

UNITED STATES-JAPAN TRADE POLICY

HEARING
BEFORE THE
SUBCOMMITTEE ON INTERNATIONAL TRADE
OF THE
COMMITTEE ON FINANCE
UNITED STATES SENATE
ONE HUNDRED THIRD CONGRESS
FIRST SESSION

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JULY 22, 1993
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CONTENTS

OPENING STATEMENT

	Page
Baucus, Hon. Max, a U.S. Senator from Montana, chairman of the subcommittee	1

COMMITTEE PRESS RELEASE

International Trade Subcommittee Schedules Hearing on Japan	1
---	---

ADMINISTRATION WITNESSES

Altman, Hon. Roger, Deputy Secretary of the Treasury, Washington, DC	3
Spero, Hon. Joan E., Under Secretary of State for Economic and Agricultural Affairs, Washington, DC	6
Barshefsky, Hon. Charlene, Deputy U.S. Trade Representative, Washington, DC	8

CONGRESSIONAL WITNESS

Mendelowitz, Dr. Allan I., Director, International Trade, Finance, and Competitiveness, U.S. General Accounting Office, Washington, DC	24
--	----

PUBLIC WITNESSES

Duke, Dr. David A., vice chairman, Corning Inc., Corning, NY	27
Hiney, James W., vice president, corporate patent counsel, and director of government relations, Noise Cancellation Technologies, Inc., Linthicum, MD	30

ALPHABETICAL LISTING AND APPENDIX MATERIAL SUBMITTED

Altman, Hon. Roger:	
Testimony	3
Prepared statement	47
Responses to questions from Senator Wallop	50
Barshefsky, Hon. Charlene:	
Testimony	8
Prepared statement	50
Baucus, Hon. Max:	
Opening statement	1
Duke, Dr. David A.:	
Testimony	27
Prepared statement	52
Grassley, Hon. Charles E.:	
Prepared statement	56
Hatch, Hon. Orrin G.:	
Prepared statement	56
Hiney, James W.:	
Testimony	30
Prepared statement with attachments	58
Mendelowitz, Dr. Allan I.:	
Testimony	24
Prepared statement with attachments	71

IV

	Page
Spero, Hon. Joan E.:	
Testimony	6
Prepared statement	90
Responses to questions from Senator Wallop	92

COMMUNICATIONS

National Foreign Trade Council, Inc.	94
Semiconductor Industry Association	95

UNITED STATES-JAPAN TRADE POLICY

THURSDAY, JULY 22, 1993

U.S. SENATE,
SUBCOMMITTEE ON INTERNATIONAL TRADE,
COMMITTEE ON FINANCE,
Washington, DC.

The hearing was convened, pursuant to notice, at 2:38 p.m., in room SD-406, Dirksen Senate Office Building, Hon. Max Baucus (chairman of the subcommittee) presiding.

Also present: Senators Rockefeller, Daschle, Roth, Danforth, and Grassley.

[The press release announcing the hearing follows:]

[Press Release No. H-28, July 16, 1993]

INTERNATIONAL TRADE SUBCOMMITTEE SCHEDULES HEARING ON JAPAN

WASHINGTON, DC—Senator Max Baucus (D-MT), Chairman of the Senate Finance Committee's Subcommittee on International Trade, announced today that the Subcommittee will hold a hearing on U.S.-Japan trade policy.

The hearing will begin at 2:00 p.m. on Thursday, July 22, 1993, in room 406 of the Dirksen Senate Office Building.

"The U.S. and Japan have just reached agreement on a framework under which to conduct macroeconomic and sector-specific negotiations," Baucus said.

"Through this framework, we have an opportunity to drive Japan's current account surplus down and increase its import penetration to levels that compare to those of other developed nations," Baucus added. "The result would be good news for U.S. exporters as well as our balance sheet."

On July 10, 1993, President Clinton and Prime Minister Miyazawa issued a joint statement outlining the United States-Japan Framework for a New Economic Partnership. The framework agreement addresses both macroeconomic and sector-specific objectives. Sector and structural negotiations will be conducted in five areas: government procurement; regulatory reform and competitiveness; other major sectors, including the automotive industries; economic harmonization; and implementation of existing arrangements and measures. Administration witnesses will discuss the framework agreement.

A second panel will discuss the problems U.S. companies encounter in obtaining prompt and fair action on their patent applications in Japan. The panel will begin with a discussion of a recent General Accounting Office (GAO) report, requested by Senator John D. Rockefeller IV (D-WV) and Senator Dennis DeConcini (D-AZ), examining patent protection for U.S. products in Japan. The GAO will present the results of its investigation and will be followed by representatives of American companies who will describe their experiences in Japan.

OPENING STATEMENT OF HON. MAX BAUCUS, A U.S. SENATOR FROM MONTANA, CHAIRMAN OF THE SUBCOMMITTEE

Senator BAUCUS. I would like to apologize to the witnesses for the delay. You were in the right room for this hearing; I was in the wrong room. We will get started.

Today we will discuss the status of United States-Japan trade relations, and with special focus on the newly negotiated framework agreement and on Japan's patent practices.

Senator Mike Mansfield, our distinguished former Majority Leader, an Ambassador to Japan, says often that our relationship with Japan is the most important bilateral relationship in the world, bar none. His words have never been more true than today.

That is because today the Cold War is behind us and the concerns about national security are yielding to concerns about economic security. And no other single country challenges us more in the economic arena than Japan.

Japan, a country with half our population, already has a GDP that is 60 percent of ours and that is growing twice as fast as ours. It has a \$130 billion current account surplus with the world, while we have a \$110 billion global current account deficit.

The average Japanese saves three times as much as the average American. Meanwhile, Americans bought nearly twice as much from Japan as they did from us last year. These imbalances exist despite years of yen dollar talks and years of trade negotiations in nearly 30 sectors aimed at changing these trends.

We have been through the market-oriented sector specific talks, the market-oriented cooperation plan and the structural impediments initiative, or in shorthand the MOSS, the MPA, and the MOCP and the SII, and nothing has worked.

What is needed is not a new acronym but a new attitude and results. I think the Clinton administration has that new attitude. I look forward to the results. An attitude that shows a new commitment of putting economics first in a relationship. That attitudes shows in the thoughtful new framework they brought home from Tokyo 2 weeks ago.

I think this framework holds great promise for resolving our trade problems with Japan, both on the macroeconomic and sector-specific levels; and I hope for its success. I am also hopeful that Japan will view this framework for what it is—Tokyo's last best chance to reach an amicable deal with the United States.

Because if it is not successful, we must not hesitate to use our trade laws, including Super 301, which we must revive this year, to pry open Japan's market.

