout

the economy that contribute to achieving the goals of high value added, greater productivity, and resource conservation. Industries such as computers, robotics, and aircraft meet these criteria and benefit from government support.

Financial support for joint government-industry research and development programs is a major tool of government assistance for technology development, while tax incentives and special leasing programs are used to promote technology diffusion. These mechanisms work through incentive rather than control and, as a result, the government has less direct influence over industrial development than it had during earlier periods. Significant obstacles hamper the success of government policies in each growth industry we reviewed. Development of leading-edge computer technologies presents new risks for the government and computer companies. Problems encountered today in developing new technologies are different than those of licensing, adapting, and producing foreign technologies, which were successfully overcome during the last two decades. Robotics manufacturers face an as-yet undefined and undeveloped market at home and abroad. They must develop new products as well as demonstrate applications in order to create demand for these products. The development of new aircraft and aircraft engines has become a task too costly for one company or one country to undertake, and Japanese companies, like those in other countries, need to participate in international joint ventures. It appears that the trend toward less direct government influence over industrial development may continue.

INDUSTRIAL POLICY TOWARD DECLINING INDUSTRIES

Rising labor costs, sluggish world demand, lower priced products from Southeast Asia, increased raw materials costs, and foreign market import restrictions have all contributed to severe economic disruptions for some Japanese industries. The government has attempted to assist these declining industries adjust to new circumstances by providing incentives to scrap excess production capacity. The government also assists workers in these industries through a number of unemployment and reemployment programs.

The Japanese Government has assisted troubled industries since the 1960s. In 1978, the Structurally Depressed Industries Law was passed to address some generic problems of decline. Different mechanisms are used for short- and long-term problems. For example, a rationalization cartel, which permits member companies to jointly reduce output in order to stabilize prices, is used to address short-term price and production imbalances. Plant and equipment scrapping programs are aimed at long-term structural problems. The thrust of the government's current financial assistance, in the form of loans and preferential financing, is directed to small- and medium-sized firms. Larger firms are expected to adjust on their own and, in the case of the shipbuilding industry, to assume some of the burden of assistance to small- and medium-sized firms. Moreover, not unlike other representative democracies, the Japanese Government has found that political reality often constrains the formation and implementation of economically rational decisions to phase industrial sectors out of the economy.

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Conflicts have arisen in setting priorities and implementing "stabilization programs" between government and industry and between firms within an industry. Nevertheless, adjustment of declining industries has occurred, although the long-term success of this adjustment process is unclear. Some effective mechanisms do exist for employment adjustment. Private industry takes the lead in retraining and outplacement. Historically, high growth rates and a variable labor force have helped to ease adjustment. In the slower growth environment, the government has become more involved in the adjustment process. Key elements of Japan's "positive adjustment" policy include recognizing that emerging industries can ease the adjustment problems of declining industries and coordinating programs to assist resource shifts from declining to emerging industries.

CONCLUSION

Macro- and microeconomic policies showed a high degree of complementarity during the early postwar period, which reflected the broad consensus to reindustralize Japan. Japanese monetary and fiscal authorities intervened directly to develop and support industrial policies during this period.

Over time, changes have occurred. A key element of Japanese industrial policy has, therefore, been the flexibility of the government and its programs in responding to the pressures and constraints of the domestic and international economies. Government credit rationing is a less effective tool for directing the private sector, because Japanese companies have become financially stronger and alternate means of financing have become

available to them. Debt financing has begun to decline, although it still accounts for a large proportion of total corporate funding in Japan. The city banks' dependence on Bank of Japan funds has begun to decrease as government-set interest rates move closer to those in the free market and as financial deregulation occurs. Increased budgetary deficits, coupled with increased difficulty in financing these deficits, have placed constraints on the government's ability to finance industrial development. As mentioned earlier, industrial policy now focuses on increasing productivity and promoting resource conservation and social goals, in part through enhancing technology, as well as easing adjustment problems of certain declining industries. The government's ability to direct the course and speed of industrial growth in the light of an increasing number of conflicting priorities and legislative and structural changes in industrial policy tools is unclear.

Mr. Chairman, this concludes my statement. I would be happy to respond to any questions you may have at this time.

BY THE COMPTROLLER GENERAL

Report To The Chairman, Joint Economic Committee United States Congress

OF THE UNITED STATES

Industrial Policy: Japan's Flexible Approach

Japan's impressive growth from a war-devastated nation in the 1950s to a major economic power today has been the subject of much debate in the industrialized world.

GAO found that Japanese industrial policies have changed significantly over time in response to changes in the international and domestic economies. The flexibility of such policies may, in fact, be the key to the apparent success of industrial policy in Japan.

This report deals with the evolution of industrial policies in Japan in both macro- and microeconomic terms and presents summary analyses of five sectors--computers, robotics, aircraft, shipbuilding, and textiles--to illustrate industrial policies for emerging and declining industries.

GAO/ID-82-32
JUNE 23, 1982

COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B-207677

The Honorable Henry Reuss
Chairman, Joint Economic Committee
Congress of the United States

Dear Mr. Chairman:

As you requested, this report provides an analysis of Japanese industrial policy. It discusses the formulation and content of Japan's macroeconomic policies, specific industrial programs which have been used in expanding and declining industries, and the changes in policy instruments during the postwar period.

The report was reviewed informally by a number of specialists on the Japanese economy and individuals in the Japanese Government.

We anticipate wide public interest in the subjects discussed in the report. Therefore, as arranged with your office, we are distributing it to other Members of Congress and representatives of the administration.

Sincerely yours,

Charles A. Bowsher

Comptroller General
of the United States

COMPTROLLER GENERAL'S
REPORT TO THE CHAIRMAN,
JOINT ECONOMIC COMMITTEE

INDUSTRIAL POLICY: JAPAN'S FLEXIBLE APPROACH

D I G E S T

The interest in Japan's approach to industrial growth centers around its apparent success in developing specific industries with good world market prospects and shifting resources out of contracting industries.

The Chairman of the Joint Economic Committee requested that GAO analyze Japanese industrial policy to explore the contribution of macroeconomic policy to industrial growth and to identify those industrial policies which support growing industries and those which assist declining industries to adjust. GAO looked at these policies as implemented in the computer, aircraft, robotics, shipbuilding and textile industries. GAO found that Japan's industrial policies and the instruments used to implement them have changed significantly over time in response to changes in the domestic and international economy.

HOW DOES THE GOVERNMENT ENSURE SELECTED INDUSTRIES' ACCESS TO INEXPENSIVE CAPITAL?

In the face of widespread industrial destruction and critical shortages of capital following World War II and the Occupation, Japan undertook restructuring of its economy by encouraging and facilitating investment in industries considered basic to an industrialized economy. During most of the post World War II period, interest rates were kept artificially low, so demand for loanable funds exceeded supply. The government rationed available funds through direct lending from Japan's central bank to the city banks and, in turn, to companies in order to encourage, or conversely discourage, investments in certain designated industries. Thus, steel, autos, and shipbuilding in the 1950s and 1960s and electronics and machinery in the 1970s received funds while service industries did not. Such credit rationing is today less effective in influencing the pattern of industrial growth. This is due primarily to the financial success of these industries and their consequent ability to finance activities out of retained earnings rather than depending on government funding, and the growth of alternative financing sources.
(See pp. 7 to 14.)

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HOW HAVE HIGH PERSONAL SAVINGS BEEN CHANNELED TO SUPPORT INDUSTRIAL GROWTH?

Significant amounts of personal savings have been deposited in savings accounts operated through Japan's post offices, referred to as the postal savings system. The government, through the Fiscal Investment and Loan Program, Japan's "second" budget, directs the postal savings and pension systems to financial intermediaries, such as the Japan Development Bank, which make loans to targeted industries. These loans have served as a signal to the private financial sector, which in turn has channeled personal and corporate savings into these same industrial sectors. Since about the mid-1970s, the government has found it needs to commit more of its resources to non-growth-promoting purposes to assist a number of structurally depressed industries and ensure the quality of life of an increasingly aging population. This is not to say that support for industrial growth has ceased; today support is geared to developing and diffusing technologies to improve productivity and to contribute to high value added, resource conservation, pollution control, and social welfare. (See pp. 15 to 22.)

IS ECONOMIC PLANNING AN IMPORTANT CONTROL MECHANISM?

Macroeconomic planning consists of setting projections of economic growth and general goals for the economy, while microeconomic planning consists of determining the resource needs of major industrial sectors based on macroeconomic forecasts and goals. Planning centers around building a consensus to provide a common direction for business, government, labor, and consumers. Until the mid-1970s, that direction was toward achieving high economic growth. Since then, however, several factors have weakened the consensus supporting high economic growth, most notably those discussed in the previous section. These factors are playing a larger role in the consensus building and planning process. (See pp. 22 to 28.)

DOES GOVERNMENT CONTROL INDUSTRIAL DEVELOPMENT?

Japan succeeded through the early postwar period in marshalling an impressive array of industrial policy instruments to foster investment-led growth. Through the mid-1960s, the most powerful of these

were controls imposed on economic activity through the Foreign Exchange and Foreign Trade Control Law. Through its rationing of foreign exchange, the government was able to control the types and volumes of imports needed for industrial reconstruction and to protect and strengthen Japanese domestic industry by reducing foreign competition. Significant financial support for industrial development coupled with extensive controls over trade and capital flows characterize the foundation upon which Japan grew to be an economic power. (See pp. 29 to 38.)

In the mid-1960s and throughout the 1970s, as the Japanese economy began to grow, Japan began to dismantle many of these industrial policy tools in response to pressure from its major trading partners. This process, however, has in some instances been slow in materializing, particularly with reference to trade barriers. In numerous instances, while access to the Japanese market was effectively restricted, Japanese industries made significant inroads into foreign markets. Successive rounds of the Multilateral Trade Negotiations have reduced or eliminated tariff barriers; today, however, non-tariff barriers such as product testing, standards, etc., have become more troublesome in all countries' trade relations. (See pp. 40 to 44.)

As trade and investment laws changed, the Ministry of International Trade and Industry (MITI) lost a major source of its power over industry--the foreign exchange allocation. Moreover, as key industrial sectors have gained internal financial strength and access to domestic and international capital markets, MITI's direct influence and control over the direction and course of industrial development has waned. (See pp. 46 to 48.)

DO JAPAN'S INDUSTRIAL POLICIES ASSURE SUCCESS AND HIGH GROWTH?

Today the emphasis of government support has shifted from heavy industries to sophisticated technology targets; industries are assisted in developing and diffusing, throughout the economy, technologies that contribute to high value added; productivity, and resource conservation. These include the computer, robotics and aircraft industries among others. Industrial policy programs for growing industries

are implemented after extensive discussions between the government and groups representing industry and other interests. (See pp. 49 to 52.)

Direct subsidies to joint government-industry research and development programs are widely used instruments of government assistance for technology development, as are tax and leasing programs for technology diffusion. These mechanisms work through incentive rather than control so the government has less direct influence over industrial development than it had during earlier periods. Significant obstacles hamper the success of government policies in each growth industry we reviewed. For example, development of leading-edge computer technologies presents new risks for the government and computer companies. Robotics manufacturers face an as yet undefined and undeveloped market at home and abroad, and development of new commercial aircraft and aircraft engines has become a task too costly for one company or one country to undertake. Japanese companies, like those in other countries, need to participate in international joint ventures. The working relationship between the government and industry is not as close as it once was, and the trend toward less direct government influence over industrial development may continue. (See pp. 53 to 65.)

HAS JAPAN SUCCESSFULLY ASSISTED ITS NON-COMPETITIVE INDUSTRIES IN ADJUSTING TO DECLINE?

Rising labor costs, yen revaluations, sluggish world demand, lower priced products from Southeast Asia, increased raw materials and energy costs, and foreign market import restrictions have all contributed to severe economic disruptions for some Japanese industries. The government has attempted to assist these declining industries to adjust to new circumstances by providing incentives to scrap excess production capacity. The government also assists workers in these industries through a number of unemployment and reemployment programs. (See pp. 66 and 67, 75 and 76.)

In 1978, the Structurally Depressed Industries Law was passed to address some generic problems of decline. Different mechanisms are used for short- and long-term problems. The thrust of the government's current financial assistance is to small- and medium-sized firms.

Larger firms are expected to adjust on their own as well as assume some of the burden of assistance to small and medium firms. Not unlike the United States, the Japanese Government has found that often political reality significantly constrains the formulation and implementation of economically rational decisions to phase industrial sectors out of the economy. (See pp. 67 to 72.)

Conflicts have arisen between government and industry, and between firms within an industry, in setting priorities and implementing "stabilization programs." Historically, high growth rates and a mobile and variable labor force have helped to ease the adjustment process; today's slower growth has made this process more difficult. (See pp. 73 to 76.)

Nevertheless, adjustment of declining industries has occurred, although the long-term success of this adjustment process may be questioned. In a slow growth environment, recognizing that emerging industries can ease adjustment problems of declining industries and coordinating programs to assist resource shifts from declining to emerging industries are key elements of Japan's "positive adjustment" policy. (See pp. 76 and 77.)

CONTENTS

Abbreviations

FILP	Fiscal Investment and Loan Program
GAO	General Accounting Office
GATT	General Agreement on Tariffs and Trade
GNP	Gross National Product
IBM	International Business Machines, Inc.
IHI	Ishikawajima-Harima Heavy Industries
IMF	International Monetary Fund
JAROL	Japan Robot Leasing Corporation
JDB	Japan Development Bank
JECC	Japan Electric Computer Corporation
MITI	Ministry of International Trade and Industry
NTT	Nippon Telephone and Telegraph Company
OECD	Organization for Economic Cooperation and Development
R&D	research and development
VLSI	very large scale integrated circuits
XJB	next generation jet engine
YXX	next generation commercial aircraft

CHAPTER 1

INTRODUCTION

In 1945 Japan faced an uncertain economic future, confronting wartime destruction and an Occupation 1/ attempting to restructure the political and economic fabric of the nation. Japan's phenomenal growth since World War II has sparked the interest of many industrialized countries facing increased competitiveness from newly industrializing countries and from Japan.

This report assesses the role of industrial policy in Japan's postwar economic achievements in the context of the specific mechanisms employed, the more general context of macroeconomic fiscal and monetary policies, and the economic planning process.

HISTORICAL OVERVIEW

At the time of its surrender in August 1945, Japan was faced with inflation, shortages of food and energy, a standard of living that had declined to pre-World War I levels, and the wartime destruction of its cities. The Occupation authorities pursued a policy of "economic demilitarization."

U.S. policy toward Japan shifted with the burgeoning Cold War. Facilitating Japan's economic recovery with an eye to creating an Asian "bulwark against Communism" became increasingly important to the United States. By 1948 some of the more stringent economic measures of the early Occupation years had been moderated, and in 1949 the United States instituted a series of economic stabilization policies including the balanced budget principle. It was the Korean War, however, that spurred the beginnings of Japan's recovery through the foreign exchange income earned from U.S. Army expenditures and the corresponding expanding investments in industrial plant and equipment.

Japan regained its independence in April 1952. In the following years, Japan achieved an impressive rate of economic growth and demonstrated increasing international competitiveness. Table 1 shows real and nominal growth of Japan's gross national product (GNP) since World War II.

MANAGING THE ECONOMY: BASIC ECONOMIC TOOLS DEFINED

To assess the role of industrial policy and the resiliency of the economy since 1973, it is necessary to define terms and to show the relationship between monetary, fiscal, and industrial

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1/This refers to the occupation of Japan by U.S. defense forces following Japan's surrender in 1945 until Japan regained its independence in 1952.

Table 1

Nominal and Real GNP Growth in Japan
(note a)

Fiscal Year (note b)	Nominal GNP (Yen - billions)	Real GNP (Yen - billions)	Growth Rates Nominal (percent)	Growth Rates Real (percent)
1951	5,680	21,361	-	-
1952	6,516	23,780	14.7	11.3
1953	7,695	25,605	18.1	7.7
1954	8,000	26,315	4.0	2.8
1955	9,064	29,159	13.3	10.8
1956	10,174	30,952	12.2	6.1
1957	11,501	33,366	13.0	7.8
1958	12,050	35,353	4.8	6.1
1959	13,914	39,298	15.5	11.2
1960	16,571	44,213	19.1	12.5
1961	20,298	50,171	22.5	13.5
1962	22,146	53,385	9.1	6.4
1963	26,167	60,071	18.2	12.5
1964	30,328	66,445	15.9	10.6
1965	33,550	70,231	10.6	5.7
1966	39,452	78,204	17.6	11.4
1967	46,176	86,852	17.0	11.1
1968	54,689	98,162	18.4	13.0
1969	64,851	110,030	18.6	12.1
1970	75,092	119,126	15.8	8.3
1971	82,726	125,455	10.2	5.3
1972	96,424	137,678	16.6	9.7
1973	116,636	144,970	20.1	5.0
1974	138,045	144,663	18.4	-0.21
1975	151,797	149,807	10.0	3.6
1976	170,290	157,482	12.2	5.1
1977	188,804	165,774	10.9	5.3
1978	206,867	174,361	9.6	5.2
1979	222,702	183,993	7.7	5.5
1980	240,466	191,032	8.0	3.8

a/ Real figures based on market prices in calendar year 1975.

b/ Japan's fiscal year runs from Apr. 1 to Mar. 31.

Source: Compiled on the basis of Bank of Japan data.

policies and indicative economic planning. Industrial policy is directed by the Ministry of International Trade and Industry (MITI), indicative planning by the Economic Planning Agency, and monetary and fiscal policy by the Ministry of Finance and the Bank of Japan, Japan's central bank.

Macroeconomic management: monetary and fiscal policies

Monetary and fiscal policies are essentially demand management tools of the government. Generally, the U.S. Government uses these tools to smooth business cycles and encourage employment. Japan, however, has used them primarily to maintain equilibrium in balance-of-payments accounts and to direct investment funds to industry to support economic growth.

Large portions of both the general account (Japan's budget) and the so-called second budget--the Fiscal Investment and Loan Program (FILP)--have been allocated to industry since World War II. 1/ Moreover, tax exemptions and allowances geared to the development of specific industries provided impetus to industrial growth.

Until the mid-1970s, the Ministry of Finance and the Bank of Japan strictly regulated banking, interest rates, and bond markets. Through this regulation the government was able to set interest rates at extremely low levels, exert a great deal of influence over commercial bank lending policies, and control the allocation of foreign exchange and participation in capital markets.

Indicative planning

Indicative planning by the Economic Planning Agency is the process of setting macroeconomic growth goals for the economy. Generally, Japan's indicative plans have been directed toward cutting back in the primary sector (i.e., agriculture) and focusing on the secondary and tertiary sectors (i.e., manufacturing and services).

The indicative plans consist of projections for growth in trade, GNP, production, prices, consumption, government income, expenditures, and deficits, etc. The plans discuss at length

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1/The general account consists of funds obtained through taxes and payments to the Treasury; FILP consists of funds obtained through the Post Office savings and insurance programs, etc. The FILP account equals roughly 50 percent of the general account and has been a significant source of loan funds to various targeted industries. (See ch. 3.)

the government's objectives and policies, the justification for these objectives, and the implementation of the plans. The plans serve to achieve national consensus on long-range goals and the direction in which the economy should head. Cabinet approval of the plans gives them further meaning in a broad national sense.

Microeconomic management: industrial policy

Industrial policy consists primarily of the mechanisms used by government to attain various sectoral goals. The basic focus of industrial policy is microeconomic in that it directs attention to specific industrial sectors and attempts to identify the best way to encourage growth or adjustment to decline of a particular sector. Various tools employed to encourage industry to grow or rationalize include credit rationing, favorable access to investment funds and foreign exchange, the use of rationalization cartels, joint research and development programs, control over licensing of technology, use of commercial policy (e.g.,tariffs, quotas, export controls, etc.), and administrative guidance.

The process of targeting a specific industry begins with deliberations by MITI's Industrial Structure Council, a group responsible for drafting MITI's long-range plans (known as MITI Visions), and composed of representatives from government, industry, labor, academia, etc. Three such plans have been issued, covering the 1960s, 1970s, and 1980s, and outlining basic goals to be achieved and the criteria to be used in focusing government assistance to industry. MITI's planning is differentiated from that done by the Economic Planning Agency in that it more specifically focuses on which industrial sectors are to be targeted for growth and how. Specific details on mechanisms for targeting are drawn up by industry subcommittees of the Industrial Structure Council.

Dialogue between government and industry to achieve a consensus on goals and mechanisms is critical to the effectiveness of industrial policy. The role of industry and trade associations, individual firms, ad-hoc government committees, subgroups of the various ministerial agencies, etc. cannot be overemphasized. The cooperative working relationship which develops through government-industry interactions is equally critical to the success of industrial policy in Japan.

OBJECTIVES, SCOPE, AND METHODOLOGY

The Chairman of the Joint Economic Committee requested that we undertake a study of Japan's industrial policies, particularly for the expanding computer, robotics, and aircraft industries and contracting shipbuilding and textile industries.

To meet the objectives outlined by the Committee, we surveyed published literature in Japan and in the United States on these issues (see appendix for a selected bibliography) and much of the

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discussion of Japan's immediate postwar macro- and microeconomic policies is based on these published sources. In addition, we spoke with various government agency officials, industry representatives, and academics in both the United States and Japan to assess Japan's current macro- and microeconomic policies. Our data collection efforts in Japan focused primarily on recent developments in Japanese financial markets and changes in monetary and fiscal policy tools. We held interviews with officials of the Bank of Japan and the Ministry of Finance, various private sector representatives, and academics to discuss these issues. We also concentrated on recent developments in industrial policies for the five sectors we analyzed in detail through discussions with representatives in government, industry, trade and industry associations, and academics.

Since World War II, the United States has been the prime mover behind multilateral efforts to lower and eliminate barriers to free trade. However, the United States has restricted free trade in response to foreign competition. These actions have proven insufficient in remedying the decline of some major U.S. industrial sectors. Consequently, Congress has begun to explore alternative approaches for increasing U.S. competitiveness in international markets.

The interest in Japan's approach to industrial growth centers around its apparently successful efforts to promote the development of certain specific industries with good world market prospects and to facilitate the contraction and shift of resources out of other industries facing stiff foreign competition.

In order to address those factors which we believe to be most responsive to the Chairman's request, we have presented Japanese industrial policy in its historical, international, and macroeconomic contexts to assess the factors that influence the conduct of such policy. We assessed how industrial policies of the immediate postwar period have changed over time with changes in Japan's domestic economy and the international economy. Thus, we traced macroeconomic monetary and fiscal policies from the 1950s through the present, emphasizing those features which have directly affected the nature and conduct of industrial policy and have caused changes in the goals, focus, and tools of industrial policy.

Our report took into account the views of various experts from academia and industry. In addition, we received comments from individuals in the Japanese Government. Because the laws cited in this report are Japanese, the report was not subject to GAO's normal legal review procedures. Our review was performed in accordance with GAO's current Standards for Audit of Government Organizations, Programs, Activities, and Functions.

CHAPTER 2

BENEFITS AND CONSTRAINTS OF MACROECONOMIC POLICIES ON INDUSTRIAL GROWTH

Japanese monetary policy in the postwar years has been viewed as a means of achieving essentially three objectives: domestic price stability, balance of payments equilibrium, and maintenance of appropriate levels of business activity. Of these three objectives, primary weight, at least in the 1950s and 1960s, was given to maintaining balance of payments equilibrium. Indeed, Japan's monetary policy has been said to have been characterized by "extremely swift and sensitive reaction to balance of payments developments." 1/

Within this overall context of maintaining balance of payments equilibrium, monetary and fiscal policies in Japan during most of the postwar period were geared toward supporting and expanding investment-led growth. Monetary policies were directed toward keeping interest rates low in order to give companies access to relatively inexpensive money to facilitate investment-led growth. In its role as financial intermediator, the government funneled much of the high savings of the household sector into productive investment. Moreover, fiscal authorities also directed substantial tax revenues to growth-promoting investments. Beginning in the early 1970s, the government's ability to support growth through macroeconomic policies diminished.

Monetary authorities were able to support and influence investment-led growth by rationing credit. Because interest rates were kept below what the free market would yield, the demand for money always exceeded the supply. Rationing was administratively possible because the corporate sector depended on direct loans from Japan's 13 city banks which in turn depended on loans from the Bank of Japan. In addition, fiscal authorities were able to channel budgetary funds from tax revenues and savings in the postal savings system to the corporate sector.

A final tool of macroeconomic policy, economic planning, had its modern aegis during the Occupation years, with the establishment of the Economic Stabilization Board and the drafting of 5 and 7 year economic growth plans. The plans have generally underestimated the actual growth rate of the economy, but they have provided useful guides to government and business in establishing economic priorities.

1/U.S., Congress, Joint Economic Committee, The Japanese Financial System in Comparative Perspective, by Eisuke Sakakibara, Robert Feldman, and Yuzo Harada, Joint Committee Print (Washington, D.C.: Government Printing Office, 1982), p. 50.

Changes in the international and domestic economy during the early 1970s have had a slow but discernible effect on the continued viability of this system and the conduct of fiscal and monetary policy. Concerns with inflation and stable growth have become priority goals for fiscal and monetary authorities, while financial market development and internationalization of the economy have lessened government control.

By 1965, Japan's trade balance was in surplus to stay and GNP was exhibiting rapid growth. During the same year, Japan broke with its longstanding practice of having a balanced budget. As its economy grew, Japan took on a larger role in the international community, becoming a member of the General Agreement on Tariffs and Trade (GATT), the Organization for Economic Cooperation and Development (OECD), and a signatory of Article VIII of the Articles of Agreement of the International Monetary Fund. 1/ Along with the rest of the world, Japan had to adjust to the system of floating exchange rates and the oil shocks of 1973-74 and 1979. Growth in Japan has slowed and, at the same time, there has been an increasing awareness of social concerns--the environment and the quality of life of an aging population. It was within this framework that Japan carried out macroeconomic monetary and fiscal policies in the 1970s. This chapter traces historically the benefits and constraints of macro-policies on industrial growth.

POSTWAR MONETARY POLICY

Who conducts monetary policy?

The Bank of Japan and the Ministry of Finance have had joint responsibility for conducting monetary policy in Japan; the relative influence of each has changed over time, based on legal and other factors. The Bank of Japan Law gives the Ministry of Finance the right to general oversight of Bank operations. Changes in reserve ratio requirements require Ministry concurrence. Discount rate policy and open market operations are conducted independently by the Bank, although the Ministry has, at times, had a great deal of influence on the discount rate. Maximum interest rates on deposits (excluding the postal savings system) are proposed by the Ministry and the final decision rests with the Bank of Japan. Although the Bank controls the foreign exchange funds general account, allocating foreign exchange for industrial development was a strong prerogative of the Ministries of Finance and International Trade and Industry. In general, the close coordination between the Ministry of Finance and the Bank of Japan

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1/ Members of the International Monetary Fund accepting the obligations of Article VIII agree to avoid imposing restrictions on international payments and to refrain from using multiple exchange rates or other discriminatory currency arrangements.

is an example of the consensus nature of Japanese policymaking; that is, the belief that monetary and fiscal policies should be unified in their support of industry. That is not to say, however, that consensus does not break down, as it did most notably in the early 1970s, when increased spending by fiscal authorities came into conflict with inflationary concerns of the monetary authorities. Since the 1970s, the Bank of Japan has had primary responsibility for monetary stabilization policies, and the Ministry of Finance has been primarily concerned with fiscal policies.

Tools of monetary policy

As credit allocators, the monetary authorities have a number of tools available to conduct stabilization policies. Because of the system in which the demand for funds was kept in excess of supply, changes in the discount rate and reserve requirements were relatively less important as monetary policy tools than the authorities' ability to allocate credit. Variations in the discount rate were very small and important not in changing the volume of loans (because the rate was always at a level at which demand exceeded supply) but as a government signal of relatively tight or expansive periods. Changes in the reserve requirements were even less significant.

Open market operations by the Bank of Japan did not entail trading in any "open" market. Until 1972, the Bank's activities consisted of allocating government bonds to a syndicate of banks at a regulated price. The small amount of government bonds (because of low government deficits) and their heavily regulated buying and selling meant "open markets" were of little importance to the Bank in implementing monetary policy.

The final tool of monetary policy is window guidance, through which the Bank of Japan sets aggregate ceilings on borrowings by the banking sector. In addition, the Bank of Japan sets informal ceilings on its lending to individual banks, based on their daily funds positions and longer term needs. Because a stiff penalty is imposed on bank borrowings above these allocated ceilings (the cost of borrowing is 4 percent above the official discount rate), banks were virtually prohibited from exceeding their ceilings with the Bank of Japan. This setting of aggregate and individual ceilings was important only during relatively tight money periods.

Conduct of monetary policy is based on structural characteristics of financial system

Credit rationing

Certain structural characteristics help to explain the conduct of monetary policy in the postwar period until roughly the mid-1970s. Lending policy--the rationing of credit--was in fact the principal tool exercised by the monetary authorities as a monetary stabilization mechanism. Japan's economy has been characterized by export-oriented, investment-led growth, which has led

to a large demand for funds by the corporate sector. High debt leveraging, which reinforced this growth, was made possible by interest rates held artificially low by the government. Companies raised money from bank loans rather than through equity financing because the cost of raising capital through loans was relatively cheap and because international transactions were virtually prohibited and domestic capital markets were highly regulated. High debt leveraging reinforced the system of credit rationing. 1/ Access to inexpensive capital reinforced the corporate sector's desire to invest and made long-term investments less risky.

The major lenders to these high growth companies were the 13 city banks. These banks are allowed to have a national branch system (whereas local banks are geographically limited), and they hold about 60 percent of their deposits from corporations.

The city banks, facing high demand from the corporate sector and having few sources from which to raise capital, turned to the Bank of Japan. The Bank supplied money to the economy through direct loans to the city banks according to a set of predetermined targets. In meeting the cash needs of the city banks through direct loans, the Bank of Japan operated somewhat differently than other central bank authorities, which affect the money supply primarily by purchasing government securities in an open market. Thus, throughout most of the postwar period, the Bank of Japan was placed in a situation where its external liabilities (loans to the city banks) were greater than its total deposits (primarily reserve assets). 2/

Basically, then, the corporate sector depended heavily on the city banks for a substantial portion of its investment funds. In turn, the city banks depended heavily on the central bank for their loan funds. These two factors reinforced the underdevelopment of capital markets and the system of credit rationing. As a

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1/This dependence of the corporate sector on bank borrowings is often referred to as overborrowing. In a detailed discussion of this phenomenon, Yoshio Suzuki states that between 1966 and 1970, the average proportion of corporate financing from bank borrowings was roughly 49 percent as compared with 40 percent from internal sources and 11 percent from securities issues. This proportion of debt financing in Japan was roughly twice as great as that in other industrialized countries. See Yoshio Suzuki, Money and Banking in Contemporary Japan (New Haven: Yale University Press, 1980), pp. 13-14.