I welcome our distinguished panel of Clinton administration officials here today to tell us more about the framework. I hope they can also tell us how Japan's new coalition government will affect the negotiations and the United States-Japan trade relationship in general.

I also welcome a second panel here today that will share with us the results of a new GAO report on Japanese patent practices. Since patent issues are part of the framework, this report is very timely.

So with no further delays, we will begin, particularly with the first panel already assembled. The Honorable Roger Altman, Deputy Secretary of Treasury; Hon. Joan Spero, Under Secretary of State for Economic and Agricultural Affairs; and Hon. Charlene Barshefsky, Deputy USTR.

I urge you to stay within about 5, 6, 7 minutes and your complete statements will automatically be included.

Mr. Altman, why don't you begin?

**STATEMENT OF HON. ROGER ALTMAN, DEPUTY SECRETARY
OF THE TREASURY, WASHINGTON, DC**

Deputy Secretary ALTMAN. Thank you, Mr. Chairman. Let me say it is a particular pleasure to be here with Under Secretary Spero and Ambassador Barshefsky. We worked very closely together in Tokyo and beforehand on this framework agreement. Basically, Joan was the stateswoman; Charlene was the disciplinarian; and I was the rug merchant. So I feel in good company here surrounded by them.

With your permission, I would like my statement to be inserted and so on the record.

Senator BAUCUS. It will be included.

[The prepared statement of Mr. Altman appears in the appendix.]

Deputy Secretary ALTMAN. I will summarize it here. First, a bit of historical perspective, economic history. During the 1980's, the United States was running substantial trade and current account imbalances which were the major asymmetry at that time in the world economy.

Today, however, the asymmetries, macroeconomically speaking, are on the Japanese side. Japan is running large trade surpluses with virtually every region in the world—the United States, Asia and Europe. And those surpluses drain growth from a world economy which already is short of demand. And, they also create the very protectionist pressures which threaten the open-trading system, which has been the engine for world growth over the past 40 years.

I think we all know how important an expanding world economy is and avoiding those protectionist pressures is, but let me just cite three examples. Since the mid-1980's, over half of our growth in income, and almost all our growth in manufacturing jobs, has resulted from export growth. And as a share of GDP, exports have increased from about 4 percent in 1959 to just under 11 percent today. On balance, export-related jobs pay 17 percent more than other jobs in our economy.

Now this is, of course, a critical time for the U.S. economy. Our efforts to reduce our budget deficit have pushed exports to the forefront as an even more vital engine for economic growth.

Yet, while our exports to Japan had increased 17 percent a year over the 5 years from 1986–1990, more recently they have declined in nominal terms.

This framework agreement has become, therefore, an integral part of the administration's economic policy. It is based on the premise that we must compete to the maximum extent and not retreat. It is based on the premise that more trade is our goal, not less trade. And it is directed at getting other countries to expand their imports, not to reduce their exports.

Mr. Chairman, the framework embodies what we call a basic bargain between Japan and the United States, with each side making two commitments. The United States commits to complete the job of reducing our budget deficit by \$500 billion, or approximately that, over the next 5 years; and to keep our markets as open as

they have always been; Japan on its side commits, first, to pursue policies which will produce domestic demand-led growth which will result in a "highly significant" reduction in its external surplus.

And, second, to increase the import penetration of its markets for all foreign goods, services and investment through a series of structural and sectoral reforms. That is the essence of the agreement which we call the Framework Agreement.

I want to say a word about the macroeconomic side and a word about the microeconomic side of that agreement. Japan is currently experiencing the slowest growth in 20 years, despite your comments at the outset about its size and the rapidity of its growth until recently.

The causes of the Japanese slowdown are rooted in government policies, particularly the type of monetary policies which were put in place to put an end to the so-called "bubble economy" of the late 1980's in Japan, but also contractionary fiscal policies which have been pursued there in part to deal with the anticipated consequences of an aging population.

A combined effect of these tight monetary policies and tight fiscal policies has been to sharply slow down the Japanese economy. It has caused, in turn, the external surplus to increase to a forecasted \$150 billion this year or more than 3 percent of GDP.

Now the Japanese Government has responded by taking certain steps to stimulate economic growth. There have been two fiscal stimulus packages in order to try to raise the domestic growth rate over the past year.

Japan is in a particularly good position, Mr. Chairman, to pursue stimulus because when all levels of government are taken together, that country still enjoys a government budget surplus; and its net stock of publicly held debt is still at the lowest end, and, in fact, very much at the lowest end of the rest of the G-7.

Our position has been that in order to achieve this highly significant reduction in its external surplus, Japan must pursue ongoing stimulus aimed at demand-led growth. So, these two fiscal packages are a good first step, but not sufficient unto themselves.

Let me say a word then, if I might, on the microeconomic side. I am not going to go into the type of detail that I know that Charlene, for example, will do here. So I am going to leave some of that to her. But having addressed macroeconomics and the imbalance there, the second problem is what we call the import penetration problem, namely the difficulty which foreign firms have in obtaining access to the Japanese domestic markets.

And macroeconomic policies, which may have the effect—at least we hope—of producing strong domestic demand-led growth and addressing the external imbalance, will not necessarily eliminate the access problems facing foreign firms in Japanese domestic markets.

Just to give you two or three examples of that problem: the market share of manufactured imports in Japan is still less than half of the rest of the G-7; foreign direct investment levels in Japan are only a small fraction of those in the United States and Europe.

These problems are the result of specific restrictions in individual sectors and structural features of the Japanese economy which cut across all sectors. In some areas, they are the legacy of past discrimination; in other, explicit government measures frustrate

imports and investment or reinforce exclusionary business practices by the private sector.

Now, as a result of that problem, our Framework Agreement puts in place a series of microeconomic negotiations, which we call the baskets, five baskets, which are: government procurement, regulatory reform and competitiveness, other major sectors, including automotive, compliance with existing agreements and measures and economic harmonization, which is a phrase addressing the opportunities for both countries to more closely integrate their domestic economies.

The two nations have agreed in the Framework that within 6 months we will have sectoral or structural agreements in three areas covered by those baskets—automotive, insurance and procurement. And, within procurement, we are particularly addressing computers, super computers, satellites, medical technology and telecommunications.

And then, within the second 6 months—in other words within a year—we will have agreements in all the other areas covered by the Framework, including financial services and reform of the distribution system in Japan. I think the agreement, Mr. Chairman, on that time table is a very important aspect of this.

We also have agreement that the President of the United States and the Prime Minister of Japan will meet twice a year for purposes of reviewing this progress. And the pressure which those semi-annual meetings put on this process, in our view, will be a positive pressure.

Let me close by trying to address the question of whether this Framework will succeed. As you know, past microeconomic efforts have achieved very grudging success for two or three reasons. One is that the United States historically has not put its primary emphasis, if you will look to the opening comments that you made, on the economic side of the equation.