2/This phenomenon is commonly referred to as overloan. Because the Bank, at least through the early 1970s, was not involved in purchasing securities or bonds, these secondary assets did not play a role in controlling overloan as they did in other industrialized countries. As a result, between 1956 and 1970, the Bank was in this overloan situation.

result, the monetary authorities had a great deal of influence over the allocation of credit, both over those sectors which received credit and those which did not, and thus the implementation of industrial policy goals.

This dependence was largely limited to the 13 city banks and that group of large companies with the highest growth. Smaller companies borrowed from regional or local banks whose lending abilities were determined by public deposits and legal reserve requirements. Small exporters turned for financing to the trading companies, which were usually affiliated with one of the major city banks.

Monetary authorities were not concerned with inflation which was low, nor with financing a government deficit which was insignificant. Any deficits which did exist were financed through an arrangement between the government and the city banks in which bonds were allocated among the banks at preagreed terms. The small amount of government issues, in turn, inhibited development of a market for government securities and issue price regulations discouraged development of secondary or repurchase markets.

To summarize, corporations with the greatest demand for capital were clients of the city banks. Because of low interest rates available from the banking sector due to actions of the Bank of Japan, that capital was raised through bank borrowings. The banks in turn met the demand for loans through borrowing from the Bank of Japan. The predominance of direct loans to supply funds inhibited the development of other financial markets. Moreover, the highly regulated and relatively inactive market for government and corporate securities inhibited development of a secondary bond and securities market.

Indirect financing and underdeveloped capital markets reinforce credit rationing system

Indirect financing

Of further importance in the Japanese financial structure was the predominance of indirect financing. Small savers, faced with a limited number of opportunities to invest and a tax system favoring interest on savings over individual dividends, deposited their savings with either private banks or the postal savings system. Banks used these deposits for direct loans to their corporate clients.

Interest rates on bank savings deposits were determined by the Bank of Japan and the Ministry of Finance; rates on savings in the postal system were determined by the Ministry of Posts and Telecommunications, and the Ministry of Finance. The Ministry of Finance has authority to regulate the branching activities of the city banks and has strictly controlled these activities,

resulting in few regional or local city bank branches. Thus, the postal savings system, with 20,000 post office branches throughout the country, has been more convenient for individual depositors. Moreover, postal savings have been favored by individual savers essentially because of the de facto differential tax treatment of interest income in these accounts as opposed to that in commercial bank accounts.

This regulation of interest rates and bank branching operations reinforced the predominance of indirect financing and the government's position in channeling funds from the net saving to net investing sector. This enhanced the government's role as financial intermediator, which in turn socialized high risk and strengthened the government's ability to direct funds to desired industrial sectors.

Capital markets

As noted previously, capital markets did not develop until the early 1970s. Government deficits were low throughout the early postwar period and the few public bond issues were allocated to a syndicate of 13 banks at pre-agreed terms. 1/ City banks, at least through the early to mid-1970s, were willing to accept these terms largely because these long-term issues could be sold to the Bank of Japan in return for credit against their individual borrowing ceilings. Thus, during this period, characterized by excess demand for capital and high city bank profit margins, city banks found these issues desirable. Because corporate sector issues were highly regulated by the monetary authorities and debt financing was relatively inexpensive, few such securities were issued. As a result, competitive price formation necessary for development of the long and medium-term markets did not occur because of the highly regulated nature of the market and the fact that few issues were floated.

The short-term money market, or call market, was the only "free" market in Japan through the early 1970s. Because this time period was characterized by excess demand for capital, however, interest rates in the call market were exceedingly high, thereby limiting participation and making this a market of last resort. 2/

1/In fact, long-term credit banks, mutual, local, and trust banks were also part of this syndicate; however, the proportion of bonds accepted by the city banks was significantly larger than that for the other syndicate members. Securities houses, although not part of the syndicate, accepted a small portion of these issues as well.

2/This market throughout most of the period was an interbank lending market. Additionally, when discussing "below-market" interest rates, it is the rate in the call market that is used for comparison.

International crises and domestic economic changes of the 1970s cause significant structural changes in Japan's financial system

A number of domestic economic trends and international events beginning in the early 1970s dramatically affected the conduct of monetary policy and its effect on the industrial sector.

With the collapse of the Bretton Woods system--the fixed exchange rate system created at the close of World War II--Japan was no longer able to maintain its exchange rate of 360 yen to the dollar. The Bank of Japan, fearing adverse consequences of a yen revaluation on Japanese exports, initially attempted to maintain the 360 yen rate, which resulted in a huge surplus of yen funds in the economy and led to inflation.

Beginning in 1973, the monetary authorities initiated restrictive measures. Reserve requirements were increased five times during 1973 and 1974, while the official discount rate was increased five times during 1973. Price stabilization became the prime concern of both the Bank of Japan and the Ministry of Finance, as soaring increases in oil prices and Japan's other commodity imports exacerbated inflationary pressures. Growth of the economy slowed. As the secondary market began to develop, large rate differentials between the issue price of government bonds to the syndicate and the secondary market forced the increasingly reluctant city banks to hold greater proportions of larger government debt.

The economy was slowly being internationalized. Large surpluses in the balance of payments led to liberalized movement of goods and capital. Large domestic companies were turning to the international capital markets to raise funds largely through convertible bond issues, and these companies' bond issues were underwritten by Japanese securities firms, a function forbidden to city banks. Many companies had assets which exceeded those of medium-sized banks because of their continued access to cheap money from the Bank of Japan through the city banks and because their increased participation as lenders in the unregulated call market led to huge profits. Table 2 illustrates the decline in the relative importance of the city banks in Japan's financial system.

Over time, these trends have made it increasingly difficult for the monetary authorities to maintain artificially low interest rates and heavily regulated markets. Consequently, a number of steps have been taken to liberalize short and long-term interest rates (see table 3). By October 1979, all bill market rates with the exception of those for Treasury bills had been liberalized. The government began issuing medium-term bonds, and those rates which did remain regulated were adjusted more frequently. The liberalizations were accompanied by substantial broadening of secondary markets for government securities and other instruments. At the urging of the Bank of Japan and in view of an

Table 2

Simplified Balance Sheet of City Banks and Other Financial Institutions
(Unit = Y billion)

Year-end	City Banks			Other Financial Institutions		
	1965	1970	1975	1965	1970	1975
Assets						
Central bank money	267.3	500.9	1,252.3	300.7	688.4	2,240.1
Call loans etc.	1.0	12.3	149.7	1,250.0	2,560.3	4,478.7
Investments	2,468.6	3,946.3	8,722.8	2,712.6	9,335.3	25,858.7
Loans	10,855.0	21,744.9	47,720.4	16,769.9	48,385.1	116,261.4
Liabilities						
Borrowing from BOJ	1,136.4	2,123.6	1,489.6	54.1	229.7	287.7
Call money etc.	1,327.0	2,567.3	6,624.4	170.0	34.2	382.1
Deposits	10,897.8	22,060.9	53,613.1	19,475.8	56,655.0	133,318.6
Others	230.7	102.5	-3,884.9	1,333.3	5,050.2	14,850.5
Net reserve assets	-2,195.1	-4,177.0	-6,712.0	1,326.6	2,984.8	6,049.0

Source: Bank of Japan. Economic Statistics Annual
Notes: 1. Central bank money = Deposits at Bank of Japan + notes and coin (excluding checks and bills)
Call loans etc. = Call loans + loans for other financial institutions + bills sold
Call money etc. = Call money + loans from other financial institutions + bills bought
Net reserve assets = Central bank money + call loans etc. - loans from BOJ - call money
2. Financial Institutions includes the range of institutions covered in the "flow-of-funds accounts."

ever-increasing deficit, the Ministry of Finance agreed to liberalize interest rates for government securities.

Despite these liberalizations, regulation continues to exist. For example, foreign companies are restricted in their ability to raise capital. Existing controls such as these are in part responsible for continuing low rates of interest. (The official discount rate in Japan was last changed in December 1981 to 5.5 percent while the prime rate at that time was 6.0 percent.)

The force of recent economic conditions has caused changes in the relative importance of traditional monetary tools and credit rationing is becoming less effective. Institutionally, concurrence by the Ministry of Finance and the rest of the government about the need to control inflation and the Ministry's loss of most foreign exchange controls put the Bank of Japan in a much stronger position to influence policy. Interest rates have come to supplant the position once held by credit rationing in affecting the money supply.

Table 3

Chronology of the Deregulation of Interest Rates

1978

June

Dealers in call markets were instructed by the Bank of Japan to change their posted rates more frequently.

Financial institutions were permitted by the Bank of Japan to resell bills bought on the bills discount market, provided that the resale took place within one month after the purchase.

The Government started to issue three-year bonds through competitive bidding.

The Bank of Japan conducted open market purchases of long-term government bonds on a competitive basis. (Before this action was taken, there was a transition period from non-competitive scheme to competitive bidding.)

October

An agreement was reached between the Bank of Japan and participants to short-term money markets to create a seven-day call money market with freely determined interest rates.

November

The Bank of Japan and participants to short-term money markets agreed to create a one-month bills market with freely determined interest rates. They also agreed to liberalize interest rates on three-month bills.

1979

April

The practice of setting posted call money rates was discontinued, resulting in the liberalization of all call money rates.

The Bank of Japan and the participants to short-term money markets agreed to create a term call market, with a maturity of seven days or less.

May

Non-residents were granted access to the repurchase market where the instrument is repurchase agreements in securities.

Commercial banks were authorized to issue time certificates of deposit (CDs). The interest rate on CDs was freed from regulation.

October

An agreement was reached between the Bank of Japan and participants to short-term money markets to discontinue the practice of setting posted rates on two-month bills, thus leaving the determination of all call and bill discount rates in Japan to market forces.

Source: Organization for Economic Cooperation and Development, Economic Survey: Japan, July 1980.

POSTWAR FISCAL POLICY

Japanese fiscal policy in the postwar years has been characterized by a number of distinctive features, among them the adherence to a balanced budget until the mid-1960s and the budgeting of significant resources for industrial development.

The principle of "sound finance"--the balanced budget rule in effect until 1965--was a legacy of the Occupation years. The deflationary policies introduced in 1949 included an insistence on the preparation of a balanced budget as well as the introduction of a fixed exchange rate for the yen. By adhering to the principle of a balanced budget, the government in effect refrained from deficit financing through either bank borrowing or bond issues.

During the balanced budget era, tax revenues were generally adjusted to keep receipts to roughly 20 percent of national income forecasts, a principle generally designed to discourage rapid growth in public expenditures. Government expenditures in the postwar years have been moderate relative to the size of the economy and revenues; nonetheless, expenditures did grow rapidly during 1955-65 despite annual decreases in tax rates, because of the even more rapid growth in GNP.

The Japanese tax system has traditionally favored savings and investment. Fiscal authorities accomplished this largely by

--reducing double taxation of corporate income through preferential treatment of dividends;

--excluding from taxable income the interest income of small savers;

--favoring capital gains over dividend income; and

--keeping the average tax burden (combined with a high savings rate) low as compared with other industrialized countries.

In order to stimulate economic activity, the government decided to abandon the balanced budget principle in 1965. Fiscal authorities were able to increase public expenditures in excess of tax revenues with income generated through government bond issues. As was the case in monetary policy, changes in the international and domestic economy in the 1970s led to significant changes in the conduct of fiscal policy. Government spending increased in response to (1) industrial adjustments to decreased worldwide demand and increased energy prices and (2) increased assistance to industry to aid social goals, such as retraining, pollution control, etc. These growing demands on government spending were accompanied by slower growth and, consequently, declining tax revenues, which in turn led to budgetary deficits

in the general account. Japan's second budget, the Fiscal Investment and Loan Program, funded through individual savings, did not suffer as the Japanese continued to save even as inflationary pressures grew.

An analysis of the two budgets does not indicate a shift from spending for economic growth to spending for economic decline; growth continues to be of primary concern. However, the government's ability to spend to assist industry to grow is now limited and its concern with achieving high growth rates is tempered by the demand and need for achieving growth under increasingly constrained economic and social conditions.

General account and FILP contributions to investment and growth

General account

Japan's primary budget is the general account budget. This budget, largely funded through general tax revenues (and to a lesser extent through public bond issues after 1965), is the basic operating budget of Japan. 1/

Table 4 summarizes general account expenditures and their share of total expenditures/revenues for 1973-1981.

As a percent of total expenditures, social security payments, including social welfare and insurance, public health services and measures for the unemployed, grew between 1973 and 1978, then declined slightly. Expenditures for national debt grew dramatically from 4.5 percent in 1973 to 14.2 percent of total budgetary expenditures in 1981. Regional development (local finance) and public works (industrial infrastructure) expenditures declined for the most part between 1973 and 1981.

In addition to the general account, there were 38 Special Account budgets as of 1981. Each Special Account is established by law and has its own revenue sources; e.g., transfers from the

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1/According to one source, expenditures from the general account for "industry and economy" rose from 6.6 percent in 1955 to 11.6 percent in 1975. In addition, the source notes that a significant proportion of general account funds was also used in "national lands conservation and development," which is for public works or the buildup of industrial infrastructure through public investment. Together, these two classifications contributed to industrial development, 19.6 percent of the general account in 1955, 27.5 percent in 1965, and 25.9 percent in 1975. Takafusa Nakamura, The Postwar Japanese Economy (University of Tokyo Press, 1981), p. 135.

Table 4

Expenditures of General Account Budget
Fiscal years 1973-81
Y 100 million (% share)

Classification	1973	1974	1975	1976	1977	1978	1979	1980	1981 (initial)
Total Revenue/Expenditure	15,272 6	19,198.1	20,837 2	24,650.2	29,346 6	34,440.0	39,867 6	43,681 4	46,728 1
Social Security	2,219.6(14.5)	3,128 7(16.3)	4,037 2(19.4)	4,829 3(19.6)	5,717 4(19 5)	6,786 5(19 7)	7,643 9(19 3)	8,264 4(18 9)	8,836 9(18 9)
Education and Science	1,656 5(10 8)	2,307 5(12.0)	2,698 3(12.9)	3,058.1(12.4)	3,476.5(11 7)	3,847.4(11 2)	4,326.4(10.9)	4,801.4(10 5)	4,742 0(10 1)
National Debt Expense	688 2(4 5)	850 6(4 4)	1,102.4(5.3)	1,843 0(7.5)	2,315.3(7 9)	3,231 8(9 4)	4,375 8(11 0)	5,491 6(12 6)	6,654 2(14 2)
Pensions and Others	472 3(3 1)	596 6(3 1)	755 9(3.6)	987.7(4 0)	1,162 0(4 0)	1,329 1(3 9)	1,499.8(3 8)	1,639 9(3 8)	1,803 0(3 9)
Local Finance	3,243 9(21 2)	4,198.7(21 9)	3,371 8(16.2)	3,942.2(16 0)	4,826 8(16 4)	5,747 2(16 7)	6,664 5(16 8)	7,828 8(17 9)	8,766 6(18 7)
National Defense	979.0(6.4)	1,225 6(6 4)	1,367 4(6 6)	1,522 8(6 2)	1,699 3(5.8)	1,837 5(5 3)	2,092 6(5 3)	2,266 5(5 2)	2,420 0(5 1)
Public Works	2,848 7(18 7)	2,964 9(15 4)	3,313.7(15 9)	3,792.3(15.4)	4,984 8(17 0)	5,803 3(16.8)	6,663 6(16.8)	6,601 0(15 6)	6,655 4(14 2)
Economic Cooperation	139 5(0 9)	167 5(0 9)	174 9(0.8)	196 0(0.8)	210 3(0.7)	279 7(0 8)	337 6(0 9)	381 9(0 9)	425 4(0 9)
Measures for Small Business	80.2(0 5)	103 6(0 5)	126 8(0 6)	148.1(0.6)	195.1(0 7)	229 5(0 7)	230 9(0 6)	242 7(0 6)	249 7(0 5)
Transfer to Foodstuff Control Special Account	815 1(5 3)	998 3(5 2)	917 5(4 4)	901 6(3 7)	826 1(2 8)	935 7(2 7)	981 9(2 5)	955 5(2 2)	994 8(2 1)
Transfer to Industrial Investment Special Account	75.8(0 5)	66.3(0 3)	65 3(0.3)	63.2(0 3)	-	-	-	-	-
Measures for Energy	-	-	-	-	117 7(0 4)	273.8(0.8)	322 2(0 8)	424 5(1 0)	497 5(1 1)
Miscellaneous	1,987 7(13 0)	2,448 9(12 8)	2,776 3(13 3)	3,139.0(12 7)	3,602 3(12 3)	3,820 7(11.1)	4,178 6(10 5)	4,432 8(10 1)	4,412 6(9 4)
Reserves	65 0(0 4)	141 0(0 7)	200.0(1 0)	155.0(0 6)	262 0(0 9)	255 0(0 7)	350 0(0 9)	350 0(0 8)	350 0(0 7)

Note: Figures have been readjusted for comparison.

Source: Ministry of Finance, Quarterly Bulletin of Financial Statistics, Sept. 1977, Sept. 1981.

general account, receipts from government enterprises administered under these accounts, interest revenue from loans, borrowings, etc. These accounts provide another pool of funds for numerous purposes, including environmental control, energy development, development of infrastructure and so on.

Fiscal Investment and Loan Program

Funds for the FILP, created in 1953, are largely received from postal savings and annuity funds. These funds are held in the "Trust Fund Bureau Fund" of the Ministry of Finance. At various times the FILP account has equaled as much as 50 percent of the general account budget and has increased gradually as a percent of GNP from 4.38 percent in 1953 to 7.56 percent in 1980, as shown in table 5.

Table 5

Relationship of FILP
to General Account Budget and GNP

Year	FILP	General Account Budget	Nominal GNP	FILP as % of budget	FILP as % of GNP
	(Y billion)				
1953	337.4	1,017.2	7,695	33.1	4.38
1954	285.8	1,040.8	8,000	27.5	3.57
1955	297.8	1,018.2	9,064	29.2	3.29
1956	326.8	1,069.2	10,174	30.6	3.21
1957	396.8	1,187.7	11,501	33.4	3.45
1958	425.2	1,331.6	12,050	31.9	3.53
1959	562.1	1,495.0	13,914	37.6	4.04
1960	625.1	1,743.1	16,571	35.9	3.77
1961	830.3	2,063.5	20,298	40.2	4.09
1962	951.3	2,556.6	22,146	37.2	4.30
1963	1,209.2	3,044.3	26,167	39.7	4.62
1964	1,403.5	3,310.0	30,328	42.4	4.63
1965	1,776.4	3,723.0	33,550	47.7	5.29
1966	2,085.4	4,459.2	39,452	46.8	5.29
1967	2,496.8	5,113.0	46,176	48.8	5.41
1968	2,783.3	5,937.1	54,689	46.9	5.09
1969	3,180.5	6,917.8	64,851	46.0	4.90
1970	3,799.0	8,187.7	75,092	46.4	5.06
1971	5,008.7	9,561.1	82,726	52.4	6.05
1972	6,037.8	11,932.2	96,424	50.6	6.26
1973	7,413.4	15,272.6	116,636	48.5	6.36
1974	9,457.8	19,198.1	138,045	49.3	6.85
1975	11,465.5	20,837.2	151,797	55.0	7.55
1976	12,403.1	24,650.2	170,290	50.3	7.28
1977	14,414.2	29,346.6	188,804	49.1	6.64
1978	14,043.9	34,440.0	206,867	40.8	7.20
1979	18,332.7	39,667.6	222,702	46.2	7.56
1980	20,679.9	43,681.4	240,466	47.3	7.56

Source: Compiled by GAO from Bank of Japan, Ministry of Finance and the Economic Planning Agency data.

FILP funds were largely directed, through financial intermediaries such as the Japan Development Bank or the Japan Export-Import Bank to large-scale industrial projects, trade financing, and financing small- and medium-sized businesses. As table 6 shows, the FILP emphasized development of basic industries, housing, small business, transportation and communication, and so on. During the early 1960s, the emphasis on basic industries began to decline, while housing, environmental improvements, and roads began to grow in significance. These trends in expenditures continued into the 1970s.

International and domestic economic changes significantly change conduct of fiscal policy

With abandonment in 1965 of the balanced budget rule, the government began to increase spending in excess of revenues and to reevaluate developmental goals. Between 1965-70, the government began to attach increased importance to social welfare, environmental protection, and other social development programs, which were basically nonproductive investments, while continuing to support specified industrial development programs.

The tight monetary policies of 1970-71 and the yen revaluation shock in 1971 contributed to the beginnings of slowed growth. Fiscal authorities attempted to overcome these pressures by increasing spending and thus significantly increasing the issuance of national bonds in 1971 and 1972. At the same time, monetary authorities tightened monetary policy to cope with inflationary pressures resulting from their attempts to keep parity in the exchange rate following the demise of the Bretton Woods system.

No sooner had these measures been taken than the oil crisis of 1973-74 hit, exacerbating inflationary pressures. As GNP fell to a real growth rate of -0.21 percent in 1974, fiscal authorities attempted to increase spending to overcome the recession following the oil crisis. As a result, the general account deficit began to skyrocket, as noted in table 7. This deficit continued to grow following the oil shock.

With growth in GNP slower than pre-1974 levels, the start of inflationary pressures, and the oil crisis of 1979, savings began to decline. The absorption of government bonds which had been little problem before this period because of high savings and a strong demand for private investment funds, became increasingly difficult. City banks became increasingly unwilling and potentially unable to continue purchasing significant bond issues to finance the growing government deficit.

Internal pressures of this nature led the government to declare the fiscal year 1982 budget a "zero increase" budget with but a few exceptions (defense, welfare, etc.). Projected increases stand at 6.2 percent over the fiscal year 1981 budget.

Table 6

Sources and Uses of Treasury Investments and Loans

	Sources (¥ billions)			Uses (component ratios %)											
						Facilities									
Year	Total	Treasury funds	Public bond issues	Housing	Environmental improvement	Public welfare	Education	Small business	Agriculture, forestry, fisheries	Natl. lands conserve. and disaster relief	Roads	Transportation and communications	Regional development	Basic industries	Trade & economic cooperation
1953	337.4	298.9	38.5												
1954	285.8	251.4	34.4												
1955	297.8	246.2	51.6	13.9	7.7	2.1	4.6	8.2	8.9	7.6	3.7	12.3	8.6	15.1	7.1
1956	326.8	241.0	85.8	15.0	7.7	2.0	3.6	9.3	7.3	5.7	4.2	12.2	14.2	13.8	5.0
1957	396.8	351.6	45.2	13.8	9.3	1.7	3.1	16.9	6.2	4.2	2.7	11.4	9.6	20.2	0.9
1958	425.2	371.6	53.6	15.4	9.6	1.5	3.1	14.6	7.1	4.8	3.4	9.7	9.4	21.4	---
1959	582.1	486.2	95.9	13.8	8.4	1.3	2.8	14.1	8.6	6.3	3.9	12.0	7.4	15.7	5.6
1960	625.1	506.8	118.3	12.6	9.1	1.7	3.4	12.5	7.0	6.4	4.4	14.6	7.0	13.4	7.8
1961	830.3	666.2	164.1	11.6	10.2	3.0	2.6	13.7	6.4	5.6	5.7	13.4	8.0	10.7	9.3
1962	951.3	759.1	192.2	12.8	10.3	3.0	2.5	13.8	5.6	5.0	6.5	14.2	7.7	12.7	5.9
1963	1,209.2	950.0	259.2	12.6	10.2	2.9	2.5	12.4	5.7	3.8	8.0	16.0	7.7	10.6	7.5
1964	1,403.5	1,128.5	302.0	12.6	11.3	3.1	2.8	13.2	6.1	4.0	7.8	14.4	8.1	8.5	8.1
1965	1,776.4	1,339.8	436.7	14.4	11.5	3.3	2.7	12.8	5.8	3.8	8.0	13.9	6.4	8.9	8.5
1966	2,085.4	1,471.6	613.8	15.4	11.6	3.3	3.0	13.3	6.1	3.5	9.0	12.7	5.2	7.8	9.1
1967	2,496.8	1,887.4	609.4	16.0	11.1	3.2	3.0	13.8	5.9	2.6	9.9	13.3	4.7	6.6	9.9
1968	2,783.3	2,238.1	545.2	16.3	11.5	3.2	2.3	14.4	5.7	2.2	9.7	13.2	4.4	6.6	10.5
1969	3,180.5	2,665.5	515.0	17.3	11.3	3.1	2.4	14.9	5.5	1.7	8.8	12.7	4.3	5.9	12.1
1970	3,799.0	3,301.7	497.3	19.3	11.6	2.8	2.2	15.4	5.0	1.6	8.6	13.2	4.0	5.7	10.6
1971	5,008.7	4,336.1	670.6	20.2	12.1	2.7	2.3	15.4	5.1	1.4	8.2	13.2	4.2	5.4	9.8
1972	6,037.8	5,408.6	629.2	20.4	14.0	2.7	1.9	14.5	4.8	1.9	9.4	12.2	3.9	4.7	9.6
1973	7,413.4	6,983.4	430.0	18.1	16.4	1.9	2.0	14.8	4.6	2.3	9.4	13.1	3.9	3.6	8.9
1974	9,457.8	9,058.0	399.8	19.7	16.4	3.1	2.5	15.5	4.1	1.0	8.7	13.6	3.6	3.0	8.8
1975	11,465.5	11,001.6	463.9	21.4	16.7	3.4	2.9	15.6	4.1	1.2	8.0	12.7	3.3	3.0	7.7
1976	12,403.1	11,565.5	837.6	22.7	15.9	3.7	2.4	16.6	4.8	1.1	7.6	11.4	2.8	2.8	8.2
1977	14,414.2	13,378.2	1,036.0	21.1	12.7	2.9	3.7	14.6	4.3	1.0	6.2	9.0	2.4	2.4	6.8
1978	14,043.9	12,670.7	1,373.2	26.2	15.8	3.5	5.0	17.0	5.1	1.7	7.5	11.5	2.7	2.9	7.2
1979	18,332.7	16,754.8	1,577.9	23.5	13.1	3.4	4.5	15.9	4.7	1.3	5.5	9.5	2.3	2.6	5.7
1980	20,679.9	19,098.3	1,581.6	23.0	12.4	3.0	3.9	16.4	4.3	1.5	5.0	8.4	2.3	2.6	4.9
1981	22,989.7	21,389.1	1,600.6	22.2	11.8	2.9	3.5	16.6	4.0	1.2	5.1	8.5	1.9	2.6	4.4

Source: Compiled by GAO from Nakamura, The Postwar Japanese Economy, p. 137, for 1953-76 figures; Quarterly Bulletin of Financial Statistics, Ministry of Finance, Sept. 1981, for 1977-81 figures.

Social programs are expected to experience budget cuts; e.g., the Japanese National Railway may have to close down some of its more unprofitable routes and raise its rates, the rice support program may be cut, etc. In addition, part of the government effort to restore fiscal balance is to make significant cuts in the size and cost of the central government. The Ministry of Finance has set a medium-term goal of reducing the structural budget deficit 1/ by one-half of the fiscal year 1980 level, shown below, by 1984.

Table 7

General Account Deficit

Fiscal Year	General account	Deficit	Deficit as % of general account	Deficit as % of nominal GNP
	(Y = 100 million)			
1964	33,100	945	2.9%	0.3%
1965	37,230	3,140	8.4	0.9
1966	44,592	7,770	17.4	2.0
1967	51,130	8,338	16.3	1.9
1968	59,371	6,008	10.1	1.1
1969	69,178	5,211	7.5	0.8
1970	81,877	6,775	8.3	0.9
1971	95,611	13,478	14.1	1.6
1972	119,322	20,601	17.3	2.1
1973	152,726	25,394	16.6	2.2
1974	191,981	31,346	16.3	2.3
1975	208,372	59,319	28.5	3.9
1976	246,502	77,625	31.5	4.6
1977	293,466	104,563	35.6	5.5
1978	344,400	118,817	34.5	5.7
1979	396,676	138,925	35	6.2
1980	436,814	151,892	34.8	6.3
1981	467,881	122,700	26.2	(a)
1982	496,808	104,400	21.0	(a)

a/ Not available.

Source: Based on Bank of Japan data and Ministry of Finance "Quarterly Bulletin of Financial Statistics."

1/The deficit in the general account has come to be referred to as a structural deficit because government bonds issued during 1974-82 exceeded the value of construction bonds issued. Government construction bonds were considered justifiable under the post-1965 rules of "sound finance" because they were floated for productive public investment. The remainder of the deficit, funding for social welfare and income transfer programs generally, is not considered justifiable grounds for deficit spending.

From this abbreviated summary of fiscal policy in postwar Japan, several conclusions are worth noting. Fiscal policy for the most part seemed to be coordinated with monetary policy except in the 1973-74 period. Both were geared toward stimulating investment and thereby encouraging growth. Fiscal expenditures from the early postwar period demonstrate the importance attached to industrial growth and highlight the government's role as financial intermediator.

INDICATIVE PLANNING AND ITS CONTRIBUTION TO INDUSTRIAL GROWTH

The development of national, multiyear economic plans began during the Occupation years, with the establishment of the Economic Stabilization Board and the preparation of a number of draft economic plans. The Economic Planning Agency was created by statute in 1955 following the Occupation and was given a specific mandate to prepare national economic plans for Cabinet approval. Japan's national plans typically have included estimates of macroeconomic variables (such as GNP and the balance of payments) and planning targets for achieving specific policy objectives. The plans themselves are not considered rigid or binding; through 1970 they underestimated the actual growth rate of the economy.

The draft plans prepared during the Occupation years focused on economic recovery. The Economic Rehabilitation Plan for 1949-1953 stressed industrial development through the establishment and expansion of key basic industries considered essential to economic reconstruction. Although the plan was not officially adopted, its commitment to rapid reindustrialization remained a cornerstone of Japan's economic policy in the postwar years. Japan's first formally approved economic plan, the "Five Year Plan for Economic Self-Support," was prepared by the Economic Planning Agency and published in 1955.

Although there appears to be no causal link between the national plans and actual growth, these plans serve as an important vehicle in achieving national consensus on long-range economic goals and the direction in which the economy should head. Cabinet approval of the plans provides them with further meaning in a broad national context. The plans therefore legitimized actions taken by the government to encourage industrial growth and allowed government justification of such actions as nationally endorsed.

The aims of the Japanese Government have always been to achieve improved standards of living, and economic stability through economic growth. However, as table 8 outlines, the policy objectives set out by the government to achieve these aims have changed. Earlier plans outline the need to construct and develop industries and infrastructure crucial to an industrialized economy, to encourage savings needed for investment, and to improve efficiency in the labor force and the economy in order to achieve

Table 8

Selected Features of Economic Plans in Japan

Name of Plan	Five-Year Plan for Economic Self-Support	New Long-Range Economic Plan	Doubling National Income Plan	Medium-Term Economic Plan	Economic and Social Development Plan	New Economic and Social Development Plan	Basic Economic and Social Plan	Economic Plan for the Second Half of the 1970s	New Economic and Social Seven-Year Plan
Date published	December, 1955	December, 1957	December, 1960	January, 1965	March, 1967	April, 1970	February, 1973	May, 1976	August, 1979
Cabinet at the time of plan approval	Hatoyama	Kishi	Ikeda	Sato	Sato	Sato	Tanaka	Miki	Ohira
Plan period (Fiscal years)	1956-60	1958-62	1961-70	1964-68	1967-71	1970-75	1973-77	1976-80	1979-85
Economic growth rate: Performance prior to the plan	F.1952-55 8.6%	F.1953-57 7.3%	F.1956-60 9.1%	F.1960-64 11.3%	F.1962-66 10.0%	F.1965-69 12.7%	F.1968-72 10.4%	F.1971-75 5.1%	F.1974-78 4.0%
Economic growth rate: Projection in the plan	F.1956-60 5.0%	F.1958-62 6.5%	F.1961-70 7.8%	F.1964-68 8.1%	F.1967-71 8.2%	F.1970-75 10.6%	F.1973-77 9.4%	F.1976-80 a little over 6%	F.1979-85 5.7%
Economic growth rate: Actual performance plan period	" 8.7%	" 9.9%	" 10.7%	" 10.6%	" 10.9%	" 5.9%	" 4.2%	F.1976-78 5.7%	-
Method for projection	Colm method (Labour x productivity)	Desirable balance chosen from 3 cases with different growth rates	Growth rate previously decided	Econometric model	Econometric model	Econometric model	Econometric model	Econometric model	Econometric model
Aims	Self-support of the economy, Full employment	Maximization of growth, Improvement of national living, Full employment	Maximization of growth, Improvement of national living, Full employment	Rectifying imbalances	Balanced and steady economic development	Construction of admirable society through balanced economic growth	Promotion of national welfare, Promotion of international cooperation	Realization of a richer national life and stable development of our country's economy	Shift to a stable growth path, Enrichment of quality of national life, Contribution to the development of the international economic community
Major policy objectives	Modernization of production facilities, Promotion of international trade, Reduction of dependence on import, Encouraging saving	Improvement of infrastructure, Heavy-industrialization, Promotion of exports, Encouraging savings	Improvement of social overhead capital, Improvement of industrial structure, Rectifying the dual structure of the economy and improvement of social stability	Modernization of low productivity sectors, Efficient use of labour force, Qualitative improvement of national living	Stabilization of prices, Improvement of economic efficiency, Promotion of social development	Improving economic efficiency from an international viewpoint, Securing price stability, Promotion of social development, Maintaining adequate economic growth and cultivating development foundations	Creating comfortable environment, Securing a stable and comfortable life, Stabilization of prices, Promoting international cooperation	Stability of Prices and Securing of full employment, Securing of stabilized life and Creation of favourable living environments, Cooperation with and Contribution to the development of world economy, Securing of economic security and Fostering of grounds for long-term development	Attainment of full employment and stabilization of prices, Stabilization and enrichment of national life, Cooperation in and contribution to the development of the world economy and society, Ensuring economic security and fostering the foundations of further development, Reconstruction of public finance and new monetary responses.

Source: Economic Planning Agency 1981.

economic growth and improve living standards. As the Japanese economy developed, however, increasing social needs arose which could not be satisfied by industrial development or development of key industrial sectors alone. For example, pollution concerns became increasingly intense as did the need to encourage adjustment for declining industries and the unemployed. Moreover, the plans, particularly in the 1970s, stress the need to achieve economic security as reflected in government efforts to conserve resources and energy and develop technology. The important shift in emphasis has been away from strict concentration on reconstructing industry by encouraging and supporting investment in capital equipment as a means to achieve goals of full employment and high economic growth. Rather, in the aftermath of the economic disruptions of the 1970s, emphasis today is being placed on assisting industry to meet environmental and pollution control standards, to cooperate in conserving resources and energy, to develop advanced technology, and to phase out or adjust to reduced profits, underutilized capacity, unemployment, etc., in order to achieve stable development and economic security for Japan.

Although national plans constitute a forecast of the direction of the economy rather than a rigid setting of targets, it should also be noted that more specific planning does take place at the sectoral level. Certainly in the postwar years the government intervened significantly in the development and direction of specific industries. National plans provided a basis for discussions between government and industry in establishing specific industry plans. Chapter 3 discusses this process in detail.

CONCLUSIONS

Recent economic conditions, both international and domestic, have lessened monetary and fiscal authorities' ability to continue support for rapid economic development. As more and more avenues of financing open up to Japanese companies, credit rationing by monetary authorities has become less effective as a tool for influencing industrial development. As government-set interest rates move closer to those established in the free market and financial regulations are eased, the dependence of the city banks on the Bank of Japan lessens. Hence, those aspects of monetary policy which have contributed to Japan's postwar growth are no longer as effective as they once were.

Today Japan is still faced with massive budgetary deficits. At the same time, the government is being pressured to provide social amenities, address environmental concerns, assist declining industries, and provide retraining for the unemployed, while continuing to assist potential growth sectors. Increased difficulty in floating bond issues and declining savings rates will make pressure to fulfill such demands even more severe. International and domestic factors have changed the complexion and nature

of Japanese monetary and fiscal policy and, thus, their contribution to industrial policy significantly. Moreover, these factors have contributed to significant changes in the powers and tools of those government agencies involved with implementing industrial policy goals.

CHAPTER 3

INDUSTRIAL POLICY AND ITS INSTRUMENTS HAVE EVOLVED OVER TIME

Japan's postwar economic development, following the Occupation period, can be roughly categorized into four stages. During the first stage, beginning in 1951 and lasting until approximately 1954, Japan concentrated on economic reconstruction and the rebuilding of basic industries. In the 1955-64 period of industrialization, the government focused on "catching up" with other industrialized countries and emphasized the growth of various other industries including petrochemicals and automobiles.

There is a discernible break between these first two stages of Japan's growth and its economic development in the late 1960s and the decade of the 1970s. By the mid-1960s, Japan had largely achieved its postwar development goals, and from 1965 to about 1975, it began placing growing emphasis on technology and social development and welfare issues. Since then, following the economic turbulence of the early 1970s, Japan has focused on adjusting to stable growth, resource conservation, improving the quality of life of its citizens, and the continued development of technology as the primary means of supporting industrial development. Table 9 summarizes the policy goals and major industry targets during four stages of Japan's industrial development.

The goals of industrial policy, and the mechanisms available to implement these goals, have likewise evolved as Japan's economy has changed and developed. In the early postwar years, the policy goals were primarily sector-oriented; government and business addressed themselves to rebuilding specific industries and sectors of the economy. The government also had a number of powerful instruments to effect economic growth and development, notably its foreign exchange and trade controls. The policy goals have gradually shifted from sector-specific to more general policies potentially benefiting numerous sectors. Because of potential cross-industry applicability of the technologies developed, such support today benefits the computer, robotics, biotechnology, and aircraft industries, among others. Equally significant, the government, most particularly MITI, no longer possesses the power it once had to direct the course and speed of industrial development. Exploring this evolution--in the policy goals and the means available to achieve them--is critical to an understanding and appreciation of Japan's industrial policy.

GOAL SETTING: THE INDUSTRIAL PLANNING PROCESS

As discussed in chapter 2, Japan has in the postwar years prepared a series of national economic plans which generally

Table 9

Changes in Government Policies and Targets: 1951 to Present

Period	Policy needs & targets	Important fields
1951-1954	Reconstruction of economy and independence of economy	Electric power, coal mining, ocean shipping, iron and steel
1955-1964	Catch up with developed countries	
	°Encourage heavy and chemical industries	Machine and electric machine, synthetic fiber, Petro-chemical, nuclear power
	°Prepare for open economy	Petro-chemical, automobile, spinning, ammonia, computer
	°Improvement of international balance of payment	Ocean shipping, hotel
	°Improvement of area gap	Regional development, private railroads
1965-1974	Social Development	Urban development, regional development, improvement of the quality of life (pollution prevention, etc.)
	Social Welfare	Housing industry, national welfare facility, safety measures
		Development of domestic technology, fostering domestic computer
		Fostering domestic petroleum companies, domestic nuclear power equipment
1975-	Stable development of economy	Resources and energy
		(conservation of resources and energy, storing oil, energy diversification)
		Development of technology
	Improvement of the quality of life	Urban development, regional development, improvement of the quality of life

Source: Japan Development Bank, 1981.

attempted to forecast the direction and growth of the economy. More specific planning, primarily at the direction of MITI, however, does take place at the sectoral and industry level and provides a key to the process of industrial planning in Japan. The steel and shipbuilding industries offer cogent examples of the government-industry role in industrial planning in the early postwar years and illustrate the breadth and depth of government involvement in developing and ensuring the success of plans for those industries' reconstruction and growth.

In the steel industry, emphasis was first directed to restoring steel production capacity; the onset of the Korean War in 1950 and resultant increasing demand for steel helped to focus on the need to expand capacity. The Cabinet accordingly directed MITI to develop a growth strategy, which it did in consultation with the industry itself. The result was the First Rationalization Plan, two primary objectives of which were to increase existing plant productivity and to construct new capacity. Government assistance in achieving those objectives was provided through tax benefits, direct government loans, and government-supported loans from other financial institutions.

The Japanese Government also implemented a structured shipbuilding program. Under "planned shipbuilding," begun in 1947, the government annually determined the number of ships to be constructed. The shipbuilders selected to construct the vessels were then provided with Japan Development Bank loans on highly favorable terms.

It would be misleading, however, to suggest that even during this period complete unanimity existed between government and industry, or indeed between government agencies, concerning the appropriate industrial policies vis-a-vis a given industry. For example, during 1949-51, MITI and the Bank of Japan disagreed over the fundamental issue of whether to sponsor the development of a domestic automobile industry. The debate was resolved in favor of the MITI position, and MITI subsequently went on to develop plans for the industry's development. MITI's efforts to rationalize and consolidate the industry in later years were, however, frustrated by the opposition of auto producers.

Formalized planning begins in 1964

Postwar industrial planning began during the Occupation years, although the first official plan was not adopted until 1955. The planning process became more formalized in 1964 with the creation of the Industrial Structure Council. The Council, an advisory body within MITI composed of representatives from academia, industry, consumer groups, and labor unions, prepares decade-long MITI "Visions" setting forth comprehensive general industrial goals. Visions have been drawn up for the decades of the 1960s, 1970s, and 1980s. These Visions are supported and supplemented by sector-specific plans drawn up by the Council's subcommittees. The purpose of such planning is to reach

agreement on the general desired direction of the industrial sector; according to MITI officials, this public-private sector consensus building constitutes one of the Industrial Structure Council's major contributions to the implementation of industrial policy.

The emphasis of recent industrial planning has been on developing a technology-intensive industrial sector composed of high value added and resource-conserving industries. These factors form the government's criteria for targeting assistance. Targeted assistance in the past was largely aimed at developing the production processes of a given basic industry with "feeder" or "linkage" effects for other industries; e.g. efficient steel production benefits development of the auto industry while development of the auto industry is linked to development of a parts industry. Today, targeted assistance is directed more and more toward products or processes that can make a contribution across the industrial base, not merely in one industry as has been the case in the past. Original and innovative technology is to provide the foundation for stable growth, just as steel provided a foundation for rebuilding the postwar Japanese economy. Technological advances are also expected to have a positive impact on environmental and social issues. Thus, the multiplier effect of technological innovations has become key in determining where in the economy the government will direct its assistance.

The general goals discussed above were outlined in the MITI Visions for the 1970s and 1980s. The 1980s Vision also included concerns with conserving resources, particularly energy. Although industries have not been designated as targets, per se, a number of industries were specified as meeting the criteria of low resource and energy use and high technology and high value added. Computers and aircraft and, later, robotics were all included.

THE EARLY POSTWAR YEARS: JAPAN MARSHALS AN IMPRESSIVE ARRAY OF POLICY INSTRUMENTS TO DIRECT ECONOMIC RECONSTRUCTION

Japan's commitment to economic reconstruction was manifested in the development of a number of institutions and mechanisms designed to achieve its postwar economic goals. These industrial policy instruments--including the use of the banking sector to channel funds for industrial growth, controls on trade and foreign exchange, regulation of foreign investment, and easing of antimonopoly legislation to permit, for example, industry rationalization--provided the government with a powerful array of tools with which to pursue the country's industrial and economic goals.

Public and private financial institutions together finance industrial growth

Various banking laws enacted in the early postwar years created financial institutions charged principally with providing funds to industries for economic reconstruction and

development. The Japan Development Bank and the long-term credit banks, 1/ through loans to basic industries and later to other growth-targeted industries, supported the government's economic priorities. Equally important, by absorbing much of the risk associated with loans to specified industries, these banks encouraged and supplemented city bank lending. The Bank of Japan exercised indirect control over the lending patterns of banks, principally through credit rationing, the purchase of long-term credit bank issues, and recommendations to both the long-term credit banks and the city banks, on the placement of loans with certain industries.

The Japan Development Bank

The Japan Development Bank (JDB) was established in 1951 pursuant to the Japan Development Bank Law, and originally was tasked with promoting economic reconstruction and industrial development. As a fully owned government financial institution, the JDB acquires loan funds from the Fiscal Investment and Loan Program, by issuing external loan bonds and notes and from receipt of loan repayments.

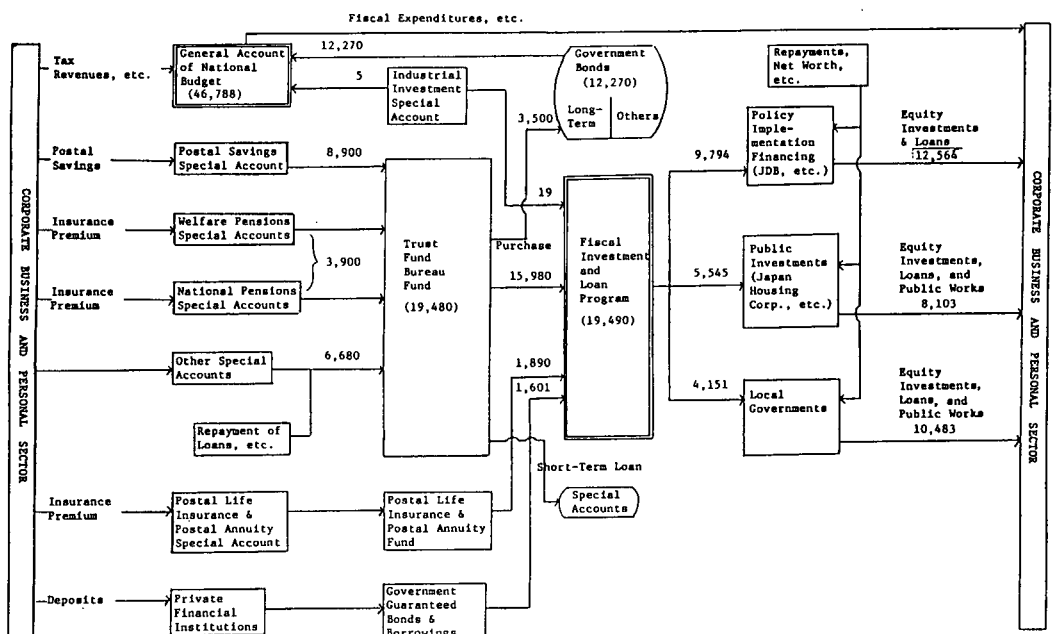
As chart 1 shows, the FILP derives the most significant portion of its funds from postal savings accounts. In addition, a small percentage of funds is allocated to the FILP through the Industrial Investment Special Account. Government-guaranteed borrowings and bonds also contribute to the program. Total FILP funds are then allocated for financing industrial development, for public investments, and to local governments for public works. As shown in the chart, the most significant allocation of FILP funds is through government financial institutions such as the JDB, the Export-Import Bank, and so on.

According to JDB officials, the Bank's primary aim is to implement the government's economic policy goals. Those goals, generally defined in the multiyear economic plans, are translated by the JDB into specific loan programs in consultation with MITI. The correlation between JDB loans and economic policy goals is striking; in the first phase of postwar industrial development close to 85 percent of JDB loans went to the four basic industries targeted by the government for reconstruction.

1/The three long-term credit banks are private banks whose principal source of funds derives from the sale of 1-year discount debentures and 5-year coupon debentures to banks, corporations, and individuals. Their principal activity has been providing long-term funds for investment in capital equipment and working capital for Japanese companies. The latter category has become more important in recent years as industries receiving long-term credit bank funds are no longer the capital-intensive, basic industries.

Chart 1

Fiscal Investment and Loan Program (F.I.L.P.)



Note: Figures based on initial budget of the program for fiscal year 1981 in billions of yen.

Source: Japan Development Bank.

As government economic priorities gradually shifted to other industries in the late 1950s and early 1960s, so too did JDB loan patterns. Table 10 shows JDB loans by project area from 1951 to 1981.

Table 10

JDB Loans by Project Area
(yen-billions)

New Loans (in billions of yen)

Fiscal year	1951–1955	1956–1960	1961–1965	1966–1970	1971–1975	1976–1980	Outstanding at March 31, 1981	
								$ million
Resources and energy	¥117.4	¥118.1	¥112.7	¥157.0	¥298.5	¥1,111.8	¥1,377.2	$6,527
Development of technology	1.1	13.7	56.2	149.9	325.1	488.5	421.0	1,995
Ocean shipping	64.1	82.7	202.0	483.2	501.7	315.3	565.1	2,678
Urban development	1.7	5.4	27.8	149.4	485.0	725.2	1,076.5	5,102
Regional development	—	10.3	121.7	216.9	433.6	643.0	685.4	3,248
Improvement of quality of life	0.8	0.6	3.6	17.7	613.1	854.9	1,007.3	4,774
Other development loans	89.3	71.9	148.6	189.1	170.5	210.1	260.1	1,233
Total	¥274.4	¥302.7	¥672.6	¥1,363.2	¥2,827.5	¥4,348.7	¥5,392.6	$25,557

Component Ratios of New Loans (%)

Fiscal year	1951–1955	1956–1960	1961–1965	1966–1970	1971–1975	1976–1980	Outstanding at March 31, 1981
Resources and energy	42.8	39.0	16.8	11.5	10.6	25.6	25.5
Development of terhnology	0.4	4.5	8.4	11.0	11.5	11.2	7.8
Ocean shipping	23.4	27.3	30.0	35.4	17.7	7.2	10.5
Urban development	0.6	1.8	4.1	11.0	17.2	16.7	20.0
Regional development	—	3.4	18.1	15.9	15.3	14.8	12.7
Improvement of quality of life	0.3	0.2	0.5	1.3	21.7	19.7	18.7
Other development loans	32.5	23.8	22.1	13.9	6.0	4.8	4.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Notes: (1) Loans in past years were classified in different ways, but they are reclassified as precisely as possible in accordance with the present way of classificaiton.
(2) Outstanding loans at March 31, 1981 include outstanding investment of 8 billion yen, but exclude outstanding foreign currency loans of 5.5 billion yen.

Source: Japan Development Bank

From its establishment through the late 1950s, the JDB focused on the reconstruction of the economy by extending loans to the steel, coal mining, ocean shipping and electric power industries. Beginning in the early 1960s, this Bank began to provide loans for the chemical and automotive industries as well

as the machinery, electronics and synthetic fibers industries. From the late 1960s to the early 1970s, resource and energy development began to decline in significance while loans for technology development, and improvements in the quality of life (e.g., pollution control) grew. By the last half of the 1970s, in the aftermath of the oil shock, the Bank's loans for resource and energy development and security, again took on increased significance, while pollution control and urban development maintained their significance.

JDB implements the government's economic policy goals. Its loan patterns, outlined in table 10 and chart 2, show the growing importance attached to adjusting to stable industrial and economic growth, as reflected in loans for energy and resource development and development of technology. Moreover, significant growth in loans for quality of life, and regional and urban development loans designated for pollution control, relocation of industries to underdeveloped regions and construction of housing, offices, merchandise distribution centers, etc., demonstrate that social development goals have also become an important policy target of the government.

Foreign Exchange and Foreign Trade Control Law proves powerful tool of government

In the postwar years, the Japanese Government used a number of mechanisms to regulate trade. The most powerful of these was the Foreign Exchange and Foreign Trade Control Law enacted in 1949 under which the government allocated foreign exchange for import purchases. Although minor changes were made to the law after Japan regained its independence, its basic tenets remained fundamentally intact during the 1950s and early 1960s; the law itself was sufficiently broad to permit flexibility in its actual application.

Japan's resort to the use of foreign exchange controls has been ascribed to the need to ensure stability in its balance-of-payments position. The difficulties the government faced in the postwar years in acquiring and maintaining adequate foreign currency reserves--stemming from the import demand created by the wartime depletion of supplies and destruction of capital equipment and the inability of the war-damaged economy to generate significant export sales--provided a reason for exchange controls. 1/

It should be noted, however, that the Foreign Exchange and Foreign Trade Control Law also provided the government with a highly effective tool for allocating resources to specific sectors

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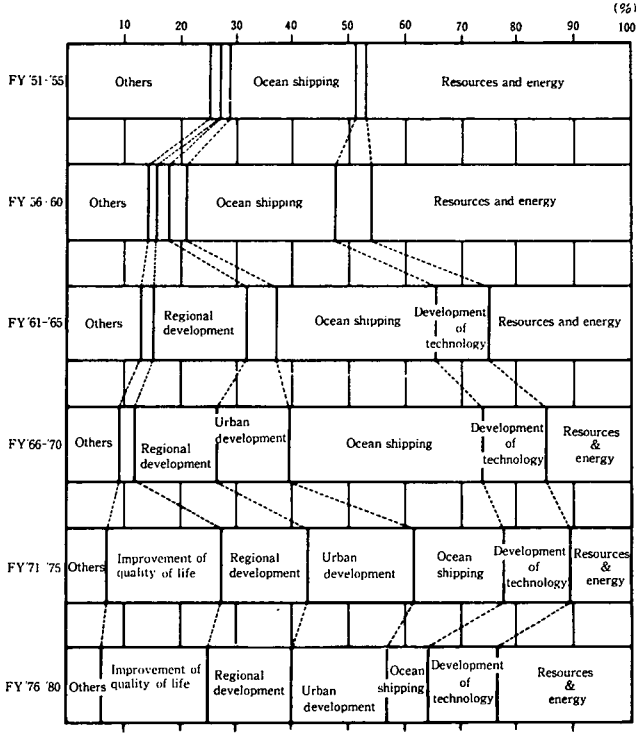
1/There were other actions available to, and exercised by, Japan in controlling its international payments position, such as clearing accounts to finance bilateral transactions and barter trade.

of the economy. Through rationing of foreign exchange for import transactions, the government was able to control the types and volumes of imports needed by those industries deemed central to

Chart 2

New Loans by Project Area (component ratios)



Source: Japan Development Bank

economic reconstruction and development. By the same token, restrictions on imports offered a means of protecting and strengthening domestic industry by reducing foreign competition.

The foreign exchange and import control system set up in accordance with the Foreign Exchange and Foreign Trade Control Law functioned essentially through a budget and licensing system. Under this system, a foreign exchange budget was drawn up and approved by a ministerial council. 1/ The budget, based on a forecast of available foreign exchange for the budget period, normally established the type and volume of goods to be imported, the source of those imports, and the currency of payment.

Following approval of the foreign exchange budget, MITI issued "imports announcements" informing prospective importers of approved import items. Importers would then be required to obtain import licenses in accordance with various allocation systems.

An added measure of control over imports was exercised through the import collateral system, which required importers to deposit a certain percentage of the value of the proposed imports (a margin determined by MITI). Failure to import the goods resulted in forfeiture of the deposit unless legitimate cause could be demonstrated. The import collateral system was in part intended to discourage speculation in imported merchandise; by raising the collateral margin, it could also be used as a means of suppressing import demand in correlation with tighter monetary policy.

The actual composition of Japan's imports in the early 1950s reflects the directing of imports to redress shortages in foodstuffs and basic raw materials needed for economic reconstruction.

As Japan's economy improved, exchange restrictions gradually eased. Improved export performance allowed for a corresponding expansion of the foreign exchange budget by the latter half of the 1950s and greater recourse to an automatic approval system for licenses (essentially the automatic approval of licenses for designated items within the confines of the foreign exchange budget allocations).

Commercial policies protected developing industries

Tariffs

Japanese tariffs were revised during the occupation years with new tariffs in place by 1951. As of 1958, approximately

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1/Chaired by the Prime Minister and composed of the Ministers of Finance, International Trade and Industry, Foreign Affairs, Agriculture and Forestry, and Transportation and the General Secretary of the Economic Planning Agency. The President of the Bank of Japan served as an advisory member.

one-fifth of import classification items--primarily raw materials--were duty-free, with the remainder subject to duty rates ranging from 5 to 50 percent ad valorem. Not surprisingly, duty rates for specific items depended on the priority attached to the imported product. Lower rates normally were applied to such items as drugs, foodstuffs, and other raw materials, while higher, protective rates usually were applied to manufactured goods--those most likely to compete against domestic manufactures or those whose production Japan sought to encourage.

The government also periodically granted temporary exemptions from, or reductions in, duties on specific import categories, notably raw materials and industrial machinery required for industrial reconstruction and growth.

Quotas

Import quotas did not take on great significance until the mid-1960s. However, in the early postwar period, characterized by a scarcity of foreign exchange, allocations of available foreign exchange to specific sectors through the foreign exchange budget and import control system empowered the government to control the kinds and quantities of goods imported.

In the late 1950s, Japan also employed export quotas, 1/ although these quotas were not of great importance until the early 1970s.

Export incentives

Another feature of Japan's commercial policy has been the various incentives employed to regulate exports. In addition to the tax incentives and export cartel legislation discussed below, Japan in the 1950s resorted to link trading as a means of encouraging exports. Generally, under the link system, exporters of designated commodities were authorized to import various types of goods. Because of the concurrent foreign exchange and import restrictions, these imported goods commanded high profits in the domestic market, thereby providing the favored exporters with added revenues. A second system permitted exporters to retain a percentage of the foreign exchange generated from their exports, which could be used, for example, to finance overseas marketing efforts or to purchase other import goods.

Link trading was discontinued in 1954 because of foreign objections. According to the United States Tariff Commission, now the U.S. International Trade Commission, the foreign exchange retention system declined in significance by the late 1950s as foreign exchange became less scarce.

1/In 1956 and 1957, Japan imposed quotas on textile exports to the United States.

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Regulation of foreign investment:
a successful means of gaining
technology and technological know-how

The Foreign Exchange and Foreign Trade Control Law provided the general mechanism for regulating external transactions. In tandem with that law, the Foreign Investment Law was enacted in 1950 to specifically regulate the flow of foreign capital into Japan. Its intent was to encourage that foreign investment which would contribute to Japan's economic development and balance of payments position.

The Foreign Investment Law enumerated the various types of foreign investment subject to the law, and set forth criteria for approving such investments. The criteria were both positive and negative. For example, one of the positive criteria stipulated that an investment contribute to the development of important industries; on the negative side, approval could be withheld if the investment were perceived to adversely affect economic recovery. 1/

In the early postwar years the government, in recognition of the vulnerable state of the economy, exercised a high degree of caution in approving foreign investment, particularly forms of direct investment. Such restrictions were essentially motivated by the fear of foreign control of Japanese industry and the desire to limit foreign investment--and attendant repatriation of earnings--in the interest of husbanding scarce foreign exchange. Accelerating economic development through the acquisition of foreign technology was emphasized.

The acquisition and use of foreign technology was considered a key component of Japan's economic revitalization and growth strategy. MITI, with its jurisdiction over industrial development, played a key role in approval of industrial technology imports. To better guide the inflow of needed technologies, MITI periodically issued lists detailing the kinds of desired technologies by specific industry. Given the precarious state of the postwar economy, technology imports primarily acquired through licensing arrangements provided a relatively easy and safe means of closing the technology gap created during the war years.

The government exercised tight control over the import of technology in the 1950s, thereby directing technological processes and know-how to those industries targeted for growth. The Foreign Investment Law provided the principal legal basis for regulating technology contracts; firms were required to submit proposed transactions to the cognizant government ministry for approval.

1/Robert S. Ozaki, The Control of Imports and Foreign Capital in Japan (New York: Praeger Publishers, 1972), pp. 167-68.

Government control over technology imports influenced not only the composition of imported technology but also the terms on which it was purchased and the structure of Japanese industry. The required approval of technology import contracts allowed MITI to intervene in order to achieve more favorable contract terms; a 1968 OECD study 1/ charged that approval of contracts was conditioned on, for example, changes in the scope of the technology and reduction in royalty payments.

Relaxation of Antimonopoly Law: cartels restrain trade

Japan's antimonopoly legislation is a legacy of the Occupation era and reflects the antitrust principles espoused by its American sponsors. As originally enacted in 1947, the Antimonopoly Law prohibited private monopolies, participation in cartels, and such activities as price-fixing. Restrictions were placed on stockholding, multiple directorates, mergers, and acquisition of assets. Japan's Fair Trade Commission was created as the agency tasked with enforcement of the law's provisions.

The Antimonopoly Law was amended in 1953, loosening restrictions on stock retention and interlocking directorates and mergers and also authorizing depression and rationalization cartels. Those changes, as well as certain legislated exceptions from the law and passive enforcement by the Fair Trade Commission, provided the government with a certain latitude, particularly with respect to encouraging the formation of cartels.