Traditionally, security concerns and political concerns have dominated in this relationship, particularly in terms of the way the United States has looked at it. That's been a reason, naturally, why these economic negotiations have not produced as much as they might have.

And, of course, the end of the Cold War and the demise of communism are among the other reasons, including President Clinton's particular focus on economic matters themselves, which now have permitted the economic issues to come into the center of this relationship.

A second issue particularly affecting structural negotiations is that they have bogged down essentially in debates over broad societal change, which have proved to be fruitless. But we think we have taken a different approach here.

First, it is results oriented. Both sides have agreed on that, and I think that is a break through. Second, both governments concur that agreements here will include both quantitative and qualitative indicators to measure those results.

And, as I said, we have specific deadlines, both for the negotiations and in the form of the bi-annual meetings between the two leaders.

Mr. Chairman, there are no guarantees of success here. The Framework Agreement essentially is a rule book for the upcoming negotiations. It is not, of course, the negotiations themselves. For the reasons I just cited, we think it is an improved rule book from the U.S. point of view, much improved.

But these negotiations in the baskets and our monitoring of their growth policies as they relate to the current account surpluses will be a difficult process. We are going to have to be as vigilant and as focused over the next year and beyond on those as I think the U.S. team was in arriving at this Framework Agreement.

We did have an extraordinarily good team, putting myself aside, and a team which was focused very much like a laser, as President Clinton is fond of saying, on these economic issues and the trade issues to get an agreement like this.

So there is tough sledding ahead. We think this lays an improved process, provides an improved groundwork, and I look forward to answering any of your questions when my time comes.

Senator BAUCUS. Thank you very much, Mr. Altman. That was a very helpful statement.

Ms. Spero?

STATEMENT OF HON. JOAN E. SPERO, UNDER SECRETARY OF STATE FOR ECONOMIC AND AGRICULTURAL AFFAIRS, WASHINGTON, DC

Under Secretary SPERO. Thank you, Mr. Chairman and members of the Committee. I am pleased to be able to testify today about our new economic framework and we do hope to maintain close contacts and consultations with the Congress as we proceed through what Roger has aptly described as a demanding process.

While our strategic alliance and our cooperative efforts with Japan on global problems are strong, our economic relations have come under increasing strain. Recognizing that resolution of our economic problems is critical to our broader relationship, a relationship which remains central to our foreign policy, this administration has made economic issues our highest immediate priority.

As the President has stated, there is no more important relationship to the United States than that with Japan. The United States and Japan are the world's two largest trading nations, accounting for almost one-third of the world GNP. We are Japan's largest export market. Japan is the second largest market for U.S. exports and our largest market for agricultural exports.

Our countries have the potential and the responsibility to drive world growth and build a strong world trading system. We cooperate closely with the Japanese to maintain peace and stability in East Asia and throughout the globe—discouraging North Korea from pursuing a nuclear weapons program, encouraging China to support nonproliferation and improve human rights, organizing G-7 support for economic and democratic reforms in Russia.

Japan also strongly supports our military presence in Japan. By 1995 Japan will pay over 70 percent of the cost of stationing U.S. forces there. That is about \$4 billion per year.

The United States and Japan share a fundamental interest in global issues. We cooperate closely on global environmental protection, assistance to developing countries, peace-keeping operations

and many other issues. It is our policy to continue and build upon this.

Though economic in focus, the new framework contains mechanisms for cooperation on environment, AIDS, population and development of technology and human resources.

Senator BAUCUS. Ms. Spero, I forgot to mention at the beginning. If you could think about the length of your comments, too, that would be helpful.

Under Secretary SPERO. Of course. I am actually summarizing and ask that my full statement be inserted in the record.

Senator BAUCUS. Thank you.

[The prepared statement of Under Secretary Spero appears in the appendix.]

Under Secretary SPERO. I will summarize from the summary.

Senator BAUCUS. Thank you. [Laughter.]

All that may be helpful. We will see. Thank you.

Under Secretary SPERO. In recent years, as you pointed out, our economic relationship has been characterized by increasing friction. Our relations are being corroded due to large and unsustainable trade and investment imbalances. That is why this administration has made economic issues our highest immediate priority. That is why, when the President and Prime Minister Miyazawa met in April, they agreed to develop a new framework to address our economic agenda.

The framework for this new partnership that we have now negotiated outlines the steps to resolve economic imbalances, while at the same time emphasizing our shared responsibility to promote growth, open markets and free trade.

As Roger has said, the foundation of the framework is an understanding that Japan will achieve a highly significant reduction of its current account surplus and a significant increase in imports, while the United States will reduce its budget deficit and promote competitiveness. As he also pointed out, we will be negotiating in five areas or baskets.

The framework is designed to encourage Japan to take on responsibility as a major trading power to contribute to, and not just to benefit from, open markets and competitive opportunities for all.

Let me briefly describe the characteristics of our framework that we think distinguish it from past efforts. Roger has already mentioned some of these.

First, we in the United States are on the road to correcting our domestic problems. At the G-7 summit in Tokyo, I found that the Japanese and other G-7 partners place great stake in President Clinton's commitment to economic renewal in the United States, this administration's highest priority.

His initiatives to reduce the Federal budget deficit and increase long-term investment add immeasurably to our credibility, credibility we need when we call on Japan to do its part to support the free-trade system.

Second, we are insisting on achieving real results that can be measured by quantitative and qualitative criteria. The administration will be looking at a range of criteria or benchmarks for every sectoral or structural problem. These indicators will be used to measure progress in eliminating barriers to market access.

Third, the agreement focuses on sectors of interest to U.S. industry, with specific time frames for completing agreements. Japan has committed to reach agreements in the areas of autos and parts, insurance, and government procurement within 6 months and we expect to have agreements in the other areas covered within a year.

Fourth, progress on framework negotiations will be reviewed and included in the statements at the biannual meeting between our heads of government. This strong political momentum will place additional pressure on negotiators to produce tangible results.

And, finally, Mr. Chairman, the framework integrates negotiations on macroeconomics, structural and sectoral issues, folds in previous commitments and tracks compliance with existing sectoral agreements. All of these elements will be coordinated, not addressed piece-meal as before.

Now it is important to note, as Roger has done, that agreement on the framework, which is an outline to achieve our agreed goals, is just the beginning. Progress will not occur automatically. Negotiations will not be easy. We have learned first-hand that our Japanese colleagues are tough negotiators. We are asking the Government of Japan to take steps that are politically difficult. But we will insist that it implement its commitments.