Cartels have been utilized by the Japanese in various industries as a means of controlling foreign trade, regulating production and prices in periods of recession, encouraging industry rationalization, and allocating market share. The 1953 amendments to the law permitted the establishment of depression and rationalization cartels. Other cartels have been legislatively exempted from the provisions of the Antimonopoly Law as well. For example, the Export-Import Trading Law legalizes the establishment of import cartels, in accordance with certain requirements, whose members can regulate import quantities and price.

MITI has also exercised administrative guidance as a means of regulating production. Such "guidance cartels" generally functioned through notifying either individual producers or an industry association of desired production cuts after some prior industry consensus had been achieved. Guidance cartels provided a flexible means in the 1950s of coping with excess production (notably following the Korean War boom); during that period MITI, through its

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1/ As discussed by Terutomo Ozawa, Japan's Technological Challenge to the West, 1950-1974: Motivation and Accomplishment (The Massachusetts Institute of Technology, 1974), pp. 53-54.

control over foreign exchange and imports, also possessed the power to ensure "voluntary" compliance. 1/ MITI's use of administrative guidance cartels was essentially discontinued in the mid-1960s, as Japan's Fair Trade Commission gained increasing strength.

Tax measures

Japanese tax policy has been directed to stimulating economic growth, and a number of tax measures have been employed since the postwar years to foster industrial expansion and encourage exports. The enactment of special tax measures to benefit economic growth was especially noticeable in the early 1950s, and included accelerated depreciation for certain industrial equipment, a special export income deduction, a tax-free reserve for export losses, and reduced tax rates for interest and dividends. In later years, some of these measures were amended or withdrawn, but many survived into the 1960s. Observers are divided with respect to the effectiveness of such measures.

The steel industry provides an example of tax measures used. As part of an industry rationalization plan developed by MITI, five tax and duty exemptions affecting the steel industry were adopted in the 1951-52 period, including 2/

--import duty exemptions on designated steelmaking equipment;

--a 50 percent increase in the depreciation base allowed on designated equipment;

--tax exemptions for reserves to cover price changes in inventories and securities;

--tax exemptions for revaluation of assets; and

--tax exemptions for additional bad debt reserves.

This plan, which included other financial assistance, led to the doubling of crude steel production over the plan period (1951-54).

1/The Japanese steel industry offers an illustration of the guidance cartel in operation. Overcapacity in the industry owing to the mild recession of 1957 engendered severe price-cutting, and informal consultations between MITI and the industry were held to reach a consensus solution. As a result, the "open price system" was instituted, which permitted the major steelmakers to cooperate in setting prices and adjusting production.

2/Ira C. Magaziner and Thomas M. Hout, Japanese Industrial Policy, pp. 46-47.

Tax measures of this nature meant that writeoffs for industries which Japan sought to develop were high. In addition to ordinary depreciation, which allowed first-year depreciation of as much as 18.2 percent, the Enterprise Rationalization Law of 1952 provided that an additional 25 percent first-year depreciation could be employed by designated industries. 1/ During the 1950s and early 1960s, additional depreciation deductions could be taken for strong export performance, first as tax writeoffs and later as deferral of income. Criticism from the GATT in 1964 forced Japan to change this system to a 5-year deferral scheme. Between 1964-72, there were two such schemes to encourage export strength--a "basic" accelerated depreciation and a "supplemental" accelerated depreciation. The basic accelerated rate was computed on the proportion of exports to total sales multiplied by a stipulated percentage figure which varied from 80 to 100 percent. The "supplemental" accelerated depreciation rewarded incremental improvement in export performance; allowances were based on a comparison of export sales in the present and preceding accounting periods (semiannual or annual) and permitted an increase in the standard accelerated depreciation of between 30 and 60 percent. The net effect of these depreciation allowances--standard depreciation plus rationalization allowance, and basic accelerated and supplemental accelerated depreciation--was to give growing industries a tremendous cash flow advantage. In some cases, assuming a 40 percent export ratio, companies could depreciate up to 52.5 percent of their equipment in one year. 2/

In addition, a reserve for overseas market development, in effect from 1964 through 1972 when it was eliminated for large enterprises, was created as a 5-year tax deferral arrangement on the same basis as the provision for accelerated depreciation for strong export performance. The steel and automobile industries were notable in their claims under this provision. Table 11 summarizes export promoting tax measures in Japan.

MITI'S POWER AND INFLUENCE OVER INDUSTRY WANE AS INDUSTRIAL POLICY INSTRUMENTS CHANGE

As Japan's economy grew in the mid-1960s, the nature of industrial policy also changed. As was true for monetary and fiscal policy, industrial policy was in a transitional phase in the mid-1960s. Basic industries had essentially been rebuilt, while other industries such as autos and consumer electronics were,

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1/These industries included fertilizers, petrochemicals, steel, forging, construction and industrial machinery, electronics, automobiles and parts, and aircraft, among others.

2/For more detailed discussion of these depreciation allowances, see GAO's Report to the Congress, United States-Japan Trade: Issues and Problems; (ID-79-53).

Table 11

Export Promoting Tax Measures

Dates when measure was in operation	Measure
1953-1964	Export income deduction. This measure directly shielded export income from taxation.
1953-1959	Export loss reserve system. A reserve against the possibility of cancelled export contracts was non-taxable.
1953-1959	Special depreciation for overseas offices of trading companies. All depreciable assets in a new office overseas were subject to a 50 percent write-off the first year.
1959 to present	Technology export income deduction. Companies are allowed to deduct a portion of royalties paid from abroad from their taxable income. The objective is to stimulate saleable technology development.
1964-1972	Overseas market development reserve. A small portion of the revenue from current exports can be put into reserves from taxable income. Like all Japanese reserves, this must later be returned to the income stream. This provision still applies for small businesses.
1964 to present	Overseas investment loss reserve. A small percentage of current foreign investment expenditure each year can be put into reserve to insure against investment losses. This reserve fund is non taxable.
1964-1972	Export accelerated depreciation. Accelerated depreciation was allowed on capital investment where the output was to be exported. The degree of acceleration depended on the proportion of plant and equipment devoted to export.
1968-1978	Export special depreciation. This is an overlay acceleration on the previous provision.
Early 1950s to present	Free trade zone investment loss reserve. This measure is a variation on the overseas investment loss reserve extended for free trade zones.

Source: Magaziner and Hout, Japanese Industrial Policy.

by the late 1960s and early 1970s, beginning to attain international standing. The government began to recognize that continued growth and health of the economy would largely depend on the ability to move into high technology and value added industries. At the same time, Japanese authorities, recognizing that the redevelopment goals of the postwar period had been largely achieved, began to focus increasingly on social welfare, public works, and the consumer.

International events of the early 1970s further encouraged this reevaluation process. The collapse of the Bretton Woods system, the oil crisis, and serious inflationary pressures led the Japanese Government to encourage "stable economic growth," rather than the previously desired rapid growth.

Trade liberalization

Japan's tight control over imports, exercised through the Foreign Exchange and Foreign Trade Control Law, began gradually to loosen up by the 1960s as the economy improved and Japan faced increasing international pressure to liberalize trade. In 1960, the government adopted a plan aimed at liberalizing 80 percent of imports within 3 years; items were liberalized on a product-by-product basis, through placement on automatic import license approval lists. The government, however, was careful to protect key industries considered central to Japan's future economic development; products from consumer electronics, heavy electrical machinery, and the automotive industries, for example, were not included in the liberalization plan.

In 1964, the foreign exchange budget system was abandoned when Japan became a signatory to Article VIII of the International Monetary Fund. Up to that time, foreign exchange allocations through the foreign exchange budget and import control system served as the basis for restricting imports. With the loss of the foreign exchange budget system, import quotas and tariffs took on increased significance in protecting domestic manufacturers from foreign competition. In April 1964, Japan had 174 items subject to quota restrictions; by October 1969, the number had been reduced to 161.

Participation in the Kennedy and Tokyo rounds of the Multilateral Trade Negotiations pressured Japan into further trade liberalization as its trade balance went into surplus with many of its major trading partners. Today, Japan retains formal import quotas on 27 items, including agricultural, livestock, leather, and related products. Full implementation of the Tokyo round tariff reduction agreements in 1987 will leave Japan with a trade-weighted average tariff level lower than that of the United States and the European Economic Community. 1/

1/Japan agreed in April 1982 to accelerate and implement tariff cuts scheduled under the Multilateral Trade Negotiations agreements for reduction in fiscal years 1983 and 1984.

During the 1970s, as tariffs and quotas began to decline in significance, non-tariff barriers were recognized as causing disruptions in the flow of trade. Japan, like other trading nations, was increasingly criticized for its non-tariff barriers. Product standards, testing, labeling, and certification procedures have presented particular problems in Japan's trade relations, as have product approval procedures. In the last few years, Japan has also been increasingly criticized for formal and informal barriers to trade in services; e.g., banking, telecommunications, etc.

Capital liberalization

Japan has historically been cautious of the risks associated with a widespread, massive introduction of foreign capital, and as a result proceeded cautiously in the late 1960s to liberalize capital movements. The government, as it did in trade liberalization, took deliberate steps to minimize the impact of capital liberalization on infant and weaker industries.

Japan's first major liberalization of capital transactions occurred in July 1967 following a June 1967 policy decision by the government concerning the liberalization of foreign direct investment. The policy thus established included (1) the government's stated intent to liberalize substantially broad areas of the economy by March 1972 and (2) an emphasis on increasing the number of sectors in which 50-50 joint ventures would be automatically approved, although efforts would be made to also increase the number of industries given automatic approval for up to 100 percent, foreign-owned subsidiaries.

In July 1967, 50 industries were liberalized--33 were placed in category 1 (automatic approval of up to 50 percent foreign ownership) and 17 in category 2 (up to 100 percent foreign ownership). This liberalization, however, as well as succeeding ones, applied only to newly established enterprises. By approximately the end of 1970, 524 industries were liberalized--447 in category 1 and 77 in category 2. In September of that year, the government also raised the ceiling on the total amount of foreign equity holding in an existing firm from 20 percent to less than 25 percent of total capital. 1/

Those industries placed in either category 1 or category 2 were selected on the basis of judgments concerning an industry's international competitive position. Industries considered strong were placed in category 2, those less competitive in category 1. Infant industries where technological gaps existed--such as computers--were exempted from liberalization.

Japan's capital liberalization actions in the late 1960s have been described less as a measure of its willingness to encourage

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1/Organization for Economic Cooperation and Development, The Industrial Policy of Japan (Paris: OECD, 1972), pp. 140-42.

foreign investment than as the enforced need to fulfill international obligations. Liberalization was accompanied by precautions to protect weaker industries and was postponed for industries engaged in structural reorganization or considered not yet competitive.

Since 1975, foreign direct investment in almost all industrial categories has been under an "automatic approval" system whereby applications were approved routinely within a 90-day period. 1/ This system was further liberalized with the 1980 amendments to the Foreign Exchange and Foreign Trade Control Law and with repeal of the Foreign Investment Law in the same year. The amendments shifted foreign investment from an automatic approval to a prior notification system, although the Ministry of Finance still retains some powers to review investment proposals which may pose a serious threat to Japan's economy or national security. Additionally, foreign exchange approvals required for remittance of funds under the old law have been eliminated in certain cases.

Although under the new amendments foreign investors are not required to obtain certificates of approval, they still must file lengthy reports in Japanese with the Bank of Japan. After filing, there is a 15-day waiting period. In cases where the government does screen an application for reasons of national security, the new law establishes a 5-month deliberation limit.

Technology import liberalization

As Japan's economy and balance of payments position improved, controls over the import of technology were gradually eased. The first such major relaxation occurred in 1959, when approval was broadened to include technologies related to consumer goods.

Wide-scale liberalization of technology imports did not, however, take place until 1968. At that time, all technology contracts with compensations less than $50,000 for certain industries could be automatically approved. 2/

Amendments to the Foreign Exchange and Foreign Trade Control Law in 1980 established the general principle that notification of a technology license agreement be filed 30 days prior to the conclusion of the agreement for transfer of technology. Under a recent ministerial order, this 30 day period is not required and agreements can be concluded in all but the most sensitive areas; e.g., armaments, aircraft, atomic power, etc.

1/The exceptions to this rule included agriculture, fishing, mining, petroleum, leather and leather goods, and large-scale retailing, which are still subject to case-by-case screening for approval.

2/The government specifically excluded such sectors as aircraft, weapons, nuclear energy, computers, petrochemicals, etc.

Antimonopoly Law enforcement is strengthened

Enforcement of the Antimonopoly Law remained weak and passive until the 1970s, due at least in part to the politically weak stature of Japan's Fair Trade Commission. The decade of the 1970s, however, has seen some changes both in the Commission's exercise of its authority and the antimonopoly legislation it enforces.

By the mid-1970s, in the wake of the 1973-74 oil crisis and ensuing inflation, the Commission stepped up enforcement, building a momentum that ultimately resulted in the 1977 amendment to the Antimonopoly Law (which included a cartel profits surcharge provision). There has also been a marked increase in business' awareness of antitrust in recent years, as well as a growing anti-big business, anti-cartel sentiment on the part of the public. The Commission is steadily becoming more active in policing Japanese antitrust laws, particularly price-fixing. Additionally, to establish domestic cartels under the Antimonopoly Law, MITI is presently seeking the advice and counsel of the Fair Trade Commission to forestall potential antitrust action and to gain business acceptance of cartel decisions. In the context of potentially negative effects on the domestic economy, then, the Commission has demonstrated increasing power and influence over the formation of cartels.

Focus of tax measures changes

Basic and supplemental accelerated depreciation allowances for strong export performance discussed earlier were dropped in 1972 and 1971, respectively, in the face of large trade surpluses. The use of the rationalization allowance provided under the Enterprise Rationalization Law of 1952 was suspended in 1976. The overseas market development deferral was eliminated for large enterprises in 1972, but it continues in effect for small and medium enterprises.

In addition to tax measures which reinforced an economic climate favorable to industrial growth, the government continues to employ special tax measures to achieve particular policy goals. Today, these measures, primarily special depreciation measures, focus largely on environmental concerns, housing, energy, and depressed areas and encourage the growth and development of high-technology industries and diffusion of technologies. For example, in addition to regular depreciation schedules, an increased initial depreciation allowance is permitted

--for the purchase of energy saving equipment;

--for designated plant and equipment, such as that for the prevention of environmental pollution or that combining electronics and machinery;

--on equipment and plant in underdeveloped areas including coal mining regions, severely depressed industrial areas, and industrial development areas; and

--for machinery and equipment acquired by small- and medium-sized enterprises.

In addition to this increased initial depreciation, accelerated depreciation schedules are also employed to achieve industrial policy goals. For example, today accelerated depreciation is granted for rental housing, new buildings in urban redevelopment areas, machinery which fulfills rationalization plans for the textile industry or promotes rationalization of small- and medium-sized enterprises, and so on. (See chs. 4 and 5.)

MITI's loss of power

In sum, then, the combination of the above factors has led to several changes--not only in the tools of industrial policy but in MITI's power, as well. With increasing competition from newly industrializing countries and economic hardships resulting from the oil crisis, MITI increasingly finds itself restraining competitive Japanese industries from foreign markets and assisting others to adjust to declining competitiveness. As trade and investment laws were amended and international trade negotiations continued to call for reductions in tariffs and quotas and standardization of non-tariff barriers, MITI lost a major source of its power over industry; i.e., the foreign exchange allocation implemented through MITI's quota system. Moreover, some of the "carrot and stick" influence MITI previously had over key industrial sectors began to wane as firms within these sectors began gaining internal financial strength and had increased access to domestic and international financial markets. Additionally, economic costs to the consumer of postwar economic development were recognized and as a result, the Antimonopoly Law was strengthened as was the Fair Trade Commission's enforcement ability. Worldwide recession and competition from the newly industrializing countries led to a rising class of structurally depressed industries, many of which were import-dependent or energy-intensive. Budgetary deficits, high consumer prices, inflation, scarce resources, and unemployment led to increasingly difficult decisionmaking and increasing difficulty in achieving consensus. As a result, industrial policy decisions have become more and more politicized. Ministry of Finance and Bank of Japan desires to control inflation during this period won out over MITI policies for industrial development; hence stable growth began to take precedence over rapid growth. As MITI lost many of its tools of industrial policy to legislative or structural changes, administrative guidance grew in relative significance. 1/

1/Refers to the process whereby government officials "guide" industries and firms in desired directions by informal means and without statutory authority. This is a fundamental part of the government-business relationship in Japan and occurs in various government-business forums.

Today, MITI continues to influence government and industry views concerning the direction of industrial development. The importance of the foregoing discussion is in emphasizing the increasing economic, political, and social constraints within which MITI must operate. As a result of these constraints and legislative and structural changes, MITI has redefined the goals of industrial policy: first, the need for Japan to move up the technological ladder to increase productivity, promote conservation of resources, and other social development goals; and, second, the need to ease the adjustment problems of certain declining industry sectors, particularly unemployment.

The focus of MITI's efforts has changed rather dramatically over the last 30 years. MITI tools have changed from those of control to persuasion through administrative guidance. In addition to the government's concentration on industrial development, increased importance is now being attached to social welfare, including environmental concerns.

EFFECTS OF INDUSTRIAL POLICY
CHANGES ON SECTOR-SPECIFIC PROGRAMS

MITI must accomplish the increasingly conflicting goals of industrial policy with fewer resources and fewer tools at its disposal. Chapters 4 and 5 will deal in detail with MITI tools and implementation of industrial policy toward growth and decline sectors under these new circumstances. These chapters illustrate that because of budgetary deficits, constraints have been placed on fiscal spending and MITI faces increasing difficulty in having its industrial spending programs approved. Moreover, with fewer legal bases for tools of industrial policy, MITI must largely rely on administrative guidance and the few "carrots and sticks" it has left to convince industry to follow its suggestions. Finally, programs themselves have gone from industry-specific to general programs potentially benefiting numerous sectors. MITI's view is that industries are interdependent and therefore government policies must be based on and recognize the interrelationships between industries. As a result, MITI programs to promote growth tend to focus on basic research and development with cross-industry applications.

In addition to responsibilities for promoting growth sectors, MITI began in the 1970s to find itself directing retreat primarily in two ways. First, MITI finds itself attempting to convince strong, internationally competitive sectors to restrain their penetration of foreign markets or to invest in those markets. Secondly, in the 1970s, MITI saw the rapid increase of structurally depressed industries. Some of these industries declined as a result of the worldwide recession following the oil crisis (e.g., shipbuilding) while others faced far longer term problems from competition from the newly industralizing countries (e.g., textiles) or loss of competitive advantage because of the dramatic increases in the cost of oil (e.g, aluminum, an energy-intensive industry). Because of the Structurally Depressed

Industries Law which provides guidance on the adjustment mechanisms, MITI, in conjunction with other cognizant agencies, has significant influence over the adjustment process. However, this adjustment process has sparked conflict within industries, conflict with MITI, and, often, conflicts between industry and its customers. A strengthened Fair Trade Commission has caused further difficulty for MITI in resolving these problems. Furthermore, MITI finds this adjustment process during periods of stable but slow growth far more complicated than that which had occurred during high growth periods. The basic concern during high growth is for the industry's firms; during the present slow growth period, the concern is far more politically sensitive--unemployment.

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CHAPTER 4

INDUSTRIAL POLICIES FOR GROWTH INDUSTRIES

As Japan's economy has been rebuilt, its international comparative advantage has shifted and so too have the industries targeted for government assistance. We examined government policies for three growth industries--computers, robotics, and aircraft. Segments of each industry meet certain criteria enumerated in the government's overall economic goals, such as contributing to productivity or quality improvements in the Japanese economy or society as a whole.

Industrial policy for these growth industries is implemented within a framework of temporary laws which promote electronics and machinery industries. A loosely constructed administrative framework composed of numerous government and industry groups distinguishes industrial policy implementation.

The major industrial policy tools in use today are joint industry government programs for research and development of indigenous technology and tax and other measures for the diffusion of technology. Legal, administrative, and financial support for growth industries is not new in Japan; the types of support, however, constitute a departure from earlier periods of industrial policy.

DESIGNATED INDUSTRIES ASSISTED ON BASIS OF CONTRIBUTION TO ECONOMY WIDE GOALS

These three industries are in different stages of development, but all meet the criteria set out in Japan's industrial plans. Those documents stress the need for Japan to move up the industrial ladder by supporting the development of industries which are high technology, high value added and knowledge intensive rather than resource intensive, and to incorporate such advances in all industries.

For example, the computer industry, which dates to the late 1950s, provides the foundation for the technology based industrial structure Japan wants to achieve. It also increases productivity, adds value and technological content, and helps to conserve resources in all other industries. Many product lines of Japanese computer companies are now internationally competitive.

The robotics industry holds much the same potential role in Japan's industrial economy. Although it is a much newer industry, the diffusion of robotics and robotic technology throughout the agricultural, manufacturing, and service sectors can help to improve productivity and value added for the economy as a whole. There is no clear-cut technological leader among robotics manufacturers, but the Japanese companies are expected to play a large role as the international market develops.

Civil aircraft represents a high value added industry which combines many of the advances made in materials and process technology. Furthermore, the aircraft industry is expected to provide technology spinoffs for other industries, e.g. new lightweight composite materials. Civil aircraft production has gradually evolved since the mid-1950s, and the Japanese industry today is responsible for larger and more sophisticated segments of worldwide production.

LEGAL AND ADMINISTRATIVE FRAMEWORK OF INDUSTRIAL POLICY

Industrial policy for growth industries in Japan is conducted within a system of laws and administrative guidelines. Support for the electronics and machinery industries has been contained in a series of temporary laws which outline the role and responsibility of the government, the method of funding projects, overall industry and technology goals, etc. Companies, either independently or through industry associations, participate in project-specific goal setting and implementation. When the need arises, special purpose organizations are set up to act as information or funding conduits, or, to coordinate the conduct of basic research and development (R&D). The incorporation of so many groups in the industrial policy process does not ensure agreement between all parties, and in fact can lengthen the debate, but it does provide a number of forums for airing and resolving problems encountered in developing and implementing policies.

Promoting growth industries through temporary measures laws

The two most recent temporary measures laws, the Law on Extraordinary Measures for the Promotion of Specific Electronic and Machinery Industries or "Kidenho" and the Law on Extraordinary Measures for the Promotion of Specific Machinery and Information Industries, or "Kijoho", differ mainly in their coverage of industries. The Kidenho, which was in effect from 1971 to 1978, combined promotional measures for the machinery and electronics industries. In 1978, the Kijoho, which is in effect until 1985, added the software industry.

For the electronics industry, the Kidenho focused on supporting prototype R&D, commercial production, and manufacturing improvements with government assistance. Several successful programs were carried out during this period. For example, Japanese computer manufacturers developed prototype technologies in integrated circuits and commercially produced a third generation computer. The Kidenho empowered MITI to identify these and other products which were to receive government assistance through "enhancement programs" after consultations with the Electronic and Machinery Industry Council. It also allowed MITI to direct certain joint activities which were exempted from the Antimonopoly Law. The law permitted corporate mergers when needed to meet the goals of enhancement programs. This provision was modified in the Kijoho to support joint activities instead of mergers.

The Kijoho had essentially the same goals as the Kidenho, with increased emphasis on developing unexploited and leading edge technologies. The law made provision for specifying technologies to be developed. In the 1978 Cabinet Order listing such technologies, the computer, aircraft, and robotics industries were all represented. Although developing new technologies is increasingly emphasized, earlier goals of improving production technology and manufacturing productivity in the electronics and machinery industries remain important.

The importance of the information processing industry was recognized in 1970 with the passage of the Information Technology Promotion Agency Law, establishing that Agency as the major channel for government funding of computer software and services. Unlike the two preceding laws, this legislation established a separate government organization to support the software and information processing industries. Although its investment in the Agency ended in 1972, the government continues to provide subsidies for Agency expenses. Support for the production and maintenance of applied software systems is given through direct lending, credit guarantees, and consignment programs. The Agency works primarily with the 1400 small- and medium-sized data processing firms.

Industrial policies are administered by MITI with assistance from other government and non-governmental groups

The Ministry of International Trade and Industry, by law, has major responsibility for designing and implementing industrial policy for growth industries; the Ministry of Finance coordinates financial support for industry with overall budgetary concerns. Permanent industry associations exist for each major industry and a number of other associations of manufacturers, users, consumers, labor and academic groups, participate in developing and communicating industrial policy concerns.

The MITI Minister is given responsibility for designating products and establishing programs needed to meet industrial policy goals. Under the Kidenho for example, the Minister had the authority to direct manufacturers to engage in joint activities related to industrial standards, technology improvements, production, and procurement.

The responsibility for computers, robotics, and aircraft falls to MITI's Machinery and Information Industries Bureau. Divisions within that Bureau have responsibility for individual industries; e.g. Electronics Policy Division, Data Processing Promotion Division, Aircraft and Ordnance Division, etc. Typically, advisory councils representing industry and other nongovernmental interests maintain close relationships with MITI divisions. MITI has at times been required to consult with these groups in developing and implementing policies. The Electronic and Machinery Industry Council and the Aircraft Industry Council are two such groups.

MITI's Agency of Industrial Science and Technology, with much of the responsibility for developing and implementing the government's research and development policy, cuts across the industry specific MITI divisions. The Science and Technology Agency, attached to the Prime Minister's office, shares major responsibility for government-supported R&D projects and funds and administers a diverse range of activities.

The Ministry of Finance plays a crucial part of any industrial policy discussion. Although the Ministry does not propose projects or funding levels, it can reject a project proposed by MITI or modify funding requests. Indeed, at times, the budgetary concerns of the Ministry of Finance have delayed or reduced funding of industry initiatives. For example, an independent software technology center was forgone in favor of added responsibilities for the Information Technology Promotion Agency. A large scale R&D effort in robotics technology planned for this year has been postponed; and MITI and the Ministry of Finance have disagreed about the proper government role in the aircraft industry for much of the industry's existence.

In addition to the governmental groups represented in the policymaking and implementing process, a large number of industry associations have been set up to institutionalize the process. Some funding in the form of revenues from certain kinds of entertainment, such as bicycle and auto racing, is designated for the associations. The Society of Japanese Aerospace Companies, Inc., represents the aircraft industry in government councils, the Japan Electronic Industry Development Association and the Japan Software Industry Association represent the information industry, and the Japan Industrial Robot Association represents the interests of robot manufacturers and users.

As in any industry association, a unified position requires a good deal of compromise. For instance, the Society of Japanese Aerospace Companies represents major engine as well as small parts producers, and manufacturers as well as airlines, groups which often have competing interests. One of its major functions is to be an information conduit from the industry, for the industry, and between companies within the industry.

The focus of these associations changes over time. The Japan Electronic Industry Development Association, when established in 1958, represented the concerns of the electronics companies. As production of computer systems by those companies and others has grown, so has the Association's focus on computers within the electronics industry.

The existence of an industry association does not always guarantee that that industry's viewpoint will be accepted by the government. The Japan Industrial Robot Association was established at MITI's urging. Despite opposition from the Association, however, MITI successfully pushed the creation of a robot leasing company.

In the computer and aircraft industries particularly, a number of other organizations act as spokesmen for both manufacturers and users, and as information conduits to and from the government and society at large. For example, the Japan Information Processing Development Center, established in 1967, has played an integral role in identifying user requirements for the fifth generation computer study currently underway.

CURRENT INSTRUMENTS OF GOVERNMENT ASSISTANCE DIFFER IN STRENGTH AND EMPHASIS FROM FORERUNNERS

The major tools used by the government to implement industrial policy for growth industries are the organization of joint R&D programs, direct financial assistance, and preferential tax treatment for the development and diffusion of technology. Increasingly, those R&D projects most qualified for government assistance are very high risk and require large amounts of capital as Japan attempts not just to catch up but to push ahead in technological innovations. The organization of R&D programs, regardless of the industry or technology involved, follow a similar pattern. Special tax programs which formerly were used to strengthen the financial position of companies and to promote exports across the board are today used mainly to develop and diffuse technologies. Market protection through tariffs and quotas as used for infant industries in the 1950s and 1960s is gone, although domestic market stimulation for some of today's growth industries does exist. In industries such as civil aircraft, however, economies of scale cannot be reached in the domestic market and greater international collaboration is taking place. The government no longer gets involved in production arrangements.

Developing indigenous technology increasingly important

Current industrial policy priorities stress development of indigenous technologies. Most of the projects designed to do this for the computer, robotics, and aircraft industries stem from objectives identified in the Kijoho. In the computer and aircraft industries, R&D programs are the major focus of government support. They are becoming more important in robotics.

Government R&D projects in the computer industry fall into two basic categories--those directed toward developing basic, leading edge technologies and those concentrating on production and manufacturing improvements. The latter category deals mainly with applied software and the information processing industries, and projects are under the auspices of the Information Technology Promotion Agency.

Development of new technologies is the goal for the majority of projects currently underway and are the most important

when measured by direct yen subsidies from MITI. These projects stress technologies rather than products and are mostly longterm projects and, therefore, are not expected to have direct commercial applications for a number of years. Six major projects are currently underway: (1) development of basic technologies for the next generation of computers, including operating software, peripherals, and terminals, (2) research into functions likely to be required of the 5th generation computer, which includes many aspects of artificial intelligence, (3) development of high speed scientific computers, (4) research and development of new semiconductor elements with greater performance capabilities, (5) development of advanced information processing systems technology, and (6) development of an optical measurement and control system. The U.S. Embassy in Tokyo has determined that total government subsidies of 11.2 billion yen for private companies is planned for Japan's fiscal year 1982 for advanced computer, software, and integrated circuit R&D. Table 12 shows government funding levels for these programs in 1981 and 1982.

Of further importance for computer-related R&D is the role played by Nippon Telephone and Telegraph (NTT). According to the U.S. Embassy in Tokyo, NTT activities are important because:

--NTT is a public corporation with an annual R&D budget of $350 million.

--Private companies under contract to build telecommunications systems or components (for the most part the NTT "family" of Nippon Electric Company, Fujitsu, Hitachi, and Oki Electric) are also licensed to use NTT-developed technologies.

--NTT engineers have participated with private company researchers in the first stage of the 4th generation, or very large scale integrated circuit (VLSI) project, and the 5th generation projects.

--Internal NTT projects closely parallel MITI's high speed computer and optoelectronics projects.

Government assistance for R&D programs in the civil aircraft industry also includes projects for new product development and for the development of new, basic technologies. Government loans are providing part or all of the funding for R&D work on a new aircraft, a short take off and landing (STOL) plane, a new engine, new materials, and aircraft-related electronics systems. The next generation YXX airplane and XJB engine projects are expected eventually to result in products. However, the government's involvement covers the earlier stage of research and development. Technological requirements and specifications for the projects are still

Table 12
Computer and Related Electronic R&D Projects

HIGH SPEED COMPUTER FOR SCIENTIFIC & TECHNICAL USES 1981-89	Total:	23,000 million yen
	1981	31
	1982	813

To develop high speed logic and memory elements and parallel processing systems. Association formed to coordinate projects, but research carried out in individual companies and one MITI laboratory; patents are government property and expenses 100 percent government funded and non-repayable.

OPTICAL MEASUREMENT AND CONTROL 1979-86	Total:	18,000 million yen
	1981	2,418
	1982	3,238

To develop a system for remote control and monitoring of large scale industrial processes using optical elements for sensing and transmission. Joint company government research laboratories; patents are government property and expenses 100 percent government funded and non-repayable.

NEXT GENERATION INDUSTRIES BASIC TECHNOLOGIES R&D 1981-90	Total:	104,000 million yen
	1981	2,714
	1982	4,786

To conduct research in "revolutionary technologies," including new semiconductor elements, to be applied in industrial processes in the 1990s. Ten national laboratories and 48 companies are participating in some part of the project; expenses 100 percent government funded; patents are government property and MITI has announced they will be disclosed to foreign firms.

SOFTWARE PRODUCTION TECHNOLOGY DEVELOPMENT PROGRAM 1976-81	Total:	6,626 million yen

To decrease cost of software production through automation. Goals and budget revised downward to develop library of working aids for programmers. Original Automatic program generation goals now contained in "5th generation project."

NEXT GENERATION COMPUTERS (PHASE II) 1979-83	Total:	22,500 million yen
	1981	6,200
	1982	5,616

To develop operating systems software and peripheral equipment comparable to IBMs Future Series computers. (First phase of this project was VLSI development). MITI's original 50 percent share of expenses cut to 45 percent in 1982.

FIFTH GENERATION COMPUTERS 1979-91	1981:	15 million yen
	1982	426

To design information processing systems to deal with the basic social problems Japan sees for itself in the 1990s. An endowed research association was established in April 1982 and foreign enterprises are invited to join.

NOTE: All dates are Japan fiscal year. All funding is government-supplied.
Source: U.S. Embassy, Tokyo

evolving. Table 13 shows major projects with importance for the aircraft industry and the levels of government funding.

Table 13

Aircraft-related R&D Projects
Supported with Government Funding

Title	Association/Agency	Duration	Government Funding			
			Total	1980	1981	1982
				(¥ million)		
YX (airframe)	Civil Transport Development Corporation (CTDC)	1978-82	16,000	6,943	2,043	338
YXX Research (airframe)	CTDC/to be determined	1981-87	25,000	--	353	1,490
XJB Engine (RJ-500)	Association for Aerojet Engine Research	1980-87	40,000	1,787	4,722	5,322
Experimental Engine (FJR 710)	Agency of Industrial Science and Technology	1971-81	20,400	2,063	1,901	--
STOL (airframe)	Science and Technology Agency	1978-84	25,000	2,009	4,385	--
Basic Technology for Next Generation Industries:	Agency of Industrial Science and Technology	1981-90	104,000	--	--	--
new materials			--	--	1,356	--

Source: GAO, based on U.S. and Japanese government documents.

The robotics industry will be affected by several, more general, R&D efforts. For example, advances in software technology, such as developing optical recognition and processing systems, which were begun as computer projects, have important implications for robotics. In addition, one important R&D project underway since 1977 has the goal of integrating computer controlled machinery, such as robots, with other mechanical components and lasers to develop whole plants for flexible, automated manufacturing. A total expenditure of 13 billion yen is projected for this project during 1977-83 and a number of Japanese companies are participating with government laboratories. A major program specifically to develop basic robotics technology has also been proposed, but has been postponed because of budgetary constraints.

Focus on more basic, transferable products and processes

The projects outlined above reflect an addition to the type of R&D projects previously underwritten by the government. They are, for the most part, more basic, high risk and long term than such projects as the VLSI program completed in 1979 or the YS-11 twin engine turboprop project begun in 1959, which were aimed directly toward the output of a specific competitive

product. In the computer industry, many of the companies themselves now have access to more funds for their own R&D programs without government involvement. Robotics manufacturers typically are the robotics users and, until recently, have designed systems for their own use. In the aircraft industry, the government has been guided by its early experience and lack of success in investing in the development and production of a commercial airplane, the YS-11, in the 1960s.

The technologies developed from current projects are expected to have applications for their own industry as well as spinoff effects on the economy as a whole; software, new materials, and new function elements, for example, can contribute to any number of industries, "new" and "old."

As domestic development of new technologies becomes crucial for competitiveness and Japanese companies reach strong financial positions, the companies are undertaking more research and development on their own. The U.S. Embassy in Tokyo has determined that total government subsidies to private companies for advanced computer-related R&D represents less than 10 percent of total Japanese advanced R&D expenditures in computer related fields in Japanese fiscal years 1979 and 1980. There continues to be widespread and significant company representation in government supported R&D projects, however.

Government assistance is directed to an earlier phase of the manufacturing process than has been the case. The government does not participate in the production of commercial aircraft or engines; testing capabilities and marketing are also left up to the companies. 1/ Government efforts to direct the production of the computer industry and to divide manufacturing responsibilities have been unsuccessful and have apparently been dropped in favor of joint R&D programs. The exception to this in the computer industry, however, is procurement by the public corporation, Nippon Telephone and Telegraph. NTT does not have its own hardware production facilities and, to the extent that supplies are preferentially procured from Japanese computer companies or a group of certain Japanese manufacturers, that procurement assists in guaranteeing market demand. 2/

1/See GAO's Report to the Congress, U.S. Military Coproduction Programs Assist Japan in Developing Its Civil Aircraft Industry (ID-82-23) Mar. 18, 1982, for a discussion of military aircraft programs.

2/NTT procurement policies have been the subject of ongoing Japanese Government discussions.

It is in the emerging robotics industry that some of the same programs are being initiated that were evident in earlier stages of the computer and aircraft industries, e.g. leasing and marketing assistance.

Government influence on R&D programs

In general, the more basic and high risk the technology under development, the greater the government assistance, and responsibility of government laboratories.

Government funding is usually predicated on the formation of an association of participating companies. For example, the Civil Transport Development Corporation was set up to represent three Japanese manufacturers in the Boeing 767 joint venture with Boeing and Aeritalia. The Japanese Corporation is responsible for 15 percent of the project, and the three participating Japanese companies have divided workshares. The Corporation acts as the conduit for government money and as the agency responsible for coordinating the project. Although a small group within the Corporation is currently studying the next generation aircraft project (the YXX), a new association may be set up as the coordinating body once the project gets underway. Similarly, the Japanese Aeroengine Corporation represents three Japanese manufacturers in the joint engine development project with Rolls Royce.

In the computer industry, the same organizational and administrative pattern is followed for R&D projects. The VLSI Technology Research Association was set up as the umbrella organization for the five companies and government laboratories involved in the project. The Association will remain in place even though the R&D program is completed, for commercial production and the repayment of government funds. The Joint Systems Development Corporation was set up to develop software production technology; the Computer Basic Technology Research Association has been set up for the next generation computer technology development program.

Organizations which have been or will be set up for the newly announced 1981 R&D program for basic technologies for next generation industries are shown in Table 14. This 10-year project, which has application across industrial sectors has a total budget of 104 billion yen.

The government exercises a great deal of discretion over which companies participate in R&D projects. It owns the resulting patents for 100 percent, government funded projects. In some cases the government shares control with the participating companies, and in others it has access to resulting technologies. Licensing costs and requirements also vary. R&D responsibilities are allocated according to a company's technological and financial capability or lack thereof.

Table 14

Organizations Involved in R&D Programs for Next Generation Industries

	Object Technology	Enterprises to Be Commissioned	Core Organizations
New Materials	High-efficiency separation film	Toray, Teijin, Asahi Chemicals, Kuraray, Toyobo	Macromolecule Basic Technology Research Union
	Conductivity macromolecule	Sumitomo Denko, Daiseru Chemicals, Asahi Glass, Mitsubishi Chemicals	
	High-crystalline macromolecule	Toray, Teijin, Asahi Chemicals, Sumitomo Denko, Sumitomo Chemicals	
	Fine ceramics	Toshiba, Kyoto Ceramics, Ishikawajima-Harima Heavy Industries, Kobe Steel, Showa Denko, Sumitomo Denko, Asahi Glass, Electro-Chemistry, Japan Glass, Japan Special Ceramics, Kurosaki Ceramics, Toyota Machine Tools, Shinagawa White Brick, Inoue Japax Research Institute, Toyota Motors	Fine Ceramics Technology Research Union
	High-efficiency crystal control alloy	(1) High-efficiency crystal control alloy: Hitachi Works, Kobe Steel, Daido Special Steel, Mitsubishi Metals, Hitachi Metals, Sumitomo Denko, Ishikawajima-Harima Heavy Industries (2) Processing technology development: Mitsubishi Heavy Industries, Fuji Heavy Industry, Toyota Motors, Toshiba Machines, Ishikawajima-Harima Heavy Industries, Mitsubishi Electric Machines, Kawasaki Heavy Industries	Next-Generation Metals Composite Materials Research and Development Association
	Composite materials	(3) High molecular composite materials: Toray, Teijin, Mitsubishi Chemicals, Japan Carbon	
Bio-technology	Technology for large-scale cultivation and utilization of cells	Asahi Chemicals, Aji-no-moto, Kyowa Fermentation, Takeda Pharmaceutics, Toyo Brewery	Bio-technology Development Research Union
	Bio-reactor	Kao Soap, Daiseru Chemicals, Electro-Chemistry, Mitsui Petro-Chemicals, Mitsubishi Gas Chemistry, Mitsubishi Chemicals	
	Gene recombination and utilization technology	Sumitomo Chemicals, Mitsui Toatsu, Mitsubishi Chemicals Biological Science Research Institute	
New Function Elements	Super-grid components	Fujitsu, Hitachi Works, Sumitomo Denko	New Function Elements Research and Development Association
	Three-dimensional components	Japan Electric, Oki Electric, Toshiba, Mitsubishi Electric Machines, Sanyo Electric Machines, Sharp, Matsushita Electric Machines	
	Elements with increased resistance to environment	Toshiba, Hitachi Works, Mitsubishi Electric Machines	

Source: Denki Shimbun, Sept. 10, 1981

In both the VLSI program and the XJB aircraft engine joint venture with Rolls Royce, Japanese companies which were not original participants were included to keep them abreast of technological developments. The R&D organizations as constituted in Japan serve two purposes. They act as central accounting points for the lending and repayment of government loans and as control mechanisms to divide R&D tasks and technological advances within an industry.

Forms of financial assistance

The Japanese Government provides a variety of financial assistance measures to Japanese firms. The most common channel, as discussed above, is direct subsidies for R&D through corporations or associations with a number of private company members. The subsidies come directly from the general account budget, as for the YXX transport and 5th generation computer projects. For large projects, funds are usually matched in some proportion by the industry. These funds have been given on a success conditional basis; that is, as subsidies which must be repaid only if and when commercial production which follows an R&D project is profitable. The VLSI Association and the Civil Transport Development Corporation are both in the process of negotiating such repayment schedules. We do not know whether any success conditional loans have yet been repaid. MITI is apparently tightening some conditions; minimum repayments are required on some success conditional loans and funding is more difficult to obtain.

Loans have also come from the long-term credit banks, particularly for the software industry. The government agrees to purchase a certain amount of credit bank issues, the proceeds of which are then loaned to software companies through the Information Technology Promotion Agency.

The Japan Development Bank is the most important industrial policy funding institution. Interest rates are at prime and below, and terms are commercial and longer. Variations in rates and terms differ from project to project. For example, JDB loans to the computer leasing company had terms of one to 25 years as compared to the normal 7 to 10 years, and interest rates ranging from 1.0 to 3.0 percent below prime. The JDB has provided 60 percent of the robot leasing company's operating funds at 0.3 percent below city bank rates. The importance of these loans however, and this is true of all JDB loans, is that no compensating balances are required, as they are by the city banks. 1/

1/City banks require that a certain percent of a loan remain on deposit in the bank. These deposits are known as compensating balances, and increase the cost of loans to borrowers.

New loans for the development of technology stood at 10.5 percent of JDB's loans in fiscal year 1977, 13.0 percent in fiscal year 1978, 11.4 percent in fiscal year 1979, and 9.9 percent in fiscal year 1980. 1/ Table 15 contains the categories and amounts of JDB lending for technology.

Table 15

Loans for Development of Technology

(in billions of yen)

	FY 1977	FY 1978	FY 1979	FY 1980	
New loans	¥71.2	¥129.0	¥108.5	¥96.4	$ million $457
Development of electronic computers 1/	38.2	55.3	47.1	55.4	262
Domestically manufactured computers	35.5	53.5	45.0	54.0	256
Computer manufacturing plants	0.4	0.2	0.4	0.6	3
Data processing systems	2.3	1.6	1.7	0.8	3
Use of high technology in certain electronic and machinery industries	8.3	7.8	10.2	14.5	69
Electronic industry	3.8	2.1	7.0	12.0	57
Machinery industry	4.5	5.7	3.2	2.5	12
Development of domestic technology	24.7	65.9	51.2	26.5	126
Development of new technology	20.4	57.4	40.9	22.6	107
Trial manufacture for commercial use	0.9	4.0	1.2	0.3	2
Development of heavy machinery	3.4	4.5	9.1	3.6	17

1/ Includes loans to Japan Electronic Computer Corporation.

Source: Japan Development Bank

Other public financial institutions, such as the Small Business Finance Corporation and the People's Finance Corporation, participate in industrial policy by lending to small companies for robot installation. One of the Information Technology Promotion Agency's major functions is to also guarantee software companies' borrowings from private banks.

Government funds also act as a catalyst for private sector lending. Once an industry begins receiving government funds, it becomes a relatively low risk investment and the private banks are more likely to look upon companies in that industry with favor.

1/ The largest growth in component ratios of new JDB loans has been in resources and energy, increasing from 17.0 percent in fiscal year 1977 to 36.3 percent in fiscal year 1980.

Other industrial policy tools focus on industry-wide and economy-wide effects

There are a number of other industrial policy tools in use in Japan today. For example, measures have been used to promote the diffusion of products which embody new technologies. Commercial measures, although relatively less important than in the past, are still in use. And tax measures, in addition to direct subsidies discussed earlier, promote technological development.

Diffusing technology

One of the primary concerns of the Japanese Government has been the diffusion of technology throughout the manufacturing sector and indeed today, throughout the economy as a whole. Table 16 summarizes government measures in place to encourage diffusion of robot technology.

Table 16

Government Measures to Encourage Robot Use

Measure	Purpose	Government Support
Japan Robot Leasing Company	To lease industrial robots more cheaply and often for shorter periods than private leasing company	Low interest JDB loans for operating expenses FY 1980 Y140 million 1981 Y1,250 million
Direct low interest loans (below prime)	For small and medium-size manufacturers to automate processes dangerous to humans and prevent environmental pollution	Funding from the Medium and Small Enterprise Corporation (FY 1981, Y800 million) and the People's Finance Corporation
Special depreciation	To encourage installation of robots by manufacturers	13% in 1980-81 and 10% in 1982 of initial purchase price in addition to ordinary depreciation

Source: MITI; Daiwa Securities America, Inc.

During the early development phase of the computer industry, a leasing organization, the Japan Electronic Computer Corporation (JECC), was set up with low interest loans from the Japan Development Bank and the participation of seven major Japanese computer manufacturers. The government's objectives for supporting such an

organization were to (1) make Japanese manufactured computers available to a wide spectrum of businesses, (2) allow the manufacturers to better compete with IBM, (3) guarantee a market, and (4) rapidly return the price of the computer to the manufacturer for further investment. These objectives today have lost their importance, because Japanese manufacturers are well established and private leasing companies now fulfill the role once held by the government-supported organizations. The government has used the leasing company concept, however, for the robotics industry. The Japan Robot Leasing Company (JAROL) was established in 1980 with government encouragement. The government was especially interested in enabling small- and medium-sized firms to gain access to robots.

Although the computer manufacturers originally requested the JECC be set up, MITI wanted to hold an equity share. Both the manufacturers and the Ministry of Finance objected to that arrangement, and it was replaced by a final low interest lending arrangement. JAROL also was established only after disagreements between MITI and the robot manufacturers were resolved.

Tax measures have also been used to accelerate the diffusion as well as the development of technology. A tax deferred reserve fund is allowed for up to 40 percent of revenue accruing from the sale of general purpose software if that revenue is used for software development. This tax measure serves several functions--it provides companies with a tax subsidy for revenue that is used for the development of general purpose software programs and promotes their diffusion. The special tax depreciation allowed for the installation of computerized robots is similar in that it promotes the purchase of technology, thereby increasing demand and encouraging manufacturers to produce robots for users other than themselves.

Commercial policy no longer as important for promoting growth industries

Government assistance through commercial policies has included measures designed to increase exports (e.g. access to financing and marketing assistance) and protection from imports (e.g. tariffs, quotas, and nontariff barriers). The use of commercial policy for these industries over the last decade has declined in incidence, if not in effectiveness. Commercial policy played an especially important role during the early years of the computer industry, when Japanese manufacturers faced strong competition from U.S. manufacturers. High tariffs, quantitative restrictions, and controls over foreign investment were all used to restrict entry. Because of multilateral and bilateral trade negotiations and the increasing competitiveness of Japanese manufacturers, protection through tariffs and quotas has declined. Certain non-tariff barriers, such as government procurement, are the subject of ongoing negotiations. Commercial policy has not played as large a role in the present day robotics and aircraft industries and deals mainly with export promotion rather than import protection.

Tax incentives for development of technologies

Tax incentives for technological development are available economy-wide. 1/ Tax credits of up to 10 percent of total corporate taxes are available for investment in new R&D facilities and equipment. Accelerated depreciations are allowed for facilities used to produce certain technologies approved by MITI. Deductions are permitted on income received from the export of technologies or technical services.

EFFECTS OF INDUSTRIAL POLICY ON GROWTH: SOME TENTATIVE CONCLUSIONS

Japan's industrial policy clearly supports a number of high technology industries. These industries are not only important in and of themselves but also for improving the performance and productivity of the economy as a whole. Because of the emphasis on technology, most of the government's efforts are in support of company efforts to develop and diffuse innovative products and processes.

Direct subsidies to joint industry government R&D projects are a widely used form of government support. The associations set up for each project also imply joint control and responsibility by all participants. Through its access to the technology arising out of such projects, the government retains a measure of influence. The positive effects of government assistance on private bank lending, although not quantifiable, exist nonetheless. However, as new technologies become increasingly important for competitiveness, and their access to capital improves, manufacturers conduct more of their own R&D. Most of the companies participating in MITI's highspeed scientific computer project, for example, have separate, similar projects underway. In areas where international collaboration is necessary, a new set of foreign companies and governments participating in projects further loosen Japan's government-industry ties.

Preferential tax treatment has also been used to encourage the diffusion of new technology. Government supported leasing companies have successfully encouraged adoption of more modern and productive technologies, (e.g., computers and robots) in both manufacturing and service industries.

There are signs that the government and industry in Japan have entered a new relationship, partly due to the relative strength and/or needs of individual companies. The major computer manufacturers are successful international competitors.

1/For a more detailed discussion of corporate tax treatment in Japan, see "Corporation Income Tax Treatment of Investment and Innovation Activities in Six Countries," prepared for the National Science Foundation, PRA Research Report 81-1; August 1981.

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Although these companies received substantial government support through the 1970s, today they are less dependent on the government for protection and/or financial assistance and are carrying out many of the previously provided activities on their own. Aircraft producers in Japan and elsewhere need to participate in joint multicountry ventures because of the costs and risks in developing and marketing a new plane or engine. Japanese robotics producers are close to state-of-the-art technology; the major producers are also major users and therefore need little government encouragement to either develop or use robots in their production processes.

Part of the changed relationship is also due to changing government priorities, e.g., inflation, pollution, and energy and social issues. The competing claims on government resources from declining industries and non-industrial concerns means that there are fewer resources at MITI's command. Some traditional tools, such as foreign exchange controls and protection behind high tariff walls, are no longer available to the government. Given the strength of the Japanese companies, such tools would be neither justified nor useful.

All of this is not to say that the government in Japan ignores the needs of industry or to claim that assistance that is available is of little consequence. Government funds are still going into the industrial sector, and the system of cooperation between industry and the government remains in place. The nature and requirements of Japan's growth industries today are different than those of industries previously supported with public assistance. The government's ability to steer these industries without the instruments of direct control available during earlier periods is unclear.

CHAPTER 5

INDUSTRIAL POLICY IN THE DECLINING SECTORS

Another important goal of Japanese industrial policy is to ease the adjustment problems of declining industries, particularly unemployment. Although industrial decline is not a new phenomenon in Japan, the worldwide recession following the 1973-74 oil crisis and increasing competition from the newly industrializing countries led to a significant increase in the number of structurally depressed industries and the severity of the problems facing such industries. In an economy experiencing rapid growth, shifting resources into emerging industries to adjust to changes in consumer taste, loss of competitiveness, and industrial failures is relatively easy. This adjustment process, however, is more complicated when an economy begins to face slower growth. The absorption of unemployed workers by expanding industries, for example, is less automatic than during periods of rapid economic expansion. In the mid-1970s, facing the aftermath of the oil crisis, Japan, not unlike the United States, West Germany, Great Britain, and other industrialized countries, began to experience significant industrial problems, slower economic growth and increased exposure to international trade and competition. Japan's problem, similar to that of other industrialized countries, is not that industries are in decline, but rather that adjustment to decline is no longer as automatic as it was previously, creating severe economic and political pressures which must be addressed by the government.

The Japanese response to decline is a coordinated approach involving contractual obligations among industry, government, and labor concerning shifts of industrial resources and tying industrial adjustment to worker and community adjustment. Although unemployment assistance and assistance to depressed regions is provided by the government, also important to the adjustment process are the incentives given to growth sectors to relocate or to build new plants in these depressed regions.

Our review focused on two declining industries--shipbuilding and textiles. Segments of the Japanese textile industry illustrate a declining industry that has experienced a gradual but steady loss of comparative advantage since the 1950s. In contrast, the shipbuilding industry has not suffered a loss of comparative advantage but faced severe economic disruption resulting from a sudden drop in world demand for ships, particularly tankers, following the 1973-74 oil crisis. Today, this industry is beginning to face potential loss of its comparative advantage to increasing competition from the newly industrializing countries.

INDUSTRY BACKGROUND

Shipbuilding

The Japanese shipbuilding industry was targeted for reconstruction and development following its devastation in World

War II. The industry received assistance in the form of interest rate subsidies, preferential loans, special tax measures, export credits, etc. By the early 1970s, Japan was launching over 50 percent of the world's ships.

Japan's shipbuilding industry relies heavily on exports, so it is particularly vulnerable to changes in world demand for vessels, which in turn depends on the volume of world trade and world gross national product. Thus, worldwide economic trends have a dramatic effect on the Japanese industry. By 1974, this industry held a 61.8 percent share of the world market and was 83 percent dependent upon exports. The effects of economic disruptions during the latter half of the 1970s are evident, given that Japan's new launchings dropped from 17 million gross tons in 1975 to almost 4.7 million gross tons in 1979, a decrease of 72.4 percent.

Textiles

The Japanese textile industry has played a significant role in the development of the Japanese economy and is still one of the largest manufacturing employers in Japan. Within the industry, the pattern of decline has been gradual but steady, varying by type of raw material and by manufacturing process; e.g., between natural and man-made fibers and among the yarn, cloth and apparel segments of the industry. As Japanese wage rates rose in the 1960s, segments of the industry began to lose comparative advantage to competition from the newly industrializing countries. The government initiated several programs to assist the industry when it became apparent that such competition would continue to affect the health of the industry.

LEGAL BASIS OF GOVERNMENT AUTHORITY

The government's response to problems of adjustment to decline in the textile and shipbuilding industries is contained in numerous pieces of legislation. The Special Textile Act (1967) and the New Textile Act (1974) were promulgated to cope with long-term problems of the industry, while the Temporary Textile Act (1971) and the Exceptional Textile Act (1973) were designed to deal with short-term problems.

During the immediate post-oil-crisis period, no specific laws were passed to cope with the problems of the ailing shipbuilding industry. The Japanese Diet (Japan's national legislative body) and the government recognized the problems the industry was facing and in developing a plan to assist the industry to adjust recommended that the government should

--support measures for structural improvement to stabilize shipbuilding operations;

--develop measures to create demand for ships; and

--design measures to improve the employment situation.

The Structurally Depressed Industries Law

The severity of the economic disruptions in the 1970s and their effects on industry led to the passage of the Structurally Depressed Industries Law in 1978. Provisions of this law were designed to help industry make long-term adjustments to changing domestic and international conditions under government guidance. Initially, open hearth steel production, aluminum refining, synthetic fiber production, and shipbuilding were designated as depressed industries. This law set out general criteria under which industries can apply for designation as depressed and outlines the concept of a basic stabilization plan to reduce industry capacity by disposing of equipment and prohibiting new or improved equipment, and to provide measures for stabilizing employment. Basically, this law provides the government with a general framework, legal base, and guidelines for assisting the adjustment of declining industries.

There are three basic criteria which industry must meet to be designated structurally depressed under this law.

1. More than 50 percent of the industry's firms must be experiencing financial difficulties.

2. The industry must be characterized by unusually excessive plant capacity.

3. Firms representing two-thirds of the industry must sign a petition seeking designation as structurally depressed.

When an industry is so designated, the cognizant ministry is empowered to formulate a stabilization plan for the industry. The ministry must forecast supply and demand (including imports and exports) in order to measure excess productive capacity, establish the extent to which such capacity is to be shut down, and decide how the shutdown is to be handled,i.e.,scrapping or mothballing. During this analysis process, the ministry is required to consult with an industry advisory commission. Labor unions are granted specific right to contribute to these deliberations by the law. The law also gives Japan's Fair Trade Commission the right to reject or modify ministry plans if these plans are considered too anticompetitive. The Commission's approval of these plans exempts industries from provisions of the Antimonopoly Law.

In addition, in order to carry out plans calling for scrapping of plant or equipment, the law authorizes establishment of a depressed industries credit fund to ease problems caused by such scrapping. The fund was established with 8 billion yen from the Japan Development Bank and 2 billion yen from the private sector. Under provisions of the law, the cognizant ministry is authorized to place restrictions on new

plant and equipment investment in the designated industries and to use administrative guidance to encourage firms to shift into different product lines. The authority given the government over adjustment assistance to declining industries is a reflection of the increased difficulty of adjustment during slower growth periods.

Other government assistance programs

Comprehensive policies aimed at assisting industries' adjustment include measures to (1) rationalize and assist small- and medium-sized enterprises, (2) assist depressed regions, and (3) assist the unemployed. These measures have been used in both shipbuilding and textiles to ease the adjustment process.

The Law for Temporary Measures for the Unemployed in the Designated Depressed Industries and the Law for Temporary Measures for the Unemployed in Designated Depressed Districts, administered by the Ministry of Labor, provide the framework for government assistance to displaced workers. In general, unemployed workers receive unemployment insurance, retraining and job-hunting allowances. Unemployed workers from structurally depressed districts or industries are also entitled to extended unemployment benefits, higher retraining allowances, and priority treatment in job-hunting under the above two laws. MITI, or the appropriate cognizant ministry, has primary responsibility for determining which industries and which regions are to be designated as structurally depressed and eligible for government assistance. The Ministry of Labor works with the responsible ministries in these important decisions to ensure that employment adjustment is available to complement industrial and regional adjustment.

These two employment adjustment programs are not mutually exclusive; in fact, they sometimes overlap. For example, workers in a depressed industry could also be covered by measures provided to workers in depressed regions. Moreover, with the special measures provided to workers in small- and medium-sized companies, a worker in a small shipbuilding company in a depressed region would be entitled to benefits under all three programs. According to Ministry of Labor officials, the benefits provided under these three programs are the same basic measures provided to unemployed workers in general, they merely involve more extensive coverage.

POLICY MECHANISMS FOR SHORT-TERM DISRUPTIONS AND LONG-TERM PROBLEMS

In an effort both to fight immediate recession problems and to remedy long-range industrial ills, the Japanese Government has taken a two-pronged approach to dealing with the declining industries. Anti-recession cartels have been formed to deal with short-term price and production disruptions. Efforts

to scrap excess capacity equipment and modernize production processes are being pursued to deal with long-term problems of competitiveness.

Both short and long-term measures have been used to help the synthetic fiber segment of the textile industry adjust. In response to a dramatic drop in domestic demand following the oil shock of 1973-74, and later an equally dramatic drop in exports, the government and industry determined that some assistance measures for the industry were essential. The industry itself, however, was unable to agree on an adjustment scheme, and consequently MITI, in 1977, issued "guidance" to the industry to institute production cutbacks of 25 percent for certain man-made fibers. The cutbacks lasted for 6 months and the industry gained as prices of these fibers firmed up considerably. In April 1978, these cutbacks were then formalized through the formation of a Fair Trade Commission-approved anti-recession cartel which was finally terminated a year later.

The continuing effects of the recession and the steep appreciation of the yen in 1977, however, led to the continuing decline of the synthetic fiber segment of the textile industry, which was declared structurally depressed in 1978 with the passage of the Structurally Depressed Industries Law. The basic stabilization plan developed in accordance with the law was aimed at reducing production capacity by scrapping or mothballing equipment. Scrapping was to be completed by January 1979, and mothballing was to continue through March 1981. Scrapping was intended to allow the synthetic fiber segment of the industry to divest itself of unproductive equipment and thus enable it to focus its attention on other more competitive activities. A report by the U.S. Embassy, Tokyo, indicated that production cutbacks by the industry had proven effective and the Japanese industry was back on its feet again. It is important to note, however, that the high cost of raw materials for synthetic fiber production will pose a continuing threat to the Japanese industry both domestically and internationally.