The unanimity of positions and purpose within our government, we think, is key. In this connection, I want to stress that United States-Japan economic relations are an issue of strong interest in the current administration. The President has demonstrated his personal commitment to improving bilateral economic relations, which we all agree is essential to ensure the health of the overall relationship.

Management of our economic relations under the framework is being coordinated by the White House, reflecting the President's interest and attention and our government's strong commitment to work as a team in this endeavor.

Our goals and strategy have been worked out among the U.S. agencies. We all back them completely. I would like to express the State Department's strong support for the framework process and my intent to make every effort to ensure it produces the tangible results we all seek.

Thank you.

Senator BAUCUS. Thank you, Ms. Spero. I think it is important, that last statement, that is the State Department itself is helping to see a successful conclusion of these economic provisions. That is a change of direction and I think it is a welcome change.

Ms. Barshefsky?

STATEMENT OF HON. CHARLENE BARSHEFSKY, DEPUTY U.S. TRADE REPRESENTATIVE, WASHINGTON, DC

Ambassador BARSHEFSKY. Thank you, Mr. Chairman. With your permission, I would like my fuller statement to be included in the record.

Senator BAUCUS. It will be included.

[The prepared statement of Ambassador Barshefsky appears in the appendix.]

Ambassador BARSHEFSKY. It is a pleasure to appear before you and the members of your committee today to review the Framework with you. The new Framework is an important step in addressing a bilateral economic relationship that is badly corroded; that corrosion threatens the United States-Japan relationship in a broader sense.

The administration recognizes that many factors, including our own budget deficits, have in the past undermined our competitiveness with Japan. We admire Japan's economic achievements. But given its size and breadth, the Japanese economy remains significantly less open to foreign goods than it should be, and dramatically less open than our own.

As the two largest trading nations on earth, we share a particular responsibility to maintain an open and vibrant world trading system. Bilateral and plurilateral economic imbalances in Japan's relations with its trading partners threaten to undermine this system.

For these reasons the administration sought a Framework for negotiation with Japan that would allow us to make steady, significant, tangible progress toward opening the Japanese market, focusing on sectoral and structural issues, as well as macroeconomic concerns. We sought to establish tight time frames for negotiation of key issues and we wanted to utilize benchmarks to assess progress toward market access. We went into these negotiations in a strong position: first, because of the administration's sharp focus on the economy; and second, because this administration felt no pressure to reach agreement on a Framework unless the agreement was a good one.

The United States-Japan Framework meets our negotiating objectives. Under it, the Japanese have agreed that tangible progress toward market access and sales must be achieved, and that progress toward market access is to be evaluated on the basis of objective qualitative and quantitative indicators.

Under the Framework Japan has, of course, agreed to take action with respect to macroeconomic imbalances, as well as with respect to microeconomic imbalances through five baskets or categories which have already been described by other witnesses. Finally, the Framework sets out a number of areas for bilateral global cooperation.

It is the results orientation of the Framework that sets it apart from past agreements. The Framework establishes, as a principle, the use of objective criteria, both qualitative and quantitative, to evaluate progress toward market access in each sectoral and structural area within each basket in the Framework.

Equally important, it spells out time frames for negotiation, anchoring the dialogue in biannual heads of government meetings. This mechanism provides strong momentum to conclude agreements. It also means that while the United States will talk and negotiate with Japan, it will not talk and talk and talk.

Significant market access barriers in procurement, the insurance market and the automotive industry are to be completed by early 1994, with the remainder of agreements to be completed by July 1994.

Mr. Chairman, this is a Framework for future negotiations. By itself, it constitutes no market opening, it guarantees no future access, and it represents no panacea for the bilateral economic differences that have corroded our relationship with Japan.

The Framework sets out a direction and some key principles for resolving differences. Very difficult negotiations lie ahead, including the enforcement of trade agreements already in effect. We are committed to using this Framework as a principal vehicle for addressing the economic issues within it. But if tangible, measurable progress toward market access is not evident, we will not hesitate to use other approaches that Congress has provided. These prerogatives have been fully preserved in the Framework. However, our strongest tool, building on the foundation established by the Framework, is the continuing commitment of this administration, at the highest levels, and the Congress, to seek real, measurable progress in our relationship with Japan.

Thank you very much.

Senator BAUCUS. Thank you, Ms. Barshefsky.

I would like to ask you, Mr. Altman, what kinds of benchmarks or objective criteria or numbers will the administration be seeking in particularly the macro agreement and also in the baskets? It would be helpful if you could be a little more precise and indicate the kinds of items that you think would tend toward the successful agreement.

Deputy Secretary ALTMAN. Well, of course, Mr. Chairman, on the macroeconomic side the test is a clear one, and it is a reduction in Japan's current account surpluses. After all, it is Japan's domestic slowdown which has been one of the biggest contributors to these surpluses.

That has meant less demand for our exports and the exports of other nations. That is not propitious for world growth and world trade and has to be changed.

Japan has committed to a "highly significant" reduction. Their surpluses are currently in the vicinity of 3 percent, or slightly higher, of their gross domestic product. It seems to us that if you are going to make a highly significant reduction in that, you are going to get down back below 2 percent, which is the historical range that those surpluses have followed over the past 20 years.

So we think on the macroeconomic side the measurement is a rather clear one.

Senator BAUCUS. Before we move on, will you be looking at specific indicators within the macro? That is certain targets for fiscal policy change or monetary or consumption rates and so forth.

Deputy Secretary ALTMAN. To a degree, but not across the board. It is incumbent on Japan to pursue more expansive fiscal and more expansive monetary policies in order to get its domestic growth rate up, particularly the rate of growth of domestic demand to exceed the rate of growth of output.

As I said in my testimony, it is incumbent upon Japan to pursue multi-year stimulus, not just to be comfortable with the recent stimulus packages which have been announced and are in the process, in the case of the second one, of being put in place.

The precise mix of fiscal and monetary stimulus is something which in general we leave to the Government of Japan. Except I

might say that it has been widely suggested that Japan is in a good fiscal position and needs, for economic purposes, the stimulus that might arrive from tax reductions—individual tax reductions.

We are not here to dictate to the Government of Japan what it should do. But that is something we would like to see the authorities in Japan choose to do, because that is a particularly quick acting stimulus to demand.

Senator BAUCUS. Will you be seeking Japan to commit to reduce its surplus, what, down to 1.5 percent, for example, of their GDP?

Deputy Secretary ALTMAN. We said often that we hoped to see their current account surpluses reduced to a range of 1.5 to 2 percent of their GDP. And as I said, we interpret the term “highly significant” to mean that they will get down at least below 2 percent.

They have also committed to do so over the “medium term.” That is a period which we interpret to be in the vicinity of 4 years. But I would say that there are some independent estimates of the Japanese current account which are beginning to circulate, which are fairly optimistic about a more rapid reduction than that.

My point is that it is entirely possible that we could see those surpluses come down rather quickly in light of exchange rate adjustments and a continued stimulus.

Senator BAUCUS. Do you seek specific numbers? That is, to commit to 1.5 to 2 percent.

Deputy Secretary ALTMAN. Well, we made clear, Mr. Chairman, in our negotiations that we thought the range of 1.5 to 2 percent was the right range. We did not get those numbers into the—

Senator BAUCUS. Not in the framework, but I am talking about the agreement that you hope to include.

Deputy Secretary ALTMAN. We need assurances that Japan will pursue the types of economic and monetary policies which will bring those surpluses back into the range I just enumerated, and that will be the object of negotiations coming up as we endeavor to turn these Framework commitments, which as I said are a rule book, into actual negotiated commitments.

Senator BAUCUS. Now as you do that, do you necessarily contemplate Japan asking for a vast numerical commitment to the United States to reduce its budget deficit?

Deputy Secretary ALTMAN. Well, we, of course, had a strong hand going into Japan, both at the Summit, if I might add, as well as the bilateral negotiations. Because after so many years of promising to fix our deficit problem, but not delivering, the sense there was that the United States is now actually on the verge of delivering.

I think President Clinton appropriately received a lot of credit at the Summit, from the other leaders and everyone else assembled, for the bold plan which he has put forward and the Congress is now in the latter stages of dealing with.

We said to the Japanese that we stand by the commitment to reduce our deficit by \$500 billion over these 5 years, that they can hold us to it, just like we want to hold them to their commitments; and that this would serve, in the most basic sense, to put our fiscal house in order.

I think by virtue of having laid down that marker we are in a good position to not just expect, but get them to adhere to, the issues we talked about.

Senator BAUCUS. I appreciate that. One final question here, and we will explore this a little later, what happens if there is no agreement? A stronger argument can be made it is going to be exceedingly difficult to get an agreement.

The Prime Minister Miyazawa, some suggest because he was in a weakened position was trying to get something. The President, you, Secretary Bentsen, you are the top team, was over there trying to get an agreement. We now face coalition governments probably over the next year or two or three in Japan, a weakened political structure.

We read about the MITI officials who are now going to be sure that there is no agreement. We hear about, you know, the fisticuffs in the Okura Hotel and so forth. You know, a stronger argument can be made that, even though it is well intended, that it is basically more of the same.

My basic question, and you will have to answer very briefly because my time has expired, is, what happens in the 6 months, end of the year, you know, they say wait until elections. They keep postponing. They keep putting this off and so forth and there is no agreement. What is the administration going to do them.

Deputy Secretary ALTMAN. Well, let me make three points. The first is just to repeat what I said, and you, yourself, just said, that these are going to be mighty tough negotiations. You know, we fought hammer and tong over every word, every comma in this agreement until 3:00 in the morning every night in the corridors of the Okura Hotel.

One lesson we all took back from that is how hard the upcoming negotiations are going to be. We are under no illusions about that.

Secondly, we reserved the right, particularly through a side letter which Ambassador Kantor sent to the Japanese side, to use all of the domestic laws, including Section 301, as appropriate in the future. We have not conceded to anything in terms of the existing tools which the United States has under current laws.

The last point I would make, however, is, let us not underrate the degree to which the focus is now economic. One of the things we did in preparing for these negotiations was to study the priorities of our predecessor administrations.

That is quite remarkable the degree to which they were not economic or trade oriented. They focused on issues of security. They focused on global political issues. But when you take into account an economic focus, and I am sure we will maintain that, the importance of the U.S. market to the Japanese, and the degree to which the U.S. relationship is important to Japan and to all the Japanese citizens, and that a period of friction in that relationship or prolonged friction would not be welcome in Japan.

Senator BAUCUS. My time has expired. Thank you very much.

Deputy Secretary ALTMAN. I think the chances for making more progress than in the past are pretty decent.

Senator BAUCUS. Thank you very much.

According to our rule, Senators speak according to order of appearance. The first Senator to appear was Senator Roth.

Senator ROTH. Thank you, Mr. Chairman.

Mr. Altman, if I may start out by saying that first I do not think there is any trade matter more important than opening up Japan. I agree and strongly support this administration's effort to do so.

But it does seem to me that at this stage about all that has been accomplished is an agreement to negotiate within a certain framework. There is really no agreement at this time beyond that, is there?

Deputy Secretary ALTMAN. Well, Senator Roth, as I said in my comments, and Charlene and Joan in their own ways repeated, what we agreed on here is a rule book.

Senator ROTH. I understand, Mr. Altman. But what I am saying—

Deputy Secretary ALTMAN. So the answer to your question essentially is yes, we have agreed on some new rules under which to negotiate but the negotiations are still to come.

Senator ROTH. May I ask, what are those rules?

Deputy Secretary ALTMAN. Well, as I mentioned, for the first time they embody a commitment that this be results-based process, that there will be tangible progress. Those words are in the agreement. It is the first time they have ever appeared in such an agreement.

Senator ROTH. But in itself, I mean, those are good generalities, but they are not very precise.

Deputy Secretary ALTMAN. No. But the combination of an agreement on the fact that what counts is results, an agreement that measurements will be used, and, obviously, an agreement that we reserve all rights under U.S. laws in respect of future action—

Senator ROTH. Of course, we have that right without—

Deputy Secretary ALTMAN. No, but the difference—

Senator ROTH. But you need an agreement, do we not?

Deputy Secretary ALTMAN. Well, the difference is, if I might say, that the Japanese for the first time agreed it is results that count and they agreed on objective indicators of qualitative and quantitative measurements in order to judge those results.

And naturally having gotten those commitments, if there is no measurable progress, we will have a basis for appropriate response, which is stronger than the basis I believe we have today.

Senator ROTH. Well, it seems to me that that is not particularly a change of policy. In the past I think this government has always maintained it reserved the right to take what action unilaterally it had available.

Deputy Secretary ALTMAN. Let me give you an example, Senator. We have some agreements—

Senator ROTH. Let me because we have a limited amount of time. Now, we, for example, have agreed to reach agreement on government procurement, autos, and insurance within the first 6-month time frame. Can you give me some specific examples of what type of objective criteria will be used to measure success? Particularly in the finished vehicle area.

Deputy Secretary ALTMAN. Would you mind if I directed that question to Ambassador Barshefsky?

Senator ROTH. Sure. That is fine.

Ambassador BARSHEFSKY. Thank you, Senator.

There are a variety of qualitative and quantitative indicators one could use to assess progress toward market access. For example, volume of imports, value of imports, market share, extent of price differentials, number of joint ventures, for intellectual property, number of prosecutions—

Senator ROTH. But these are all goals that remain to be negotiated?