The Japanese shipbuilding industry similarly benefited from provisions of the Structurally Depressed Industries Law. This industry, faced with a dramatic decline in world demand for ships following the 1973-74 oil crisis and projections that future demand would not approach pre-oil crisis levels, was also designated structurally depressed under the law. As required by the law, a stabilization plan was drawn up in consultation between the government and industry calling for roughly a 35 percent cutback in production capacity. Individual firm scrapping volumes were developed in consultations between the industry, its associations and the government and were determined on the basis of firm production capacity. This scrapping effort proved insufficient to restore balance in supply and demand; the Ministry of Transport thus recommended that operating levels be adjusted to achieve production

cutbacks. Participating companies formed an anti-recession cartel in 1979 to carry out the scrapping program; operating levels for fiscal year 1979 were set at an average of 39 percent of peak year operating levels, and subsequently raised to 51 percent in fiscal year 1981. The cartel was scheduled to terminate in March 1982; according to the Ministry of Transport, the Fair Trade Commission was not expected to approve an extension, presumably because it was no longer considered necessary in view of the industry's renewed competitiveness. The Japanese industry had succeeded in regaining its export position, reclaiming a 46.5-percent share of the world market, albeit at reduced absolute levels, by 1980.

Political constraints hamper industrial adjustment

The Japanese Government sometimes finds it politically difficult to declare that an industry, or segments of an industry, should be phased out. The spinning segment of the textile industry provides one example. Japanese Government officials acknowledged that it is politically difficult for MITI to recommend phasing out segments of the textile industry even though it may want to advocate this course of action. Instead, government efforts to restore a supply and demand balance have been aimed both at scrapping equipment and at modernizing equipment and facilities to increase efficiency. Thus, the government has instituted measures aimed at revitalizing the industry through modernizing equipment and facilities to increase efficiency while at the same time trying to lure these firms and workers into other activities. MITI officials further explained that this is all part of the bargaining process--to get firms and workers to shift out of the industry, the government has to offer the industry a comprehensive assistance plan that includes measures to encourage modernization as well as phaseout.

The government was faced with a similar political problem in the shipbuilding industry when it had essentially determined that Sasebo Heavy Industries should be allowed to go bankrupt and close its doors. Although perhaps an "economically" rational decision, the intervention of the Prime Minister forced the government to reassess its position and bail the firm out of its economic troubles.

Government officials noted that because of the effect a phaseout or bankruptcy may have on a particular region or regions, such economically rational decisions can be too politically and socially costly. It is interesting to note that since Sasebo is a major employer in the region, its bankruptcy would have caused severe social, political, and economic problems in the area; employees would find it difficult to move into other activities in that region. In the case of the spinning mills, however, although admittedly wholesale phaseout of the industry would have caused serious consequences in the Nagoya area, efforts to streamline the industry were more successful, primarily because other expanding industry was also located in the area.

Emphasis of government assistance is on helping small and medium firms

Japan's larger firms are expected to carry out production capacity cutbacks without government assistance. This practice is based on the understanding that major industrial companies are highly diversified and engage in a number of economic activities. The government perception is that major companies are financially capable of handling the adjustment process on their own and can shift resources into other industrial activities within their own companies. However, one government contribution is essentially to exempt these large companies from the Antimonopoly Law while they are carrying out joint scrapping activities.

The Japanese Government has adopted or supported a number of adjustment assistance measures and programs to assist small- and medium-sized firms, including

--preferential financing through government, commercial, and long-term credit banks;

--direct and indirect government purchase of scrapped equipment;

--access to the designated depressed industries credit fund; and

--formation of joint scrapping associations.

In essense, this assistance is based on helping these firms to (1) phase out without causing social disruption and/or (2) modernize so they can become more efficient. The Small and Medium Enterprise Agency, under the jurisdiction of MITI, was established in 1963. One of its functions is to provide loans at or below prime interest rates to small- and medium-sized firms through its affiliated financial institutions--the Small Business Finance Corporation, the People's Finance Corporation, and the Bank for Commerce and Industrial Cooperatives.

Large companies are sometimes expected to help repay the government loans extended to small- and medium-sized companies. In the shipbuilding industry, under the basic stabilization plan drawn up by the industry and government, the seven major companies have had to help the other shipbuilding companies involved in the capacity cutback scheme to make the loan repayment arrangement work. As agreed, all firms involved in the scheme are to pay 1.3 percent of the price of each new vessel contract order to a common fund established to repay loans from the banks. In effect, the seven major shipbuilding companies have assumed the role of guarantors of government loans to small- and medium-sized firms in the industry even though they are not the beneficiaries of these loans.

GOVERNMENT CANNOT FORCE INDUSTRY TO ACCEPT STABILIZATION PROGRAMS

Government has some leverage in monitoring scrapping and capacity cutbacks

Much has been written about the ability of the Japanese Government and industry to work together in developing appropriate industrial goals and policies. However, it is not always clear as to what extent government pressure must be exerted to ensure that companies comply with the objectives of rationalization plans. In the case of shipbuilding, the Ministry of Transport has some legal authority which it can use as leverage. Under the Shipbuilding Act of 1950, the Ministry is authorized to issue permits to shipbuilding companies for the expansion of production facilities and these companies are required to report to the Ministry the manufacture of all vessels above a certain tonnage. Although these measures were originally introduced to enable the Ministry of Transport to regulate new entries into the shipbuilding industry, they now appear to give the Ministry the power to enforce the rationalization plan.

The Japanese Government has also generally avoided the use of import restrictions when depressed industries face competition from abroad. Continued imports require that an industry face the problems of adjustment as quickly and efficiently as possible. In this sense, avoiding the use of import restrictions forces the industry to recognize that adjustment is necessary, thus providing the government some leverage in obtaining industry compliance with stabilization plans. By maintaining a position of "neutrality," the government is thus able to encourage adjustment on the part of the industry while not having to accept "blame" for the industry's problems.

The passage of the Structurally Depressed Industries Law also provided the government with some leverage in industrial adjustment. As noted earlier, the law requires that the industry voluntarily submit for designation as structurally depressed when it is characterized by excessive productive capacity and over half of its firms are experiencing financial difficulties. Designation as structurally depressed implicitly obligates the industry to work to achieve a restructuring or stabilization program. Acceptance of the stabilization plan obligates the government to provide guidance and/or assistance to the industry in the adjustment process. The authority of the government to monitor and regulate scrapping, mothballing, and new plant and equipment investment allows the government added leverage in enforcing stabilization plans.

The existence of leverage in developing a structural adjustment program is thus fairly apparent. What is not as apparent is the leverage of the government in determining the exact nature and content of these stabilization programs. Proposed

stabilization plans have been a source of conflict between the government and industry. There have been times when the government has settled for less than what it would consider optimal restructuring.

Development of basic stabilization plans: conflict or cooperation

Specific industry plans developed under the 1978 Structurally Depressed Industries Law are the result of extensive discussions and interactions between the industry concerned and the government. Consultative councils and the cognizant ministry set the groundwork for these interactions. Such councils typically consist of representatives from the troubled industries, government, and other related industrial sectors. The councils recommend necessary steps the industry should take to improve its position. On the basis of these recommendations, the cognizant government ministry develops a basic stabilization plan for the industry. These stabilization plans have provided for (1) permanent production capacity cutbacks, (2) demand creation, and/or (3) temporary adjustments in operating levels.

Despite a generally constructive working relationship, industry and government have sometimes failed to agree on certain issues. In the shipbuilding industry, for example, disagreements occurred regarding how the industry stabilization plan should be carried out. The major shipbuilding companies raised some objections to helping repay or guarantee loans which they were not entitled to receive. Furthermore, large and small shipbuilding companies disagreed as to who should bear the burden of capacity reductions. The smaller firms claimed the larger firms could afford to bear a greater share of the burden, while the larger firms felt that all should suffer equally. Even among the larger shipbuilders themselves, disagreements existed as to the appropriate mix of capacity reductions.

The aluminum refining industry, a highly energy intensive industry suffering from the dramatic increases in energy prices following the oil crisis, provides a further example of disagreements. Conflict between government and industry over proposals to aid the industry has caused significant delays in the development of a final program for restructuring this industry. Numerous proposals have been put forward since the industry's designation as structurally depressed in 1978, including capacity reductions, reorganization of the industry itself, subsidizing the cost of electric power for this industry, and so on. To date, however, no long-term stabilization plan has been accepted by all the parties concerned, although in December 1981 a temporary tariff-quota plan to exempt from tariffs aluminum imported by the industry was reportedly approved by MITI and the Ministry of Finance.

EMPLOYMENT ADJUSTMENTS: PRIVATE INDUSTRY TAKES THE LEAD

Depressed industries have demonstrated that private industry has the initiative, ability, and flexibility to make necessary large-scale employment adjustments. In some instances, depressed industries have been successful in shifting workers internally to other divisions within the firm; in other instances, workers have been placed externally with new firms. Both the textile and shipbuilding industries have taken the lead in helping their excess workers to adjust. Private firms have taken primary responsibility for retraining and shifting their workers into other industrial activities when necessary. Large firms, in particular, seem to be able to shift workers either into other activities within their companies or to help place them in other industries.

The experience of one of the major shipbuilding companies, Ishikawajima-Harima Heavy Industries (IHI) illustrates how one such company dealt with its excess workers. When the shipbuilding industry went into recession, about 4,600 workers left IHI voluntarily. In addition, a mandatory early retirement program was established for workers 55 to 59 years of age. Once these workers left, the company was able to draw up a plan to determine how many workers should be shifted into other production groups within the company. IHI retrained some workers to build jet engines while other workers were shifted into the company's nuclear power division. According to IHI officials, most workers seemed willing to accept the transfer, although these shifts, in some cases, have proven difficult.

Historically, growth industries were able to absorb excess workers from depressed industries. For example, during the worst part of the shipbuilding industry recession between 1977 and 1979, IHI sent 300 to 500 employees to work temporarily in an auto plant north of Tokyo. This arrangement was possible because the Japanese auto industry at that time was growing rapidly and the company welcomed the additional workers. According to company representatives, all of the workers "loaned" to the auto company have since returned to IHI, but not to its shipbuilding division.

Excess textile industry workers also were absorbed by growth industries. The case of the cotton spinning segment of the industry provides a typical example. The industry was hit particularly hard because it is more labor-intensive than the synthetic fiber industry. In the mid-1970s, spinning workers in Nagoya, the city most affected by the industry's decline, were able to find jobs at a nearby auto plant.

Variable labor force eases adjustment process

In Japan, the practice of contracting out to smaller firms part of production work and the existence of a large percentage of women employees who were not regular, permanent employees in

the workforce are two major characteristics of the shipbuilding and textile industries, respectively. These characteristics have made employment adjustment for firms in these industries a little easier. In the shipbuilding industry, subcontractors or piece-workers allowed the major firms in the industry greater flexibility in reducing employment than a labor force composed entirely of regular employees would have permitted. Part of the adjustment was thereby spread among a large number of small firms, which are eligible for government assistance. Although MITI has not attempted to trace what happened to displaced textile workers, some MITI officials are of the opinion that, since many of these workers were women, they probably went into one of the service industries or dropped out of the job market altogether. Women accounted for roughly 71 percent of the workforce in the textile industry and 71 percent of all textile workers displaced during fiscal years 1974-80.

LONG-TERM POTENTIAL OF DEPRESSED INDUSTRIES UNCERTAIN

The success of government measures to assist declining industries remains to be seen. Even if a rationalization plan has been an appropriate response to one specific situation, its effectiveness in addressing long-term competitive problems without further infusions of government assistance is open to debate. The Ministry of Transport has expressed optimism about the future of the Japanese shipbuilding industry, but industry representatives are more concerned over the increasing competition from Korea and Taiwan. Added to this threat is the fact that government efforts to rationalize the shipbuilding industry have not been fully tested against increasing competition from these newly emerging foreign shipbuilding industries.

The future is equally uncertain for the textile industry. Even though efforts have been made to rationalize textile mill products and synthetic fiber segments of the industry, these two segments continue to face rising raw material and energy prices leading to a potential loss of comparative advantage in export markets and competition from imports. Reportedly, the government has seen some success in its long-term strategy for the textile industry. Although there is some question about the long-term competitiveness of the high-quality, synthetic fiber fabrics and apparel segment of the industry, the government has supported resource shifts from such uncompetitive segments as textile mill products into these higher value added sectors. Even if the apparel industry proves to be competitive, the government will continue to be faced with the problem of how to best deal with the uncompetitive sectors of the textile industry.

CONCLUSIONS

The Japanese Government has developed a coordinated approach to problems of adjustment of declining industries. Within the framework of the Structurally Depressed Industries Law, industry and labor agree to stabilization and/or restructuring plans in

return for government assistance in the adjustment process. The significance of such programs lies in industry and labor recognizing the need to restructure and being willing to do so, as evidenced by acceptance of stabilization plans. By avoiding the use of import restrictions the government forces industries to recognize the need for adjustments. Moreover, careful analysis of the causes and effects of the problems faced by a particular industry allows the government to determine the most effective mechanism for adjustment; e.g., scrapping, mothballing, and/or modernization programs. Another important feature of the government's adjustment programs is that the government does not accept "blame" for the industry's problems or total responsibility for its adjustment. Rather, responsibility for industrial restructuring and employment adjustment is shared by industry and labor with the government providing the incentives and funds where necessary.

The adjustment process in Japan is not always smooth or easy. Political considerations can hamper or override what would otherwise be economically rational decisions on the part of the government. However, measures to assist depressed regions and incentives to encourage relocation of growth industries in these areas help to alleviate some of these problems.

The ultimate success of the Japanese Government's adjustment programs will lie in the government's ability to closely coordinate adjustment to decline with incentives to encourage shifts of resources into more competitive, promising activities. Tax incentives to encourage new industries to locate in depressed regions and programs of the Japan Development Bank to develop infrastructure and provide funding to attract industries to these areas are all steps in this direction. In a slower growth environment, recognizing that emerging industries can ease adjustment problems of declining industries and coordinating programs to assist resource shifts from declining to emerging industries are key elements of Japan's positive adjustment policy toward decline.

APPENDIX

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JAPAN'S INDUSTRIAL ENERGY

Representative RICHMOND. As you know, I have virtually devoted myself this last year to Japanese-American relations. I feel, as I told you before our hearing started, that it's one of the greatest problems we have in the United States and one which the American people don't really understand. Japan is literally our No. 1 industrial enemy, an implacable enemy, and we Americans just aren't taking it very seriously.

Let's get into specifics. What can we learn from what the Japanese are doing? As a result of your study, which I'm looking forward to reading, what are some of the things that American business people, American consumers, and American politicians can learn about what the Japanese are doing? How should we change our laws, how should we change our attitudes, in order to better compete with the Japanese?

Mr. CONAHAN. I think it's interesting, Congressman, that you suggest that the American people need to know more about how the Japanese got to where they are today.

I think that if there is a strain that runs through the whole of what they've done since the end of World War II, it is that they have been able to have a reliable method for developing information, for exchanging information, and for analyzing information among Government, labor, and industry. They've been able to gather and use this information to encourage the participation of all affected parties. And on the basis of that and through negotiation, they've reached some sort of consensus. They reached consensus in the early years on rebuilding the economy. There was agreement that certain basic industries needed attention. They all agreed on that and they all went about doing it.

As they moved along, they decided that there was a need at this point in order for their economy to grow, to produce higher value-added products. They agreed on that. There was not the adversarial relationship that we sometimes find in this country.

LABOR-MANAGEMENT PROBLEMS

Representative RICHMOND. Except, as you know, they had severe labor-management problems in the 1950's.

Mr. CONAHAN. I believe there were; yes.

Representative RICHMOND. I think in the 1950's, their labor-management problems were indefinitely worse than ours have ever been. They had strikes and shutdowns and slowdowns and every manner of plant disruptions that you can imagine. Then, finally, apparently, it occurred to somebody that if Japan was going to succeed, they'd better work together and they started this labor-management cooperation in the 1960's. That's my understanding; am I correct?

Mr. CONAHAN. I think, although labor-management cooperation came later on, the industry-Government relationship certainly occurred before that. I think that before the final decision on selecting an industry for particular financial assistance was made, there was an awful lot of discussion and consensus building between industry and Government.

Representative RICHMOND. All right. What can we learn now from what they've done? In other words, are you advocating more labor-management——

Mr. CONAHAN. No, sir. I think I wanted to make one more point.
Representative RICHMOND. Yes.

ANTITRUST CONCEPT EXEMPTION

Mr. CONAHAN. I think, also, that as you look at the Japanese experience, these were significant exemptions from antitrust as we conceive it in this country.

So I think we have to understand that particular issue, too.

Representative RICHMOND. The interrelationships between the banks, the insurance companies, the trading companies, and the industrial giants.

Mr. CONAHAN. Yes, sir.

Representative RICHMOND. That takes up roughly 30 percent of the Japanese manufacturing economy; is that correct?

Mr. CONAHAN. Yes, sir.

Representative RICHMOND. In other words, have you ever heard of lifetime employment and the interrelationship of the companies with their banks and insurance companies, the stock ownerships, and everything else? I believe it's the IBM's and the Exxons that have that favored treatment; am I right?

Mr. CONAHAN. Yes, I believe that's it.

Representative RICHMOND. And down below you still have lots of Japanese companies that are struggling.

Mr. CONAHAN. You have a lot of small- and medium-size business. But the Japanese Government has also directed some attention to those businesses over time.

Representative RICHMOND. More than we have?

Mr. CONAHAN. I don't know that I can make that comparison. I can say that as early as the early 1960's they created a small and medium business agency to work with those people. Presently, under the "Depressed Industries Law," small and medium businesses are singled out for special treatment. For example, in the adjustment that is taking place, or has taken place in the shipbuilding industry, the direct financial support goes to small and medium businesses and, in fact, the large shipping firms are required to assist the smaller firms.

I think that the Information Processing Promotion Agency is currently working with some 1,400 small firms to assist them in developing and diffusing software. So I think that there is a fair level of assistance to the small business.

Representative RICHMOND. Something that we don't do in the United States.

Mr. CONAHAN. I think so.

CONDITION OF BASIC INDUSTRY

Representative RICHMOND. What's the condition of the basic industries of Japan compared to those of the United States—steel, copper, aluminum, shipbuilding, and everything else?

Mr. CONAHAN. Well, I think probably we have to break them down into at least two categories. That's what we looked at. We looked at those industries which were declining over a period of time and those which are currently growing.

The shipbuilding industry did decline, then turned around, and I think is back up to the point where it has a fair share of the international market, close to 50 percent.

Representative RICHMOND. Yes, like 10 or 20 times larger than ours, right?

Mr. CONAHAN. I believe so, yes, sir. That was a decision they made, to target that industry.

Representative RICHMOND. Yes.

Mr. CONAHAN. Steel?

Representative RICHMOND. Infinitely better than ours.

Mr. CONAHAN. That's a judgment, I suppose, that we could agree on.

Representative RICHMOND. How many modern steel mills do they have?

Mr. CONAHAN. I don't have that specific information.

Representative RICHMOND. Can you find out?

Mr. MENDELOWITZ. I understand that continuous slab casting is the most modern method of production. It was a technology developed in the United States and approximately 20 percent of U.S. steel plants use continuous slab casting. In the case of Japan, I believe something on the order of 70 percent of the Japanese steel mills use continuous slab casting.

Representative RICHMOND. Say that again? In the United States, there are how many modern mills?

Mr. MENDELOWITZ. In the case of the continuous slab casting technology, about 20 percent of U.S. steel mills use continuous slab casting.

Representative RICHMOND. Twenty percent, yes.

Mr. MENDELOWITZ. In the case of Japan, approximately 70 percent use continuous slab casting. That is a technology that was developed in the United States, but diffused throughout the Japanese industry quite rapidly.

Representative RICHMOND. Well, virtually everything that the Japanese do has been developed in the United States, hasn't it, including robotics?

Mr. MENDELOWITZ. Yes, I think that's quite accurate. The Japanese, in the fifties, sixties, and seventies, up until this time, have been assimilating very rapidly technology that was developed in the United States and Western Europe. They're at the point now, as I understand it, where they have assimilated what technology is available and they are in the same position as the United States, which is that future progress will be predicated upon the development of new technologies.

And as we point out in our report, MITI's emphasis and the involvement of the Japanese Government in the industrial sector reflects this. The efforts in the early years involved diverting funds, credit, and so forth, to favored industries so that they could invest and grow. Government involvement currently involves subsidizing research and development to push out the technology frontier.

U.S. MILITARY NEEDS BASIC INDUSTRIES

Representative RICHMOND. Do you think there's any possibility of our ever catching up with the Japanese on steel, or should we just give up? On the other hand, here's an administration that wants to spend a third of our budget on national defense.

You know, Mr. Conahan, we have this insanity in the United States where we're gung ho to increase national defense. We're going through the motions as if we're getting ready for war and we have to make sure that we have the best war machine in the world. But we're forgetting that you can't have a war machine if you don't have basic industry. The Japanese are in infinitely better shape to put together a war machine than we are because they have that which will take us many years to rebuild; namely, a basic industry.

Our basic industries, by any measure, are antiquated. I found the most horrorifying thing the last time I was in Japan: I sat down with Ambassador Mansfield and he told me with great glee—with great glee—wasn't it wonderful that Anaconda was shipping its copper ore to Japan to be smelted and that the ingots were being reimported into the United States?

Can you imagine? And Ambassador Mansfield thought that that was just wonderful. That was free trade.

So here in this great country of ours, Anaconda, the biggest copper company that we have, can't afford to build a modern smelter in Montana or can't afford even to go into a cooperative venture with Kennecott, and instead ships its ore all the way from Montana by train to a seaport, by ship to Japan, where it's then smelted with a modern smelter and then the ingots are shipped all the way back.

Can you imagine anything quite so humiliating? As I said, the American people and the American Government just have no idea of the Japanese industrial threat. And how could we wage a war—and apparently, when you spend $240 billion in the name of defense, you are preparing to do something—when we don't have any shipbuilding capacity, we don't have any steelmaking capacity, we can't smelt our own copper, we have to get our ball bearings from Sweden?

Why doesn't someone remind the Defense Department that if we don't start rebuilding basic industry, there's no way that we can ever wage a war? In the middle of wartime, you really can't afford to import many of your products from foreign countries.

Now if you're spending $240 billion on defense, you've got to assume that you're doing it as a deterrent of war or if there is a war, right?

Mr. CONAHAN. I think it's clear, Congressman, that we have provided the defense umbrella for Japan ever since the close of World War II. I think that there have been some efforts made to get the Japanese to increase their share of the defense burden.

Representative RICHMOND. To no avail.

Mr. CONAHAN. I don't think that they've been very successful. I think, quite frankly, that there are some areas in which they could increase their share, where they wouldn't have difficulties with their constitutional ceiling on defense spending, such as increased support of American troops on the ground and that sort of thing.

Representative RICHMOND. And increased support of our 7th Fleet.

Mr. CONAHAN. And increased support of our 7th Fleet. I think there are a number of things that they can do. They haven't been moving very quickly on that.

Representative RICHMOND. And they're not going to, either.

Mr. CONAHAN. Insofar as the aluminum problem is concerned, again, they made a decision by consensus and then went forward with it,

including protection of that industry. It's just as simple as all that from their point of view.

I think a response to that certainly has to be a national interest response here.

Representative RICHMOND. That's what I'd like to develop. We have to get an awareness in the government here and among the American people that a primary defense activity would be to rebuild our basic industries and not have only 18 percent of our steel mills in a modern condition. An if you don't have continuous slab nowadays, you're not very modern, as against 90 percent of Japan.

SHIPBUILDING

We're barely building any commercial ships in the whole United States, as you know. A handful, with Japan and Korea building hundreds and hundreds of ships. How can you wage a war when you no longer build ships, you can no longer make steel? Our rail system is terrible, as against the Japanese, which is the finest in the world. And that Japanese train from Tokyo to Osaka is certainly a miracle.

JAPANESE CIVIL AIRCRAFT INDUSTRY

Mr. CONAHAN. I don't know, quite frankly, what to do about some of the existing circumstances that we find ourselves in. However, I would like to point to one area where I think there is something that we might be able to do, and that has to do with the Japanese efforts to create a civil aircraft industry. This effort is at its very beginnings, I believe. I think that they have been able to move along that road primarily through United States-Japan military coproduction programs. They built an infrastructure. They built up knowledge and experience and know-how. They built up a parts and equipment subsupplier system to the point where, through military coproduction, they're in a position now to move forward with civil production.

There are a number of civil aircraft projects underway being supported heavily by the Japanese Government, and notwithstanding that the coproduction projects cost them maybe two or three times as much as it would to buy from the United States. That technology is being transferred through the F–15 program—avionics, composites, instrumentation, and propulsion—technologies—and can be applied to their aircraft industry. Yet, we made a decision to do it.

Now I believe—GAO believes—that there needs to be greater involvement in those kinds of decisions by the people who are concerned with economic and commercial interests in this country. I think those kinds of decisions are determined primarily by the Department of State and the Department of Defense. They do consider some of the economic implications, but I don't think that they consider them to the extent that they need to be considered.

This is just one area. I can't deal in the macrosense, but if you deal with that particular item, I think there's a case that maybe we might pursue today.

THE LOCAL CONTENT ISSUE

Representative RICHMOND. Mr. Conahan, how many people in the United States realize that the Japanese will only buy two-thirds of a

plane from us? When they place an order with Boeing for a 747, Boeing can only ship 66⅔ percent of that 747 to Japan.

What if we told the Japanese that they could only ship 66⅔ percent of a Toyota to us? You know, we're more than capable of manufacturing tires here and many parts of the car. After all, we invented the thing. And yet, we just politely go along our way and we don't think it's bad at all that Boeing, the greatest aircraft company in the world, only can ship two-thirds of a plane to Japan and Japan insists on finishing the plane in Japan. But nobody knows it.

Don't you think it's time that the American people, the American Government, became aware of all of these things? It's one-way treatment—everything for the good of Japan, nothing for the good of the American people. And yet, we don't realize that next year, in 1983, this little country the size of Montana, with half the population we have, will outproduce us industrially. In 1983, they will produce on a dollar basis more industrial products than we will.

Who knows that? Nobody.

Mr. CONAHAN. Hopefully, through this committee and reports like our own right here, that message will get out into the public domain and there will be dialog on it. I think there needs to be dialog on not only the broad issue, but on the various parts of the issue.

Representative RICHMOND. Don't you think if the Japanese are only willing to accept two-thirds of our planes, we should say, OK, we'll only accept two-thirds of your cars?

Mr. CONAHAN. I'm afraid that that is a decision to be made outside of the General Accounting Office.

Representative RICHMOND. It would make sense, though, wouldn't it?

Mr. CONAHAN. GAO would have to explore that a little further to give a positive answer to it. I think there are a lot of things that can be done. I think, for example, right now there are some computer companies that are trying to ban together in this country in an effort to see if they can get a little better deal with respect to their competitiveness in the international market, including, specifically, Japan. We might want to see if the Government could somehow support that sort of an effort. I don't know what the possibilities are. There are antitrust considerations. But there's a possibility, a potential.

Representative RICHMOND. I'm particularly worried about the condition of basic American industry, vis-a-vis our world status and our defense posture. I just don't see how we can build up our defense forces without simultaneously building up our basic industry, which no one's even thinking of doing, whereas in Japan, industry is in marvelous condition—they have the best steel mills, and the best automobile companies. They're in much, much better condition to build a war machine than we are because they have modern equipment and modern factories which we don't have.

Mr. CONAHAN. I believe that the United States is interested in some of the technology that the Japanese are now developing.

Representative RICHMOND. In what area?

Mr. CONAHAN. In electronics and lasers. And I believe that there is a joint United States-Japan defense forum presently discussing the possibility of Japan releasing that technology in one way or another to the United States.

PERSONAL SAVINGS IN JAPAN

Representative RICHMOND. Let's get into personal savings, which, as you know, is one of the reasons for Japanese success. Personal savings are roughly four times those of the United States. We save, at best, 5 percent of our incomes. They save approximately 20 percent, up to 22 percent.

Now, that, as you know, has been created because of Government policy. They're very tight on consumer credit. They're very tight on homebuying. And they force people to save money in order to buy things, where we, of course, believe in the good old MasterCharge and VISA, buy now, pay later. The Japanese system is save now and buy later.

Now don't you think that maybe we Americans should start learning something? The Japanese aren't more thrifty than the American people. That's just a figment of somebody's imagination. The Japanese aren't harder workers than we are. We're the finest workers in the world here in the United States, and the finest people. We've proven that time and time again. But if you make credit as easy as we make it so that people can just go out and buy whatever they want and then pay for it over a period of years, obviously you're going to reduce savings. Whereas, the Japanese do it the other way around, as you know.

If you want to buy a house in Japan, it's very difficult to get a mortgage and your savings are tax-exempt. So that encourages people to save money. Now they only get 5¾ percent on money, but since it's tax-exempt, it gives them, effectively, a fairly decent interest yield.

These are some of the things that we should learn.

Mr. CONAHAN. I certainly agree with your analysis, Congressman. I would add another ingredient to explain why savings are as great as they are. I think we have to take into consideration that Japan has an underdeveloped social security system, that private pension plans are insufficient.

Representative RICHMOND. Right.

Mr. CONAHAN. So that, in addition to the need to save for housing, for education, and consumer durables, they need to save for their old age. That is quite an incentive, I would think. And I think it's at least as important an incentive as some of the more immediate things.

Beyond that, I fully agree with your analysis.

Representative RICHMOND. Perhaps it's something that we should learn in this country, to make consumer credit interest nontax deductible, which is something that Chairman Reuss and I have been very anxious to see happen in this Congress for years. If we remove the tax-deductibility for consumer credit—and increase the tax exemption on consumer savings—it would certainly force people to save a lot more money, wouldn't it?

Mr. CONAHAN. I would expect so——

Mr. MENDELOWITZ. Congressman, the whole question of saving is, as you know, very complex. Because we have a well developed social security system, individual workers view their contributions to social security as a form of savings.

Representative RICHMOND. Right.

Mr. MENDELOWITZ. And if you add together the share of social security contributions from a worker's salary and the share contributed by

his employer, because from an economic perspective it is all part of the wage bill, it represents savings on the part of the worker that come to about 13 percent of wages.

Now if you add in the actual savings that goes on, you come up with a figure of savings plus social security that is essentially equal to the Japanese savings rate.

Representative RICHMOND. Wait. You're taking the employer's contribution, too.

Mr. MENDELOWITZ. Yes, that's right.

Representative RICHMOND. Let's just take the worker's contribution. Let's say the worker saves 5 percent; is that correct?

Mr. MENDELOWITZ. The worker saves 5 percent.

Representative RICHMOND. Outside.

Mr. MENDELOWITZ. Outside. And then there's another, say, 6½ percent social security.