Ambassador BARSHEFSKY. Yes.

Senator ROTH. Basically what I am saying is, all we have reached at this time is an agreement that we shall negotiate. And as you say, it is results-oriented. But at this stage we have not negotiated any of those objectives; is that correct?

Ambassador BARSHEFSKY. That is correct. The Framework is a directional document. It spells out very clearly the direction the United States will take in these negotiations and this is a direction with which Japan has agreed—that is, a results-oriented, tangible progress orientation. And, it puts within a time frame and within a single document the areas on which we will negotiate.

That is what it is. It is no more than that. It is certainly no less than that. We will have to negotiate individual sectoral agreements. We will have to consult with Japan on a macroeconomic issues—

Senator ROTH. I guess what really concerns me is that for all practical purposes the negotiations are ahead of us. We did reach some guidepost as to process. But as a practical matter, it remains to be seen what kind of real progress will be made.

Which leads me to my next concern, which the Chairman has already made reference to, that, of course, is the fact that the Government of Japan is in the process of transition and change. Prime Minister Miyazawa and his government are on the way out.

Are you optimistic that the government is going to be strong enough to really enter into some tough negotiations, whereby Japan will be willing to make some significant concessions and agreements, as well as set goals? What concerns me is that we may raise false hopes on the part of American people at this stage.

At best, no one has any idea what is going to happen to the Japanese Government and who is going to be in control or whether there is going to be a coalition government or whether the LDP will hold on, and if it does for how long. So why do you think you are going to be able to make major headway on these framework talks?

Deputy Secretary ALTMAN. Senator, I would like Under Secretary Spero to address this question of the Japanese Government and the political developments there.

But if I could make one point, which I think is at the heart of what you are asking, we are certainly not here today to hype this agreement, to treat it as more than it is. It is a set of rules. Before you play the game, you have to figure out what the rules are. That is what has been accomplished. We think they are better rules. But you are right, the negotiations remain ahead and it remains to be seen how much progress can be made.

We are here for 4 years. I hope longer, but at least 4 years. Our goal is to be able to demonstrate to the American people that at the end of this period there was real change here.

Senator ROTH. You see, what concerns me is that you are very critical of past administrations and what they did. I think they made some progress. Not as much as any of us would like, but I do not see this agreement as a great change from what happened in the past.

I wish you luck because I think the United States-Japan trade relationship is a key issue, a key problem for this Nation. But I must confess, I am concerned about raising expectations too high. The Japanese are tough negotiators and I think the framework you just brought home is a good example. We reached agreement on some generalities and they are nice generalities. I have no objection. I like them.

But they are not precise. They are not really tying the hand of the future government. I am concerned about what kind of progress we can make.

Under Secretary SPERO. Maybe I could make just a couple of comments in response to that, Senator Roth. First of all, you are right in saying that the political situation in Japan is quite fluid right now. But I think there are several important things to point out.

First, we have a commitment to negotiate. Admittedly, it is only to negotiate by the rules in this rule book. We have a commitment to negotiate from the Government of Japan, not from the Government of Prime Minister Miyazawa or the Government of the LDP. We have a commitment to negotiate. And we have been assured—

Senator ROTH. That is what I said, you have a commitment to negotiate, whatever that means.

Under Secretary SPERO. Right. We also have a commitment from the other parties in Japan and thus the next government, whatever it is, to pursue the existing foreign policy.

Senator BAUCUS. I am going to have to ask you to—

Under Secretary SPERO. Okay.

Senator BAUCUS. Thank you very much, Secretary.

Senator Danforth?

Senator DANFORTH. Deputy Secretary Altman and other witnesses, I want to give you an opportunity to correct what I hope is not just an unreasonable foreboding on my part. But I really think you have fallen into the age-old trap. I really think you have been bamboozled.

I really believe that you have fallen into the trap of believing that not only negotiations but the promise of yet more negotiations are the Wholly Grail of American trade policy with Japan.

You have had a series of negotiations and as the ink was drying on whatever you were talking about there was an exchange of correspondence between the Japanese Ambassador to the United States and Ambassador Kantor, stating that there was a difference of opinion as to what you had done, even up to this point.

The Japanese Ambassador says that if the United States pursues its rights under Section 301, then whatever you have been talking about is off, at least with respect to the sector in question. Then Ambassador Kantor responds with the letter which has been cited, which causes me very great concern.

He says in his letter, "I wish to state that the U.S. Government will utilize this framework as a principal means for addressing bilateral trade and economic issues. The U.S. Government reserves all rights, however, with respect to the application of all national laws."

Now, my concern about that is that we have fallen into the trap of saying, here is a framework, here is some set of general set of principles and this has become the principal means of addressing our bilateral problems. We reserve the right to enforce the law. We reserve the right to enforce the rules.

However, the practice in the past has been that we have been reluctant to enforce rules for the reason that we keep hoping to engage in yet more negotiations and that those negotiations will solve our problems for us.

So my concern is that while it is true what the Ambassador says—that we reserve the right to enforce the rules—what he is really saying is that this amorphous framework and the promise of yet more negotiations has once again become the surrogate for using Section 301 or whatever other rights we have under the trade law now.

Ambassador Barshefsky has been reassuring me, by at least shaking her head, but please tell me that I am all wet.

Ambassador BARSHEFSKY. Senator, you are all wet. [Laughter.]

Let me respond in a couple of different ways. First of all, one of the reasons we wanted strict time deadlines under the Framework is that we have no intention of talking to talk to talk. There are some new agreements we would like to achieve in each of the various areas. We would like time to do that. But we do not want a lot of time to do that.

A first 6 months, and a second 6 months for the whole range of agreements is hardly a lot of time in the context of efforts which have gone on over the last 12 years.

Second of all, this administration has shown absolutely no reluctance to utilize our trade laws as enforcement mechanisms. We have seen this on Title VII with respect to the European Community utilities directive. We have seen it on Title VII with respect to Japanese construction. We have seen it on Special 301, where the United States has designated more priority foreign countries than previous administrations. We have seen it on GSP worker rights reviews, where we have put in jeopardy GSP benefits to seven or eight countries. That is a first. We have seen it on the Section 306 review on supercomputer procurements and other trade actions as well.

We have also, as you know, completed an internal review within USTR on various trade practices that may require treatment under various of our trade laws.

Senator DANFORTH. Can I interrupt because of the yellow light and just ask you this?

Ambassador BARSHEFSKY. Yes.

Senator DANFORTH. You are telling me that if the letter from the Ambassador of Japan is a threat, and if the Ambassador of Japan is saying, if we do pursue our rights under trade laws then all negotiations are off, that threat is not going to bully this administration. And if we do have rights under the trade laws, and if we do

have the possibility of enforcement under Section 301 or whatever, then this administration is going to pursue its legal rights and not put off that legal right, not fail to use that legal right because of the fact that some framework exists or some future negotiations may take place.

Ambassador BARSHEFSKY. If I may make two comments. First of all, I think you are significantly overstating the threat that you believe is implicit in the statements made by the Government of Japan. All the Government of Japan has done is to reserve the rights it currently has; if on a particular issue there is a continuing dispute and the United States takes trade action, the Government of Japan can cease consultations on that particular issue—not as to the basket, not as to the Framework.

That is simply a restatement of rights it already has. The United States, of course, has restated a right which it hardly needed to restate—that all trade laws apply.

Second of all, this administration is not going to be bullied by Japan or by other trading partners. We have not been bullied thus far with respect to our relations with Japan or with the European Community. I do not expect that that will change.

Senator DANFORTH. Thank you.

Senator BAUCUS. Thank you.

Senator Daschle?

Senator DASCHLE. Thank you, Mr. Chairman.

Let me compliment the three of you on your testimony and what I consider to be a very significant accomplishment. I do not know that anyone expected us to be at this point this soon, frankly. I think we are, in part, because of what happened during those negotiations and really the position of strength that you developed in dealing with the Japanese.

I have three questions if I can get through them quickly. One, I would just be interested in having you elaborate on the degree to which you feel these negotiations can continue, given the very precarious nature of the current regime. What expectations do you have for change, if any, as a result of the recent political developments?

Under Secretary SPERO. Again, let me repeat that we have a commitment from the Government of Japan, not from a particular prime minister. So it is our expectation, and we will insist, that the Government of Japan proceed with those negotiations.

I also believe there is a broader issue here; and that, in fact, change in Japan, as the President said when he was there, may lead to a greater opening and greater attention to the interests of Japanese consumers. We happen to think that that is in our interest as well.

Finally, we are already in the midst of our usual team meetings to prepare our positions. We are in the process of identifying lead negotiators. We have been consulting with U.S. business and other interested parties; and we are preparing to send a proposal very soon to our Japanese colleagues. We are not going to sort of relax and let down the momentum.

Our Japanese colleagues within the various ministries have told us that they will be prepared to negotiate with us. We are going to be tough and we are going to insist on a rapid time frame. I

think the point that Charlene made, that we have a time frame, will be very important.

Senator DASCHLE. That leads me directly to the second question, relating to the process itself. You have listed five baskets. I would be interested in knowing whether, among those baskets, you have a set of priorities, whether one is more important than the other; and could you just explain whether or not these baskets are going to be taken up simultaneously or in sequence? I think it would be helpful if you could enlighten us in that regard.

Ambassador BARSHEFSKY. Senator, if I may respond to your question, there are five baskets, each with equal weight, each a priority. They cover different issues or different sectors and they are all to be given equal attention.

With respect to the order of negotiation, the document itself spells out that procurement, the automotive sector, and the insurance sector, among others will be dealt with first. We are now in the process of sorting out the range of issues that we would like to address first off and then those that might come a little bit further down the road. That is an internal discussion going on now within the administration, which also calls into play agency resources.

Senator DASCHLE. The third question has to do with what you list in your testimony as the third basket. I assume that the structural impediments to better trading relationships with Japan will be addressed as well as what you list as a second basket—regulatory reform and competitiveness.

That is, the intricate nature of the structural difficulties in dealing with the Japanese economy—I assume that would fall under other major sectors. Is that accurate?

I guess my question is: Where does the nongovernmental structural difficulties that we have in trading with Japan fall within these five baskets?

Under Secretary SPERO. Perhaps I can address that. The Framework is cross-cutting, as you point out. For example, the distribution network will come under the regulatory basket. But some of the other issues will come under the harmonization or economic integration basket—for example, buyer/seller relations, what are known as Keiretsu, will come under that basket. Investment and the barriers we face there also will come under that basket.

So, in a sense, structural issues are dispersed, if you will, across the baskets.

Senator DASCHLE. Even though they are nongovernmental? Will you have private negotiators across the table in some cases if these are nongovernmental problems that we would like to raise as an issue with the Japanese?

Under Secretary SPERO. We have an understanding, and it is written into the framework, that the framework negotiations will focus on issues that are primarily within the reach of governments. But we believe that that can be very broadly defined. We believe, for example, that many of the policies and even laws that affect buyer/seller relations do have to do with government and we have made that very clear to our Japanese colleagues.

They have said, and we have not disagreed, that they have a market economy and that we do not want to use this framework

to reregulate or to regulate even more in Japan. All of us have had conversations with the private sector in Japan. They support us on many of these issues, particularly in the second basket on government deregulation.

They have said to us that one thing they do not want to have happen is for us to use this to push the Japanese Government to get back into the regulatory business. So I think that we will have ample scope to address a lot of these issues.

Senator DASCHLE. Thank you.

Thank you, Mr. Chairman.

Senator BAUCUS. Thank you very much, Senator.

Senator Rockefeller?

Senator ROCKEFELLER. Thank you, Mr. Chairman.

I have just got to say it is a great feeling to sit and look at a representative of the Departments of State, Treasury, and USTR sitting side-by-side, and for the first time in my memory, and I suspect in history, all saying exactly the same thing.

As a result, I think that the Japanese have an entire new level of considerations in terms of how they are going to advance their own purposes, because they understand they are up against potentially extremely resolute people united in one government of our country.

Now it was fascinating to me when—and the first hint was, I think, when Prime Minister Miyazawa came here and Secretary Christopher made some references that he hoped they would buy our super computers. That was, in fact, in the history of United States-Japan relations, a momentous, though prosaic, statement. And that was a hint.

The President then goes to Japan, does not talk about jobs, jobs, jobs, but proceeds to do it in a way the Japanese can understand and, indeed, visits with the Prime Minister and then goes to see other potential prime ministers and then ends up by praising the present prime minister.

On the other hand, obviously, it is just the beginning. It is just the beginning. And as you get into negotiations, and the sixth month draws nigh on a continuing basis, and you have sectoral problems, et cetera, it will get less easy for Treasury, and for the State Department, and for USTR to continue to agree on everything.

I mean, this is a clear mission of the Clinton administration right now. Nobody has ever done it before. The Japanese have to be spinning trying to figure this out. But they are superb negotiators. They know the Americans want a deal; they want to look good. They know Americans do not have patience to the extent that they do; and that Americans want to bring home something that they can trumpet.

Now my question is really two-fold and you may not even be able to answer because maybe it is just not my business. One, I would be interested in to what extent you can talk about how you arrived at the words "highly significant." I think tremendous amount of energy went into arriving at those two words. I think they are highly significant words. [Laughter.]