Representative RICHMOND. So what you're saying really is that American workers save 11½ percent, compared to Japanese workers, who save roughly 20 percent; is that it?

Mr. MENDELOWITZ. Well, I think——

Representative RICHMOND. You can't take the employer's contribution.

Mr. MENDELOWITZ. It depends on how you analyze it. For example, studies of the incidence of the social security tax view the employer's contribution, in essence, as coming out of the wages of the worker because it's part of the wage bill, and were the employer not paying that to the Government in the form of the social security tax, it would go into the wages.

The problem we have is that for the individual the funds that go into social security represent a type of personal savings. But from society's perspective, it's not savings; it's a straight transfer.

Representative RICHMOND. In other words, you're saying that American workers save 18 percent.

AMERICAN PURSUIT WAS HOUSING

Mr. MENDELOWITZ. In essence, yes, but society isn't saving that much. Second, we have a whole history in the period after World War II in which we pursued a program that was directly the opposite of what the Japanese pursued. The Federal Government intervened in capital markets to create a favored financial intermediary whose purpose was to channel funds into the residential housing market.

We set up a system which kept interest rates low and kept long-term fixed interest credit available to households for the purpose of getting into debt to buy homes because we viewed this as a desirable public policy.

In Japan, they did just the opposite. They sapped savings, took it out of the household sector and through the Government's financial intermediation, shifted those funds to the industrial sector for capital formation. So after 30 years of the United States favoring housing, we have an excellent housing stock. We are a very well housed Nation. But in the case of Japan, after 30 years of channeling funds from the household sector to the industrial sector, the housing stock is much poorer, the Japanese are much more poorly housed in terms of square

meters, amenities, and so forth, than the United States, but they have very good industrial plants and equipment.

Representative RICHMOND. Let's take an example. The average American needs how much to buy a house for how much? The average Japanese needs how much to buy a house for how much?

Mr. MENDELOWITZ. Well——

Representative RICHMOND. Let's put it into practical everyday facts.

Mr. MENDELOWITZ. I don't have specific dollar figures.

Representative RICHMOND. We know that the average cost of a house in the United States is $75,000, right?

[Mr. Mendelowitz nods in the affirmative.]

Representative RICHMOND. How much does the average American have to put into that house?

Mr. MENDELOWITZ. Downpayment?

Representative RICHMOND. Yes.

Mr. MENDELOWITZ. If it's VA, he puts nothing down in the way of downpayment.

Representative RICHMOND. I'm taking the average.

Mr. MENDELOWITZ. FHA, 10 percent with conventional insured mortgages using private sector insurers; you could buy the house with a 10- or 20-percent downpayment.

Representative RICHMOND. So the average American needs, say $7,500, plus his closing costs.

Mr. MENDELOWITZ. That's right.

Representative RICHMOND. In other words, the average American can buy a house with a downpayment of roughly $10,000; is that correct?

Mr. MENDELOWITZ. That's probably correct.

Representative RICHMOND. OK. Now let's take the average Japanese, that same house.

Mr. MENDELOWITZ. I understand that in Japan, a Japanese household would have to come up with 50 percent of the purchase price for the downpayment.

Representative RICHMOND. First of all, how much is the house?

Mr. MENDELOWITZ. I don't have exact figures, but I understand that it's considerably more than in the United States for comparable housing.

Representative RICHMOND. Right.

Mr. MENDELOWITZ. I've heard figures that it was as large as a multiple of the cost of housing in the United States, but I don't have that figure.

Representative RICHMOND. For an adequate house, you'd still have to pay more than $75,000, I think.

Mr. MENDELOWITZ. Oh, yes, by American standards, definitely.

Representative RICHMOND. Even by Japanese standards, it's pretty hard to find a decent house for $75,000.

Mr. MENDELOWITZ. You can pick a figure, for example, say twice, just for purposes of example.

Representative RICHMOND. Not quite. But they have to put up 50 percent of their own money, right?

Mr. MENDELOWITZ. That's correct.

Representative RICHMOND. That, in effect, guarantees large savings.

Mr. MENDELOWITZ. That's right.

Representative RICHMOND. And it also guarantees a large well of capital for the Japanese Government to maintain itself and its industries. First, as long as people are saving up for that house, the money is tax exempt, and second, the money is being used every day by the person's employer, effectively, or by the Government.

In other words, what I find, the Japanese people get their bonuses twice a year. As you know, 30 percent of the Japanese apparently get a profit-sharing bonus twice a year, equal to roughly half their salary. And I find that they take that money, and half of it goes into the local branch of the bank, which is at their factory, and which, coincidentally, owns 10 percent of the company and banks for the company.

So they take their profit-sharing bonus, put half of it into the company bank, and the money then gets transferred right up to the company's main office, then right back into the company's factory at 5¾ percent. Then they take the other half and they put it into savings bonds, which finances the Government's deficit. Wouldn't it be wonderful if we could finance our deficit at 5¾ instead of 14 percent?

Mr. MENDELOWITZ. For the first 20 years after World War II, when Japan's general account budget was operating essentially in a balanced position, the deposits in the postal savings system represented for the Government a large source of funds that it had control of and then proceeded to reallocate.

Representative RICHMOND. On which it can run its activities and pay for its deficit and pay for all the wonderful things that we don't have. While the Japanese don't have as good housing as we have, they have infinitely better transportation, infinitely better education, national health programs, complete day care. All the things we don't have in the United States, they have, financed by their Government through the savings of their people.

These are some of the things that we should try to learn from the Japanese and emulate. I think one thing is sure: that we must encourage American savings if we're ever going to get back on the track, correct? Well, the way to encourage American savings is to, first of all, cut out the tax-deductibility of consumer credit and second, do everything possible to encourage people to save money.

Mr. MENDELOWITZ. Well, I think that the United States is a very unique society and economy. We have a long history of laws and traditions behind what we do. I think Japan is also unique as a society and as an economy and they have a long history and tradition behind what they do.

I don't know if we fully understand the causal relationship between some of the things we consider desirable, such as the high savings rate in Japan, and all the factors that contribute to that.

I would certainly believe that we need extensive empirical work on what those causal relationships are so that, in fact, when we do adopt policies to achieve desirable end goals, we adopt the most effective ones. There still is, I think, an incomplete understanding of how things like the Japanese attitudes toward debt versus savings influence the savings rate, how the pension system or the lack of a pension system in Japan contributes to the savings rate, how the sapping of funds and the closing of capital markets to consumer credit and mortgages contributes to the savings rate.

All of these things have to be understood because, for example, if we were to adopt some changes in this country with the objectives of increasing the savings rate and the result was to further depress the housing market, I think that one would have to balance what we're getting out of one side with what's happening on the other.

Representative RICHMOND. You can't further depress the housing market.

Mr. MENDELOWITZ. That's the point. I think——

Representative RICHMOND. And the housing market is not depressed due to the savings rate, either. The housing market is depressed due to the fact that our interest rate for a mortgage is 18 percent; their interest rate is 5¾. Some difference, huh?

Wouldn't it be nice if the American people, by putting up a third of the equity instead of 10 percent could then get themselves a cheap mortgage? Just think how your savings rate would start skyrocketing overnight. How many American families would then decide to really start saving with a vengeance?

Mr. MENDELOWITZ. I think what we had in the fifties and sixties and up until the high interest rates of recent years is a financial structure which essentially favored holders of debt and did not favor holders of savings. When you're able to acquire a fixed-rate, 30-year debt instrument with which to purchase a house——

Representative RICHMOND. At a low rate.

Mr. MENDELOWITZ. At a low rate, in an inflationary period——

Representative RICHMOND. It pays you to do that, sure.

Mr. MENDELOWITZ [continuing]. It paid you to do that, sure. So all the signals we sent out to the household sector said the thing to do to maximize your wealth is to get into debt. Savings did not pay. Getting into debt for the purchase of a consumer durable like a house is something that was financially advantageous.

Representative RICHMOND. Certainly when I discuss basic industries, it's apparent that America has got to attend to its own basic industries as part of our defense posture. Certainly when we discuss savings, it's apparent that America must rethink the whole scheme of savings and figure out ways and means of encouraging the American people to save. That could be done by exempting taxes on savings, and, on the other hand, by wiping out the tax deductibility of consumer credit. It could be done by demanding higher downpayments on houses.

We have got to take Government action in order to increase savings, somehow or other, to make savings a more attractive instrument for people.

Mr. MENDELOWITZ. I think that clearly the cost of debt is a major deterrent to investment in the private sector and in our basic industries. And were the rate of interest to be substantially lower, this would certainly be the elimination of a major——

Representative RICHMOND. Absolutely, nobody can modernize a basic industry at 18 percent. It's impossible.

Mr. MENDELOWITZ. That's right. But there are other issues also that have to be dealt with and I certainly couldn't venture recommendations in this forum, but one would have to look at labor-management relations. One would have to look at wage rates. One would have to look at a whole series of factors that contribute to the profitability of the basic industries and try to deal across the board with them.

And without a doubt, the question of interest rates would be very high on the list.

COST OF FOOD IN JAPAN

Representative RICHMOND. Let us address another subject, Mr. Conahan, the cost of food. As you know, the Japanese pay an inordinate amount of their income for food and a lot of that is just artificial due to the Liberal Democratic Party's desire to protect their handful of farmers. My latest information is that there are only 600,000 farmers left in Japan, anyway. They're the ones who are being protected.

Mr. CONAHAN. I think 10 percent, somewhere near 10 percent.

Representative RICHMOND. Ten percent? You're talking about more than 10 million. There are not 10 million farmers in Japan. They've got a population of 110 million people. You're talking about some 11 million farmers in Japan? No way. There are 600,000 full-time farm families in Japan. The rest of them are factory workers who have small garden plots.

Mr. CONAHAN. Yes, I'm sorry. Disregard my 10 percent. Go ahead.

Representative RICHMOND. Where did you get your 10 percent from?

Mr. CONAHAN. I don't know. That's not a correct figure.

Representative RICHMOND. Mr. Hughes, 600,000?

Mr. HUGHES. Full-time farmers.

Representative RICHMOND. Let's understand, there are 600,000 full-time farmers in Japan. That's all. There's no unemployment there. And those 600,000 farmers could easily either grow vegetables, which Japan needs badly, or find themselves other gainful employment. So there's no great problem with those 600,000 farmers. Yet, they so control the Government that the Government artificially subsidizes them, to an incredible degree, and causes food prices in Japan to be several times higher than they should be.

Now, what I wonder is, how long are the Japanese people going to stand for it? Doesn't the consumer in Tokyo feel that he's being taken advantage of?

Look at beef. The consumer in Tokyo pays about $20 to $30 a pound for beef. Certain times of the year he pays $2 for a lemon; $2 for one lemon; $30 to $50 for a melon, not that he buys that many melons, but if he wants to buy a melon, that's what he pays. Peanut butter—anything, any processed food, he pays an exorbitant amount for those things.

Now he doesn't pay that much for rice because rice is subsidized by the Government. But the Government pays $1,400 a ton to the farmers for rice. We can produce all the rice that Japan could ever want for $400 a ton and make a nice profit at it. And if you've ever gone through—have you been to Japan lately?

Mr. CONAHAN. It's been a while.

Representative RICHMOND. Have you?

Mr. MENDELOWITZ. Yes.

Representative RICHMOND. Well, as you drive around between Tokyo and Osaka, every household which should be growing vegetables, what do you see them growing?

Mr. MENDELOWITZ. Between practically every warehouse, there's a rice paddy.

Representative RICHMOND. A rice paddy. What could be more insane than growing rice on a piece of property the size of this hearing room? A piece of property the size of this hearing room could produce a darn good vegetable garden which could supply vegetables for a family very comfortably.

But can you imagine, people grow rice because the Government gives them a $1,400 subsidy, instead of buying rice from us at $400 a ton?

These are some of the sick things in our relationship with Japan which must be made public to the American people and which must be changed.

Mr. CONAHAN. I'm afraid that we really can't contribute to that particular debate. That simply was not involved in the work we had done.

Representative RICHMOND. Didn't you do a section on food?

Mr. CONAHAN. No, sir, we did not do a section on food. We excluded food from our study.

Representative RICHMOND. It's a shame because food is one of the——

Mr. CONAHAN. I agree, it's very important, but by design, it was excluded from this particular study.

Representative RICHMOND. I would hope that in any further study you would concentrate on food because that's the biggest inequity between our two countries. We have the capability of producing more than enough processed food for the Japanese at a fraction of their cost, balancing our deficit balance of trade, and using some more American workers. If the Japanese would give us equity, we could immediately put back to work between 500,000 and 1 million Americans, which would not only help balance our deficit balance of trade, but which would save us $12½ billion, because every million unemployed people cost us $12½ billion.

Mr. CONAHAN. Yes, sir.

Representative RICHMOND. So why doesn't someone say so? Why doesn't someone do something about it? Why are we Americans such patsies and just rolling over and playing dead, shipping the Japanese nothing but unprocessed agricultural products and nonrenewable natural resources with little or no labor content? Why don't we demand that the Japanese allow us to process some of the food we ship to them? Why ship corn when we could ship prepackaged frozen beef? Why ship soybeans when we can ship prepackaged frozen chickens and hogs? What's a chicken? A 3 pound chicken is nothing more than 9 pounds of soybeans. A chicken is a fine converter, as you know.

Our agricultural industry is so much more efficient in processing these things than the Japanese are. Why don't they let us process the beef, the hogs, the chickens? Why don't they let us ship the citrus juices, which they won't allow us? And they do everything in the world to prevent our products from coming in.

We had one incident I know of—a manufacturer finally got some apple butter on the Japanese market. It was well priced and it was very attractive apple butter. It was selling like mad. Do you know what MITI did? They reclassified apple butter as an industrial flavor, re-

moving it from the food category, putting it into another export category, which meant that the apple butter manufacturer had to pay duty of, I think it was, 35 percent rather than 10 percent.

Japanese trade barriers are monumental. Have you studied the Japanese trade barriers at all?

Mr. CONAHAN. Yes, sir. I think that we can enumerate what they are. I don't know that we have answers for them.

Representative RICHMOND. Tell us about some of them.

JAPANESE STANDARDS PROCEDURES

Mr. CONAHAN. Clearly, there are problems associated with standards. There are customs procedures that need to be dealt with. There are delays in approving applications. There are outright prohibitions against some products; but I'm not sure that they're the real problem. In the high tech area, each application for foreign investment, I believe, still needs to be approved on a case-by-case basis; is that not true?

Ms. VUICICH. In cases of national interest, yes.

Mr. CONAHAN. And then there is the general overall category of national interest determinations. I think that there are difficulties in breaking into the distribution system of the Japanese. Sometimes I understand that there is not an awful lot of help for Americans to break into that distribution system.

I think there's another thing, that because of the clear restrictions that have existed over time, perhaps it's not entirely over on the other side, that there are some problems with American industry, that they're a little reluctant or maybe because of a lack of education, they don't quite know how to go about doing it. I think there is some of that.

So I think that there are a host of things that come into play. Certainly improvements have been made. The restrictions, I believe, in a very direct sense are not as great as they had been in the past. It's in the interest of the Japanese, to some extent, to open up.

Representative RICHMOND. Mr. Conahan, we discussed that before the hearing. You and I agreed that during this whole year of Japanese-American trade negotiations, the Japanese have given in finally on items which, at maximum, could total $300 million. How is that going to solve our $20 billion deficit with them?

The Japanese are not giving in; they're just pretending to give in. In the whole group of negotiations, they gave in on 100 to 300 million dollars' worth of items, at maximum. Do you call that giving in? By my definition, they'll be giving in when they suddenly decide that it doesn't pay for their farmers to raise two and three and four head of cattle and they instead decide to buy our beef; or when they suddenly decide that it doesn't pay for them to import hides and, instead, they'll buy our leather; or when they suddenly decide it doesn't pay for them to grow rice at $1,400 a ton and they start buying our rice.

This is what I would call giving in. And they'll suddenly bring down the price of food to the consumer in Tokyo by an enormous amount of money. Of course, they'll suddenly also succeed in destroying the Liberal Democratic Party: That's what they're worried about.

Let's look at this factually. With all the talk about reducing Japanese trade barriers, this whole last year, with Ambassador Brock, Secretary of Commerce Baldridge, and Lionel Olmer working as hard as possible, they've only succeeded in reducing barriers by $300 million, at maximum.

How does $300 million help us with a $20 billion trade deficit, tell me?

Mr. CONAHAN. I'm not in a position, of course, to respond to that. I guess what I would like to do, and what we came here to do today, was to put before this committee our analysis, both of present problems as well as historical concerns. I think we've done that. Quite frankly, we don't pretend to have the answers. Quite frankly, we don't have a program as to how we can close the gap between the $20 billion and the $300 million.

Representative RICHMOND. Oh, I do. I've got some good suggestions. I think that, once and for all, we have to get the Japanese to realize that we Americans will not accept their whiskey and beads unless they start accepting some more of our products. You can't have a trade partnership where we ship unprocessed agricultural goods and nonrenewable natural resources with little or no labor content and they ship us back a bunch of heavily manufactured luxury goods, which we could easily do without or manufacture here in the United States.

Our whole association with Japan is sick. Here, you're allowing them to get away with spending 0.09 of 1 percent on their own defense, where we're spending 8 percent of our gross national product on defense. They spent less than 1 percent. And we send our 7th Fleet there. We protect them. We do everything just like they owned us. We in America are literally a colony of Japan at the moment, industrially, and we don't know it. We allow them to dump merchandise here.

So on one side we pay over $10 billion for their protection; on the other side, we live with a $20 billion trade deficit with them, with 10 percent unemployment as against their 2 percent unemployment, with a rotten educational system next to the finest educational system in the world, with rotten rail communications next to the finest rail communications in the world.

When are we Americans going to wake up? It doesn't have to be this way. I would look to the GAO to take some leadership in this thing and to feed the Congress the facts that they need to make the proper decision.

Mr. CONAHAN. I was hopeful, sir, that this report, at least in the area of industrial policy, does provide the Congress with that information.

Representative RICHMOND. I'm looking forward to reading it.

Mr. CONAHAN. Thank you.

UNITED STATES-JAPANESE AUTO INDUSTRIES

Representative RICHMOND. Mr. Mendelowitz, I know you know a great deal about the U.S. automobile industry and the Japanese automobile industry. Do you find any positive trends there, or are things just as bad as ever?

Mr. MENDELOWITZ. I think that the U.S. industry is clearly undergoing a major revolution, both in product mix and manufacturing sys-

tems. If, for example, you look at the Chrysler Corp. 5 years ago, no four-cylinder front-wheel-drive vehicles were produced in the United States. It had no robotized assembly lines or highly computerized engine facilities.

If you walk through the Chrysler production facilities today, you find that every one of its automobile plants in the United States is producing four-cylinder front-wheel-drive cars. They're all being assembled by robot assemblers. They're all being welded by robot welders on the line.

If you look at Ford, if you look at GM, you find the same transformation taking place. If you look at American Motors and its alliance with Renault, you find the same transformation taking place.

So that, clearly, we see in the U.S. automobile industry, on the production side, a shift to a product mix which seems to be what the consumer is looking for and investment in the most modern production facilities.

Representative RICHMOND. How come General Motors is importing its four-cylinder cars from Japan? Don't they have enough facilities here to manufacture themselves?

Mr. MENDELOWITZ. I think that the question you ask is related to volume of sales and economies of production in terms of certain segments in the industry. There are still questions out there as to how cost competitive the U.S. industry is. This, of course, is tied very strongly to wage rates in this country and concessions that are received from the labor unions and it's tied to management efficiency. It's also tied to the exchange rate of the dollar.

Representative RICHMOND. It's not only tied to wage rates, though. It's really tied to a great degree of management efficiency and equipment and tools, dies, fixtures, and equipment efficiency. I think that's just as important as the wage rate.

Sure, I think we've got to get better cooperation from American labor. But one other thing that we have to do is begin retooling our American factories with the most modern equipment available, which the Japanese have done and we're just beginning to do, right?

Mr. MENDELOWITZ. That's what we have begun to do in recent years and I would say that we're moving along quite well. I refer to Chrysler because I'm most familiar with the details, but this is a company which, in the past 3 years, was able to reduce its break-even level of production by 50 percent. And they've done it by cutting out overhead. They've done it by saving money on inventories, better inventory management, more carefully screening as to where to spend overhead money and looking for things that can be cut out.

Representative RICHMOND. Are General Motors and Ford doing the same?

Mr. MENDELOWITZ. Yes, they are. I don't have data on how their break-even levels have changed, but they've done the same thing, looking for ways to save money on overhead, improve efficiency in the production process, save on inventories, things like that.

But we still are faced with the fact that, because of the current interest rate policy, the dollar is generally viewed as being considerably overvalued relative to foreign currencies such as the deutsche mark.

Representative RICHMOND. Relative mostly to the yen.

Mr. MENDELOWITZ. And the yen.

Representative RICHMOND. The yen is undervalued. That's the problem.

Mr. MENDELOWITZ. Yes, very clearly.

Representative RICHMOND. And the Japanese Government effectively keeps it undervalued.

Mr. MENDELOWITZ. I really don't have information on that. I saw some data on changes in official reserves over the past few months and the Japanese have been spending official reserves in an effort to increase the value of the yen in the face of the decline in the yen-dollar exchange rate.

So that, certainly, in recent months, official intervention in the foreign currency market has not been in the direction of trying to reduce the value of the yen.

Representative RICHMOND. Mr. Conahan.

Mr. CONAHAN. No.

Representative RICHMOND. Certainly that's another factor that we have to take into account, the fact that the Japanese currency is undervalued, where ours is, if anything, slightly overvalued, and that, again, makes it more attractive to import Japanese goods.

The one thing that bothers me is that the two multinational American automobile manufacturers—Ford and General Motors—seem to not mind importing goods from Japan. In fact, I think they encourage it. They don't realize that unemployed people can't buy automobiles here in the United States.

But you'd think that General Motors and Ford would make more of an effort to manufacture more of their goods here and import less, but they don't seem to be doing it. Just by signing a contract to import its new four-cyclinder cars from Japan, General Motors shows that it really is a multinational corporation which is interested in profits and really doesn't care about increasing American employment.

Mr. CONAHAN. Well, I certainly can't comment on the latter. It's a multinational corporation that's interested in maximizing profit, yes, sir.

Representative RICHMOND. And if it means reducing employment in the United States, so be it.

Mr. CONAHAN. I can't really comment on that. That may be a consequence.

Representative RICHMOND. Sure. Doesn't it occur to the American automobile manufacturers that the more unemployment they create, the less market they have for their cars? Mr. Mendelowitz?

Mr. MENDELOWITZ. I really can't say. I think that if I were a corporate manager, I would be interested in keeping my company healthy and viable and I would not—I don't think that I would be able to retain my job as a corporate manager if I made investment and product decisions which resulted in corporate losses. If, for example, General Motors has made the decision to fill the very smallest end of its product mix with an imported car from Japan, I assume that they believe that that was important to maintain the profit of the corporation and maintaining the profitability of the corporation also keeps people employed.

Representative RICHMOND. I've talked with insurance companies that tell me that the Japanese car is an infinitely worse risk on the American highway than the American car. In other words, the Jap-

anese subcompact car is not very safe. I've seen Toyotas being manufactured on the Toyota line. Sure, it is done with robots very efficiently; hardly any people are there. One factory I was in was 12 acres. In the whole 12 acres, you hardly saw any people, just a bunch of equipment. And white-jacketed engineers watching the equipment.

Yet, the gage of the steel that they were putting together was thinner than your average can of tuna fish. And I wonder what happens when that car comes to the United States and gets into a collision. The facts are that Japanese cars are twice as dangerous as American cars. How come no one makes that public? Why is there this great conspiracy to get the American people to think that Japanese goods are just marvelous and great quality and everything about Japan is wonderful—Japanese labor-management relations, Japanese efficiency, Japanese industrial ability, Japanese products, and so forth?

Why doesn't someone bring to the attention of the American people that Japanese cars are 50 percent less safe than American cars? Don't you think that that might cause the American people to buy more American cars?

Mr. CONAHAN. I really don't think that Mr. Mendelowitz can comment on that. We haven't looked at that sort of a thing. I mean, we just haven't gotten anywhere near a comparison of Japanese products with American products in any given sector as part of this study. I'm not really sure that we're equipped to do that sort of thing.

Representative RICHMOND. Well, the insurance companies have told me that, as a matter of statistics, Japanese cars are 50 percent less safe than American cars.

Mr. MENDELOWITZ. There have been published statistics. I've seen them widely reported in the newspapers with respect to the crashworthiness of different automobiles, listing specific car models and number of accidents per car model, fatalities per, et cetera. I am under the impression that that information has been widely publicized and is available.

Representative RICHMOND. Really not to the general public, unfortunately, because I don't think that too many Americans would buy mini-Japanese cars, knowing full well that they're 50 percent less safe than an American car, even to save $500. But I think if we could get it across to the American public that Japanese cars are 50 percent less safe than American cars, we would help turn that around.

I'm just anxious to put the American people back to work. I don't think that that's a bad motivation. That's the way to cut our national deficit and to get out of this recession that we're in.

MODERN TECHNOLOGY RACE

What about this whole area of modern technology where the Japanese seem to be growing by leaps and bounds? Are they actually beating us? I know on the chips, they've certainly taken over a large percentage of that market. But what do you know about the whole computer industry and communications industry?

Are they rapidly taking over more and more of that market, that world market?

Ms. VUICICH. We don't have numbers on that, but the areas in which the Japanese have concentrated have not entailed technological leaps

and bounds, as much as incremental increases in technology. In the areas that require technological leaps and bounds, a computer that can talk or a computer that can think, for example, the Japanese are having the same problems that the U.S. manufacturers are having. No one has yet developed the next generation computer, and the Japanese are possibly in the same position as the U.S. manufacturers, but certainly not ahead of them.

Representative RICHMOND. Where are they picking up a larger and larger share of the computer market?

Ms. VUICICH. Well, you mentioned semiconductors.

Representative RICHMOND. Yes.

Ms. VUICICH. I think that the Japanese now have 70 percent of the U.S. market for 64K RAM's, or something close to that. And that is a product which requires incremental improvements and which requires improvements in production technologies more than improvement in the actual knowledge base.

Representative RICHMOND. Can you imagine what would happen to our defense posture if suddenly we were unable to use 64K RAM's? Every modern device coming out of the Department of Defense is loaded with 64K RAM's, right?

Ms. VUICICH. Yes.

Representative RICHMOND. What would happen if we suddenly couldn't import them?

Ms. VUICICH. The Defense Department, I believe, is working on its own R&D in semiconductors.

Representative RICHMOND. If we are importing 70 percent of our 64K RAM's from Japan, and we realize that that memory chip is the basic part of every single computer in the world, what's the point of spending a third of our national budget on defense when we don't defend ourselves in these basic products?

Mr. MENDELOWITZ. I think that in the case of the 64K RAM chip, Japanese imports have taken 70 percent of sales in this country. But there are a number of key manufacturers who produce their own chips for their own use. For example, the Bell System is a major manufacturer, as I understand it, of the 64K RAM chips, and they produce them and use them themselves.

I think what you cited is the most glaring Japanese success, in the semiconductor area. They have, for example, been unsuccessful in marketing the more complex logic chips that form the heart of the computer. The random access memory chip is, in one sense, the simplest feature because that's a chip that, you know, you just put a number into and then you can call it out.

Representative RICHMOND. Yes. How did the Japanese manage to get a hold of 100 percent of the videotape recorder market? Didn't our American companies make any effort to take even a piece of it?

Mr. MENDELOWITZ. As I understand it, the videotape technology was developed in the United States for commercial purposes.

Representative RICHMOND. As always.

Mr. MENDELOWITZ. And as I understand it again, no U.S. manufacturer saw in that technology a consumer electronic product. The home video recorder is a product which was totally developed in Japan in the sense that a commercial technology was taken, developed, and brought to the consumer market by Japanese manufacturers.

U.S. firms were not involved in the product development of a comparable consumer electronic product.

Representative RICHMOND. Mr. Conahan, I want to thank you for coming. I look forward to reading your report. I would hope that Chairman Reuss will request additional reports. And as I have been saying throughout this entire hearing, my aim is to get the American public to realize the terrible danger in our relations with Japan and start doing something about it, because clearly, this Government isn't going to do anything. So maybe the American people will.

Mr. CONAHAN. Thank you, sir.

Representative RICHMOND. I thank you. The committee is adjourned.

[Whereupon, at 11:15 a.m., the committee adjourned, subject to the call of the Chair.]

[The following written questions and answers were subsequently supplied for the record:]

RESPONSE OF FRANK C. CONAHAN TO ADDITIONAL WRITTEN QUESTIONS POSED BY REPRESENTATIVE RICHMOND

Monetary and Fiscal Policy

Question 1. Up until the mid-1970's, the government of Japan relied on credit allocation to the major city banks of Tokyo and through them to major industries.

How did the government decide which industries to assist?

Answer. Such decisions have been based on Japan's resource endowments and economic needs. During the early postwar period the questions of which industries to assist was a fairly easy one. The basic industrial structure had been destroyed and the government concentrated its assistance in areas such as steel, electric power and coal, and shipping and shipbuilding. Over time, the government's emphasis shifted to increasingly sophisticated and value added industrial products such as machinery and petrochemicals. During the last decade, the government has continued to emphasize moving up the product scale and has assisted industries which use few resources and embody advanced technologies such as computers.

Question 2. Did the reliance on large city banks penalize small business? To what extent did the Fiscal Investment and Loan Program compensate by aiding small business?

Answer. Small businesses for the most part depended on local banks for funding. Local banks' loans and investments were restricted to the range allowed by their deposits and capital. Small and medium-sized companies also had access to export credits through the trading companies which in turn were clients of the city banks.

The table on page 20 of the report shows that approximately 14 percent of the funds channeled through the Fiscal and Investment Loan Program was designated for small business over the period 1955–1975.

Question 3. Following the demise of the Bretton-Woods system and the continual pressures to open up the Japanese financial system, you noted that the government is relying more on interest rates than on credit allocation to control the money supply.

To what extent does Japan rely on targets for monetary aggregates to control the rate of growth of the money supply? Which target is the preferred number?

Answer. As pointed out in your Committee print, "The Japanese Financial System in Comparative Perspective," Japan has followed a credit paradigm in implementing its monetary policies. It has done so by setting interest rates at below market clearing levels so that demand is greater than supply, and then allocating the money available to the 13 city banks. Even with the recent relaxation in credit rationing, the government continues to exercise control by setting interest rates. However, policy is effected by more frequent changes in the interest rate. The official discount rate was raised five times from April 1979 to March 1980, as compared wih 16 changes during the decade of the 1960's as a whole, and variations in the discount rate became increasingly large throughout the 1970's after only minor variations in the 1960's, giving some indications that interest rate targets have become increasingly important as a monetary policy tool.

Question 4. To what extent does Japan still allocate credit to the major city banks and for other uses?

Answer. The government's allocation of funds to the city banks has declined in importance. As a percentage of net worth and liabilities, borrowings by the city banks from the Bank of Japan, which averaged about 7 percent in the 1950's and 1960's, declined throughout the 1970's and were less than 1 percent in 1981. Today the government's major allocations to the city banks are not funds for private investment, but rather long term government bonds needed to finance budgetary deficits. Because of unfavorable issue terms of these bonds and increasing volumes, the allocations are becoming increasing difficult. In fact, the bond issue scheduled for the fall of 1981 was delayed because of disagreements between the government and the bank syndicate over terms.

Question 5. To what extent does Japan also maintain control over short term interest rates?

Answer. The report enumerates liberalizations in Japan's capital markets during 1979 and 1980. These included the development of new financial instruments and more frequent adjustment of rates. Since then, the Ministry of Finance has relaxed restrictions on overseas yen lending by Japanese banks, although the amounts available are still limited.

Question 6. What are the implications of a shift from credit allocation to interest rates for industrial growth, interest rates paid for postal and other personal savings, and small business?

Answer. The implications of a shift from credit allocation to interest rate policies on the rate of industrial growth depend on whether market allocates capital more efficiently than the government has done. We have not directly addressed this issue in our study. However, because the government has held interest rates artificially low in order to administer a credit allocation system, capital will become more expensive as deregulation of capital markets leads to higher interest rates. If interest rates rise generally, they can be expected to rise in the postal savings system. However, the link between the interest rate on these accounts and the level of savings is unclear because as "small savers" accounts, the interest earned on these deposits is not taxed. Therefore, the accounts may not have to pay the "market rate" to hold deposits. Small businesses borrowing from local banks will most likely be vulnerable to rises in interest rates. In addition, because capital will become more expensive for the government, those funds available through the FILP to small businesses via public corporations could also be affected.

Question 7. According to your report, personal savings are virtually untaxed in Japan and investment income is also lightly taxed.

To what extent is the high Japanese savings rate a function of these tax incentives?

Answer. Although empirical evidence is sketchy, the high savings ratio is most often explained as a function of a large number of factors including the need to save for old age because of an underdeveloped social security system and a lack of generous private pension programs, little consumer credit requiring savings to purchase consumer durables and education, the requirement for as much as a 50 percent down payment on the purchase of a house, and a system in which twice yearly bonuses provide large bulges in take home pay which can total as much as half a year's regular salary. There are a number of factors which have also affected the type of assets the Japanese use for saving. The lack of a stock market or negotiable financial instruments encouraged savings over equity investments, and tax free status of interest earned on accounts of up to 3 million yen reinforced this behavior. The ability to set up a number of such accounts in the postal savings system enhanced the attractiveness of that method of saving.

Question 8. To what extent are dividends subject to tax? Has the existence of a tax on dividends encouraged firms to retain their earnings for investment?

Answer. Dividends are subject to tax, but income earmarked for payment of dividends is taxed at a lower rate than retained income. Overall, Japan has tried to reduce the burden of double taxation. A corporation is viewed as a collection of individuals for tax purposes, rather than as a separate entity. Accordingly, corporations receive tax credits for dividends paid and individuals receive tax credits for dividends received. The joint effect is that a large share of the tax burden is offset. Furthermore, most capital gains are not taxed. We did not analyze the effect of this tax treatment on retained earnings.

Question 9. Has the lack of a capital gains tax led to the creation of a venture capital market?

Answer. In other work underway in GAO, low capital gains taxes appear to be a key factor in the development of a venture capital market. In Japan, however, innovation is supported by consortiums of large, existing companies using internally generated funds, supplemented by government loans. The effects of each system on technological development are not clear, but small firms in Japan have limited access to R&D funds.

Question 10. Are corporate and personal capital gains both exempt from taxation?

Answer. Capital gains accrued from the sale of shares and other securities, as well as certain other capital gains, are excluded from taxes although limitations do apply to prevent abuses, such as land speculation.

Question 11. Postal savings are channeled to industry through the government's Fiscal Investment and Loan Program.

What percentage of personal savings are used by the corporate sector for industrial investment?

Answer. We don't have exact data but we understand that as much as 90 percent of household savings may go into the postal savings system. Funds from the postal savings system are commingled with funds from postal life insurance and annuity funds, the industrial investment special account and government guaranteed bonds and borrowings in the Fiscal Investment and Loan Program. The funds are then either loaned to the corporate sector or local governments for industrial investment, or used for public investments. Allocations are made annually and the proportion of funds to each group as well as their eventual end use varies.

Question 12. Are postal savings also exempt from income tax?

Answer. Interest on deposits of up to 3 million yen are tax exempt.

Question 13. Why has the government adopted the complicated approach to postal savings rather than simply exempting all postal savings from the income tax? Is there a Japanese sensitivity to obvious concentrations of wealth?

Answer. The Ministry of Post and Telecommunications has nominal responsibility for the system, but within the Ministry, the Post Office administers the system. They wish to encourage and retain deposits. The Ministry of Finance has expressed unhappiness over tax revenues lost through the system as a result of the practice of keeping multiple accounts. We found no evidence of Japanese sensitivity to concentrations of wealth.

Question 14. In the United States, a variety of mechanisms encourages investment in housing: the savings and loan industry, an extensive secondary mortgage market and the deductibility of mortgage interest. To what extent does Japan have mechanisms to encourage investment in housing?

Answer. Relative to the United States, Japan has had few incentives to encourage investment in housing. Deposits in savings accounts used to accumulate savings to buy a house are granted a special tax credit. The government, for the most part, has left housing to the private sector although FILP expenditures have been designated for housing. The percent of FILP funds in the housing category averaged close to 22 percent of total expenditures for 1978–1981. The Japan Development Bank supplies capital to the Housing Loan Corporation, which in turn makes loans to individuals for construction costs, and to the Japan Housing Corporation, a public construction company.

Question 15. What proportion of national investment is devoted to housing in Japan and the United States?

Answer. From 1962 until 1965, Gross Residential Investment as a percent of Gross Fixed Capital Formation (Gross Investment) was approximately 25 percent in the United States and approximately 17 percent in Japan. During the second half of the Sixties this percentage was roughly 20 percent for both Japan and the United States. During the Seventies, this figure averaged around 25 percent in the United States and 25 percent in Japan.

GROSS RESIDENTIAL INVESTMENT AS A PERCENT OF GROSS INVESTMENT

	United States	Japan
1962	27.1	14.3
1963	27.5	15.7
1964	25.8	17.1
1965	23.0	20.3
1966	19.6	19.4
1967	19.4	19.6
1968	21.3	19.8
1969	21.7	19.7
1970	20.8	19.6
1971	25.6	20.0
1972	27.9	22.0
1973	26.4	23.9
1974	21.2	22.9
1975	20.1	23.4
1976	23.9	25.0
1977	27.6	24.5
1978	27.6	24.0
1979	26.3	23.0

It should also be pointed out that during these eighteen years gross investment as a percent of gross domestic product has remained reasonably constant at approximately 18 percent in the United States but almost twice that, 32 percent, in Japan.

GROSS INVESTMENT AS A PERCENTAGE OF GROSS DOMESTIC PRODUCT

	United States	Japan
1962	17.4	32.9
1963	17.9	31.5
1964	18.1	31.7
1965	18.8	29.9
1966	18.5	30.4
1967	17.7	32.1
1968	18.0	33.2
1969	18.1	34.5
1970	17.3	35.5
1971	17.8	34.3
1972	18.4	34.2
1973	18.5	36.4
1974	17.9	34.8
1975	16.3	32.4
1976	16.5	31.3
1977	17.3	30.5
1978	18.1	30.8
1979	18.1	32.0

Question 16. In the early post-war period, Japan adopted a balanced budget rule.

Why did Japan adopt the balanced budget rule? Did it reflect Allied thinking? If so, why was the United States moving in the opposite direction with the Employment Act of 1946?

Answer. Adoption of the balanced budget rule during the Occupation was part of the so-called "Dodge line" espoused by Detroit banker Joseph Dodge, a financial advisor to the Occupation forces. Its purpose was twofold—to break the inflationary spiral in Japan through forced austerity and to stop the Government's practice of bailing out troubled companies with non-budgeted expenditures. The balanced budget concept would probably not have been adopted without the U.S. influence.

Question 17. What effect did the balanced budget rule have on growth?

Answer. The balanced budget rule, combined with an implicit limit on the share of GNP going to the public sector, left a larger share of GNP for capital formation and development. The balanced budget meant funds deposited with the postal savings system could be channeled into growth promoting private investment rather than be used to fund government deficits.

Question 18. In your discussion of fiscal policy, you note that there was a distinction between fiscal deficits based on investments in public infrastructure and deficits caused by spending on social programs.

Did the early balanced budget also apply to public infrastructure investment, the Special Accounts or the Fiscal Investment and Loan Program?

Answer. The balanced budget principle, in force until 1965, applied to the national government's general account only.

Question 19. In the early post-war period, you mentioned that Japan attempted to limit tax receipts to 20 percent of GNP.

Why was the 20 percent figure chosen? Was it based on American experience? Did it include all public taxes? And to what extent has Japan kept within the 20 percent rule?

Answer. The Tax Commission in 1959 recommended that the overall tax burden of the country should be limited to 20 percent of national income, with income taxes as the mainstay of the system. We don't know to what extent the American experience influenced that decision. Except for the last several years when the percentage has been higher, Japan has generally kept within the 20 percent limit.

Question 20. How does Japanese overall spending and spending on social programs as a percentage of GNP compare with the pattern in the United States and Western Europe? How does total public spending as a percentage of GNP compare?

Answer. From 1962 to 1979, government consumption expenditures on final goods and services as a percent of gross domestic product remained steady at approximately 18 percent for the United States. In Japan it was approximately 8 percent in the 1960's and increased to approximately 10 percent by the mid-1970's. Germany, Italy and the United Kingdom show similar increases from the late 1960's to the late 1970's. By the late 1970's, Italy's level fell between those of the United States and Japan while both Germany's and the United Kingdom's level are all above those of the other three countries.

GOVERNMENT CONSUMPTION OF FINAL GOODS AND SERVICES AS A PERCENT OF GROSS DOMESTIC PRODUCT

	United States	Japan	Germany	Italy	United Kingdom
1962	18.1	7.8	14.7	13.1	17.1
1963	17.8	8.0	15.6	13.9	17.0
1964	17.4	7.9	14.9	14.3	16.5
1965	17.0	8.2	15.3	15.1	16.9
1966	18.0	7.1	15.6	14.9	17.2
1967	19.3	7.7	16.3	14.4	18.0
1968	19.2	7.4	15.6	14.5	17.7
1969	18.9	7.3	15.8	14.2	17.3
1970	19.1	7.4	15.9	13.8	17.7
1971	18.7	8.0	17.1	15.5	18.0
1972	18.5	8.2	17.4	16.1	18.5
1973	17.9	8.3	18.1	15.5	18.4
1974	18.6	9.1	19.7	15.1	20.3
1975	19.1	10.1	20.8	15.4	22.2
1976	18.6	9.9	20.2	14.8	21.6
1977	18.4	9.9	19.9	15.3	20.5
1978	18.2	9.7	20.0	15.9	20.2
1979	18.0	9.8	19.8	16.1	20.2

Total government outlays as a percentage of gross domestic product have increased from approximately 20 percent in the early 1970's to approximately 29 percent by the late 1970's for Japan, remained reasonably constant during this decade for the United States at approximately 31 percent, and increased during this time for Germany from approximately 37 percent to 45 percent, for Italy from approximately 34 percent to 42 percent, and for the United Kingdom from approximately 36 percent to 38 percent.

TOTAL GOVERNMENT OUTLAYS AS A PERCENT OF GROSS DOMESTIC PRODUCT

	United States	Japan	Germany	Italy	United Kingdom
1970	30.7	19.4	36.6	33.9	36.2
1971	30.9	21.0	38.2	36.2	35.5
1972	30.7	22.1	39.3	37.9	37.2
1973	29.7	21.9	40.0	36.7	37.7
1974	31.2	24.8	42.7	36.7	41.3
1975	33.6	26.4	46.4	41.6	43.0
1976	32.4	26.8	45.4	40.4	41.8
1977	31.6	27.7	45.2	40.5	39.7
1978	31.0	29.1	45.0	43.7	39.3
1979	NA	29.4	NA	42.4	38.7

Government outlays for social spending as a percent of gross domestic product during the 1970's have risen approximately from 16 percent to 19 percent in the United States, from 11 percent to 19 percent in Japan, from 25 percent to 32 percent in Germany, from 22 percent to 28 percent in Italy and from 22 percent to 26 percent in the United Kingdom.

GOVERNMENT OUTLAYS FOR SOCIAL SPENDING AS A PERCENT OF GROSS DOMESTIC PRODUCT

	United States	Japan	Germany	Italy	United Kingdom
1970	15.6	11.0	24.5	21.7	22.1
1971	17.0	11.9	25.9	23.5	21.8
1972	17.1	12.6	26.8	24.7	22.6
1973	17.3	12.8	27.4	24.0	23.4
1974	18.7	15.1	29.8	23.2	26.0
1975	20.6	16.7	33.2	27.4	27.6
1976	20.2	17.2	32.5	27.6	27.7
1977	19.6	17.8	32.3	27.0	26.6
1978	19.2	18.9	32.0	28.8	26.4
1979	NA	19.2	NA	27.8	26.1

Question 21. You have emphasized Japan's role as a financial intermediary through both the Bank of Japan and the Fiscal Investment and Loan Program.

What percentage of total industrial investment flowed through government hands and how has that percentage changed over time?

Answer. According to OECD comparative statistics, the category "economic services" as a percent of total outlays in Japan ranged from 25.8 percent in 1970 to 20.5 percent in 1979. Comparable figures for the U.S. during the same time period ranged from 9 to 10 percent of total outlays. In the categories of health and social security and welfare services, the opposite relationship existed.

Question 22. You note that fiscal and monetary policy have been closely coordinated except for the 1973–74 period.

Why did the fiscal and monetary authorities work at cross purposes in the period?

Answer. The impact of the Japanese Government efforts to support the yen's value after the collapse of Bretton Woods, combined with increased oil and commodity prices led to high inflation which reached almost 25 percent in 1974. Controlling inflation therefore, became the primary concern of the monetary authorities. The fiscal authorities however, were concerned with the slowed growth which resulted from the oil crisis. GNP declined in 1974—by 1.2 percent—for the first time since the Occupation.

Question 23. Did the change reflect the growing independence of the Bank of Japan and the relative decline of the Ministry of Finance? Has there been a trend toward reduced independence for the Bank of Japan since the 1973–74 period?

Answer. The change reflected a growing independence of the Bank of Japan in conducting monetary policy, a trend which has continued. Ministry of Finance officials are primarily concerned today with bank operations, e.g. branching policies.

Question 24. The predecessor to the current Economic Planning Agency was established in 1945 as the Economic Stabilization Board.

Was the ESB created by the Occupation government or did it have pre-war roots?

Answer. Planning in Japan had its beginnings in the pre-war period. A Planning Agency was established in 1937 and coordinated production during the Sino-Japanese War which broke out the same year.

Question 25. Why did the EPA consistently underestimate the ratio of growth of Japanese GNP?

Answer. EPA forecasts are the result of a consensus between key figures in the Diet and the administrative agencies. One possible explanation of the estimates is that constant underestimations resulted in yearly supplemental budgets and therefore, a wider latitude in discretionary spending during a budget year.

The Evolution of Industrial Policy

Question 26. You mentioned the disagreement between MITI and the Bank of Japan over the automobile industry.

Are such disputes frequent within the GOJ and how are they usually resolved?

Answer. Disagreement between different Ministries in the Japanese government occurs before a policy decision is reached. Disputes are usually solved by negotiation. The relative strengths of different groups have varied over time and resolution of each specific disagreement usually reflects those strengths.

Question 27. Has MITI attempted to develop new policy tools to replace the foreign exchange and trade restrictions?

Answer. The new tools are mostly in the form of incentives; for example R&D subsidies and special tax measures, rather than the controls utilized under the foreign exchange and trade control regime.

Question 28. To what extent has MITI's influence over industry been replaced by another Ministry?

Answer. MITI's influence over industry has changed in several significant areas. Because of domestic pressures, the Fair Trade Commission is playing a larger role in decisions to allocate production, set prices and other rationalization measures proposed by MITI. The Ministry of Transport, with authority for the shipbuilding industry, has made the greatest use of the Trust Fund set up under the Structurally Depressed Industries Law, although MITI was originally responsible for its establishment. The Ministry of Finance is gaining influence over funding levels for MITI projects because of tremendous budgetary deficits and current efforts to cut government spending. And finally, the Ministry of Foreign Affairs has become active in encouraging Japanese companies to limit their exports, as is evident in the recent United States-Japan auto restraint agreements.

Question 29. How are representatives to the Industrial Structure Council chosen? Does any one group tend to dominate the council? Has membership changed over time?

Answer. The Council has about 400 members drawn from government agencies, banks, local governments, labor unions, the academic community, etc. MITI's establishment law outlined the organization, administrative procedures, etc. Roughly 20 subcommittees exist, of which about half are active. The most active subcommittees today are those concerned with declining industries. We have been told that those groups are disproportionately weighted with industry repre-

sentatives. Programs which emerge, therefore, tend to reflect and protect industry interests.

Question 30. Unlike Japan, Europe relied heavily on foreign direct investment from the United States to accelerate the process of reconstruction.

Were there advantages to the Japanese approach? Did Japan strike a better deal in acquiring foreign technology by restricting foreign investment? Did Japan's high domestic savings rate allow it to resist the use of foreign savings?

Answer. Japan's decision to restrict foreign investment forced companies wanting to tap the Japanese market to license their technology to Japanese companies. We assume that high domestic savings enabled Japan to forego foreign investments and, therefore, strike a strong bargaining position when acquiring foreign technology.

Question 31. Did centralizing the acquisition of foreign technology allow Japan greater leverage in bargaining with foreign firms?

Answer. Although we did not look specifically at the effects of centralized bargaining, it could be assumed that knowledgeable, skilled and experienced negotiators could strike a better deal for the Japanese firms. Centralized bargaining did not always take place, however. In the early years of the computer industry, for example, each Japanese company had technology agreements with a different foreign firm.

Question 32. At a previous JEC hearing, Joji Arai, head of the Washington based Japan Productivity Center, was asked to list the reasons for Japan's high productivity growth. At the top of his list was lax enforcement of the anti-trust laws.

Does the Japanese experience bear out Mr. Arai's testimony?

Answer. We can't tie lax enforcement to productivity growth but we do have evidence of substantial exemptions from anti-trust laws as well as less than stringent enforcement. Also, even in today's atmosphere of more activist enforcement, only the impact on the domestic market is considered; there has not been a concern with extraterratorial application of anti-trust principles.

Question 33. With Japan's attention focused on industrial development, it is notable that Japan did not simply eliminate the corporate income tax. Instead, differential depreciability was adopted to encourage some industries and not others.

Was this a conscious decision on the part of the Japanese government—the retention of the corporate income tax as a way of giving the government a tool to support some industries rather than others?

Answer. The decision to use tax policy as a tool of industrial policy was a deliberate one. In the 1964 recommendations of the Tax Commission, abolishing differential tax treatment was the one recommendation which was not implemented. Further pressures arose in the early 1970s to eliminate differential treatment, but tax measures continue to play a role in industrial policy.

Question 34. To what extent does the government still grant greater depreciation rights to certain industries?

Answer. Tax policies today encompass a wide range of policy goals but are themselves very narrow and specific. For example, increased initial depreciation of designated machines or production facilities is given for purposes of anti-pollution (27 percent), reclaiming scrapped materials (20 percent), newly built vessels (13 percent), cooperatives (8 percent), and so on. Favorable tax treatment is not directed as much toward certain industries as it is to achieving certain policy goals, for example, increasing productivity by allowing special depreciation for machinery incorporating advanced electronics.

Question 35. Most economists testify to the benefits of free trade. Japan appears to have taken a different approach—and profited from it.

Does the Japanese use of a rolling infant industry approach—where there is always some industry in the nursery—suggest that free trade is not always the best path for domestic development?

Answer. Assistance to infant industries has always been recognized in the economics literature as a legitimate reason for government intervention. However, the success of Japan is the result of many factors which influenced what was achieved during the period of protection. Protection alone does not insure that industries will develop as they did in Japan.

Question 36. Did the Japanese have a large enough and competitive enough domestic market to get the benefits of economies of scale and competition without relying initially on the foreign market? Or did extensive public subsidies make up the difference?

Answer. The fact that the Japanese economy is large enough to enable virtually all industries to achieve economies of scale in the domestic market has been a key element of Japan's investment led growth. Public subsidies did assist companies in realizing economies of scale by expanding the market by promoting the diffusion of new products or technologies through leasing companies or tax measures. One notable exception is the civil aircraft industry for which Japan does not have the market size necessary to achieve economies of scale.

The inability to achieve scale economies through sales to a protected domestic market has been a major incentive behind the Japanese initiative to enter joint ventures.

Question 37. Japan appears to have lowered its barriers reluctantly—were there not gains from trade to be made even in relatively mature industries?

Answer. Japan has appeared to lower its import barriers only reluctantly, even though there would be gains from trade. Certainly, to the extent that cheaper imports were available in areas such as agriculture and those covered under the structurally depressed industries law, Japan could benefit from freer trade. Other objectives, besides promoting the lowest prices to consumers, appear to have been viewed as more important.

Question 38. In addition to targeted industries such as steel and automobiles, industries such as consumer electronics have also thrived.

How has MITI dealt with such industries as consumer electronics?

Answer. Consumer electronics was not a targeted industry, and therefore not identified in MITI's "enhancement programs," etc. However, the industry benefited from MITI's assistance to semiconductors and integrated circuits for industrial purposes.

Question 39. Have the protections in trade restrictions been extended to promising although non-targeted industries?

Answer. In past years, Japan's import policies protected the economy across the board, without distinction between promising industries, targeted industries and so on. In removing restrictions, however, industries which would suffer the most as a result of free trade, such as computers, have been protected the longest.

Question 40. To what extent did the non-targeted industries benefit from various Japanese tax incentives?

Answer. For the most part, Japan has targeted its incentives on the basis of "linkage" and "feeder" effects. For example, to the extent that low cost steel contributed to the competitiveness of Japanese machinery, tax incentives for the steel industry had a wider effect. Today's incentives are targeted more toward technologies and less towards specific industries, but they follow a similar pattern. Therefore, to the extent that advanced technologies, which have received government assistance, are used in production of nontargeted products, benefits do accrue.

Industrial Policies for Growth Industries

Question 41. Your report paints a clear picture of strong Japanese government support for the commercial development of the computer, robotics and civil aircraft industries—areas of current American strength.

How should America respond to an industrial policy that may challenge our own high technology future?

Answer. A number of U.S. companies have taken steps to counter the "Japanese challenge." Several computer and semiconductor companies are attempting to set up a joint association to conduct research and development. There have also been attempts to work more closely with universities, by encouraging and supporting the education of engineers, by supplying computers and related equipment for training and research purposes, and by becoming more involved in influencing the types of research needed to keep abreast of commercial technologies. In our discussions with some U.S. companies, we also heard a lot about the need to construct a new relationship with the government, and the intention of some companies to do so.

Question 42. Does the Japanese practice of supporting infant industries justify temporary import protection for industries that are about to enter a second childhood (e.g., U.S. automobile industry)?

Answer. We can't answer that specifically, but as a general rule import protection of limited duration can help an industry to become competitive only if there is a specific, mutually agreed upon objective, the demonstration that increased competitiveness is achievable, and a binding commitment to make the necessary investments and other changes necessary to become competitive.

Question 43. You suggest that "market protection through tariffs and quotas as used for infant industries in the 1950's and 1960's is gone. In the past two years, however, there has been a great deal of testimony from high technology American business that the Japanese market remains closed to many high technology American exports.

Do the Japanese retain some visible barriers in high-technology goods? Have the Japanese shifted to such practices as administrative guidance to provide temporary protection to new, high technology industries?

Answer. Market protection in the 1950's and 1960's was accomplished primarily through tariffs, quotas and foreign exchange restrictions. As Japan assumed obligations of the GATT and IMF such restrictions have diminished. Non-tariff barriers, such as standards, have replaced them on the international agenda. Although many of these issues have been the subject of negotiations, problems still exist. In the context of industrial policy, trade restrictions are less important as a tool of government assistance in areas where the Japanese are attempting to develop state of the art technologies, than they were when Japan was competing to adapt already existing ones.

Question 44. MITI uses advisory industry councils to help determine GOJ policy with regard to particular industries. The United States has adopted a somewhat similar approach with regard to establishing our trade negotiating strategy (the Industry Sector Advisory Committees).

To what extent does the U.S. also draw on advisory councils in areas other than foreign trade?

Answer. There are over 850 advisory councils working with U.S. government agencies. A number of them are industry related.

Question 45. As Japan develops new technologies, U.S. companies will want to have access to them in one way or another.

Does the United States have adequate access to the Japanese technology market?

Answer. U.S. company access to Japanese technology varies. We did not determine whether it was adequate but we did detail the various types of arrangements likely to exist. For R&D projects supported 100 percent by government funding, the government will own the resulting technology and companies—foreign and domestic—may apply for access to it. There has been some concern expressed that this arrangement limits the ability of Japanese companies to license this technology to others, thereby, adversely affecting U.S. company access to technology.

Question 46. Are Japanese investment laws now liberal enough to permit U.S. firms to buy technology by buying a Japanese company—the kind of purchase that has become common place for foreign firms in Silicon Valley?

Answer. Beginning in 1975, foreign direct investment in almost all industrial categories has been under an "automatic approval" system with routine approval within 90 days. Case by case screening remains for agriculture, fishing, mining, petroleum, leather and leather goods, large scale retailing, weapons and atomic power. The government has retained the power to screen other applications if they are deemed likely to cause a serious disturbance in the economy.

In 1980, foreign investment was shifted, in principle, from an approval basis to a prior notification basis. Licensing in such areas as banking, insurance, and pharmaceuticals is still required and determined on a case-by-case basis.

As of the end of 1980, the Ministry of Finance had designated 11 firms in which foreign ownership of 25 percent or more of the company's stock might seriously damage the Japanese economy or threaten national security. Acquisition of a publicly-held Japanese company is legally possible, but rarely done either by Japanese or foreign companies. According to the OECD, foreign direct investment in Japan from 1976 to 1980 amounted to $679 million.

Question 47. The report details the efforts the Japanese government has made to encourage the diffusion of robots throughout Japanese industry.

Do the Japanese programs apply to Japanese made robots only?

Answer. The Japan Robot Leasing Company, Ltd. is a joint venture of robot manufacturers and users. Only Japanese robots are leased. At the time of our review about 90 percent of the company's leases were to smaller Japanese companies although there has been some discussion of beginning an overseas leasing program.

Question 48. Could the United States adopt a similar program that would apply to American-made robots?

Answer. The U.S. could adopt a similar program if it did not violate antitrust laws.

Question 49. To what extent do financing schemes tied to domestic manufacturing come into conflict with the GATT or other international treaty obligations of the United States?

Answer. We did not determine the extent to which domestic financing schemes might violate U.S. treaty obligations, including GATT, if at all.

Question 50. How has Japan been able to develop a commercial aircraft industry without domestic protection from import competition?

Answer. Japan's early attempts to develop a 100 percent, domestically produced civil aircraft was a commercial failure. Today's industry has benefited from (1) coproduction programs for military aircraft and engines, (2) government supported subsidies for research and development of commercial engines and aircraft, and (3) joint ventures with foreign airframe and engine manufacturers.

Industrial Policies in the Declining Sectors

Question 51. In discussing textiles and ship building, the focus has been on industries that have lost major export markets.

How well has Japan responded to the threat of import penetration?

Answer. Manufacturing industries in Japan are relatively young and, as such, embody relatively new technology and enjoy a degree of international competitiveness. With the exception of textiles there has not been much sustained import penetration. In textiles, the import share of the domestic market went from about 2 percent in 1964 to 18 percent in 1974. Consumer electronics will be an interesting sector to watch as the lower wage rates in developing South East Asian countries' reduce Japanese competitiveness. Raw materials industries such as aluminum have experienced some competition from imports. In the aluminum industry, Japan has been unsuccessful in agreeing on a long-term plan for restructuring. There is some feeling that other metal industries will soon face similar problems. Tariff changes have been adopted which benefit long-term contract supplies over spot market sellers, for the benefit of Japanese smelters.

Question 52. The depression cartels established by MITI sound vaguely like the National Recovery Act (Blue Eagle) programs of the 1930s—programs that were declared unconstitutional in the United States.

Could the United States adopt recession or depression cartels? How efficient are the recession cartels relative to the bankruptcy route offered by the United States?

Answer. Recession cartels could probably not be adopted in the United States under current law. In Japan, they are used to achieve short-term price stability objectives and orderly production facility cutbacks, and would incur anti-trust objections in the United States. We haven't determined how efficient they are relative to the bankruptcy route offered by the United States.

Question 53. The *Sasebo* case was presented as an example of a Japanese bailout.

How common have bail outs become in the Japanese context? What tools are used in a bail out? Loan guarantees? Tax subsidies? Import restraint?

Answer. Bail outs such as Sasebo are not, to our knowledge, common occurrences in Japan. However, consensus is not always easy to achieve as is evidenced in difficulties in agreeing on a long-term plan for the aluminum industry. The Japanese "positive adjustment" approach emphasizes movements of factors of production to effect structural change rather than a concentration on long-term protective measures. This entails using a number of measures including loan guarantees and tax incentives. Import restraints are not considered to be legitimate tools for long-term structural adjustment. The present Depressed Industries Law expires in June 1983 and there has been some discussion that a subsequent law will allow the government more power in gaining industry concurrence in restructuring programs.

Question 54. To what extent is bankruptcy relied upon in Japan?

Answer. For firms with liabilities exceeding 10 million yen, there was over 10,000 bankruptcies in 1968, the figure declined through the early 1970's and began to climb again reaching 17,884 firms in 1980.

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