Secondly, as life gets tougher and as the State Department does, in fact, have other considerations, life does not always just work on

the linear process of the President going to Japan for the purpose of clearing up trade problems.

How do you structure yourself within the government? For example, how was it that you came to be told that you were all going to be doing, saying the same things? How did that work? Was it a meeting with the President in the Oval Office or what?

Then the further matter of, when the pressure comes on and it is not as easy for you, Under Secretary Spero, or for you, Deputy Secretary Altman, or for you, Ambassador Barshefsky, to stay together, how is it that you are structured to keep this unanimity in force and constant purpose?

Deputy Secretary ALTMAN. You have asked several questions there. I will try to offer succinct answers and I hope that Charlene and Joan add to them.

First, with respect to highly significant, we refought the Battle of the Marn over that. And as Senator Roth's question implied, even though he has left, if the Japanese side did not think these rules were different and new, I cannot imagine they would have fought in such bloody fashion over them.

We began by seeking outright numerical commitments in terms of the degree of reduction in the current account surplus. In the last analysis, we concluded that there was a bargain to be struck where we would get, in effect, what we primarily sought on the microeconomic side—results commitment, measurements, the time table and so on—in exchange for a very strong commitment from them, but short, yes, short, of a numerical one on the macroeconomic side.

Now at the point we were negotiating this in Tokyo the Japanese had given their maximum commitment on the G-7 language they were prepared to live with in terms of their surpluses and the macroeconomic side of the equation. It was not, by the way, the words were not "highly significant."

We simply insisted that they make a stronger commitment in this bilateral agreement than they had been prepared to make in the G-7 process. It just was not adequate. We had long debates over the difference between substantial and significant, very substantial, highly significant. It was tooth and nail.

And in the very end they conceded us that point. Perhaps because it was quite clear that the Japanese felt that the absence of an agreement—in other words, that we would go back home without an agreement—would not be in their interest.

So that is essentially how this came about. And, of course, we backgrounded it to the effect that we interpreted that to mean that it would come down below the 2-percent level of GDP within the medium term period of time, in about 4 years, as we described it.

I think Charlene should answer the question of how we are going to proceed on the baskets. I just want to address your final question before she does, which is how we are going to stay united here.

Each of us probably has a different answer to that because it is quite, in some respects, personal. I would just give my own to that, which is, I had the benefit of doing a lot of business in Japan over the past few years and I think the lessons of doing so are quite clear in terms of how one negotiates with Japan.

You are quite right, traditionally they pursue a wait them out strategy or a divide and conquer strategy as far as governmental negotiations are concerned and one has to just adapt to that. In my experience, if you are patient, you make clear the top two or three priorities you have to have, and do not have a long laundry list. And if, in the end, you have a real alternative, you can negotiate successfully.

It is true that American business sometimes does not have an alternative because the issue is whether they go into the Japanese market or they do not. It is also true that a lot of times the U.S. Government has permitted itself to be divided and conquered as other issues take the fore and priorities change.

But I think we will stay united because this is President Clinton's priority. And when he thinks of Japan, he thinks about economic and trade issues. That is not to say he never thinks about the security and political issues. Of course he does. But he thinks primarily of economic issues.

During the briefings we had with the President before the April 16 meeting, and then discussions in Japan, he was deeply involved in reviewing the drafts, and I assure you that he focused directly on things like "highly significant," and the results, and the measurements, and the qualitative and quantitative measurements and the objective indicators and so forth. His mind is on the economic side of this. And I just think that is the difference.

Incidentally, I did not mean to come across as criticizing our predecessors. It is not a matter of that. It is a matter of different priorities. Some of them are changes in the world in terms of the Cold War and communism and some of them are the different priorities of this particular President. It is not really a matter of criticism, it is just a change.

If you want to go ahead and answer the question.

Senator BAUCUS. If you could be fairly brief, too.

Ambassador BARSHEFSKY. Yes. I would just add one point. The administration's policy was developed by a process of consensus among the Deputies and then through the Cabinet and to the President.

When we all walked into the room for the first time, we walked in with largely a unanimity of view with respect to Japan. We have all come with very broad commercial experience and we are all very bottom-line oriented. And when we walked in, it was more a question of resolving nuances than resolving or jawboning each other on actual matters of policy with respect to the way in which we thought we should approach the Japan relationship.

I think also with respect to future conduct it is the very time frame specified in the Framework that reinforces a continued unanimity of view. There is not really time to be very disparate when you have to negotiate a lot of agreements and get a lot of work done in a year to have something to show for the effort.

But in that same vein, and I think I can speak for Roger and for Joan, none of us feels under particular pressure to actually come home with agreements unless they are good agreements. We have a variety of trade law tools here and we do not want to fall into precisely the trap that Senator Danforth spoke about, which is to

be cajoled into talking for talk sake, or to be cajoled into believing we have made progress when we have not.

We are only fooling ourselves if that is the attitude we go into this with. We are going into these talks in good faith, in the hope of reaching good agreements for the United States, for American workers and for American exporters. And if we cannot come home with those kinds of good agreements, there are other avenues that we can pursue with respect to the relationship.

Senator BAUCUS. I am impressed very much with your commitment, all of you. I am a little concerned though about resources. I mean, you have got—

Ambassador BARSHEFSKY. Can you get us more money? [Laughter.]

Senator BAUCUS. Well, I am trying to help build a case here for you so you can put a team together. I am thinking of the Uruguay Round, with its December 15 deadline; and NAFTA, for example. And I do not know the degree to which you will be able to focus all the top talent in the administration over a sustained period of time in each of these baskets or on the macroeconomic agreement.

It is going to be more difficult to get an agreement, I think, than it was to get the framework. And then you add on top of that all the other issues that each of you must deal with over the next several years. I very much hope it is more than 4 years.

The point is, we have this next several months ahead of us and the USTR has only, 157 employees. I know some are on loan from other agencies. But could you give me a sense, give this committee a sense, of whether or not you have sufficient resources to get the job done? This is massive. This is a massive undertaking.

I mean, SII was difficult enough. This is much more difficult. This is broader than SII. Autos alone is a difficult area, let alone the macro and all the other issues you are taking on. So, do you have enough resources? And if you are concerned about that, I think it is important for us to know that so that we can make adjustments so we can accomplish our objective.

Ambassador BARSHEFSKY. Senator, we believe that we do have the resources to accomplish all three major administration initiatives at this point with respect to trade—that is, the Uruguay Round, NAFTA, and the Japan Framework policy.

As you know, people at USTR work very, very hard. It is a very experienced staff, with very little turnover. Of course, we are proud of the kinds of expertise that we have in the building. We, of course, look from time-to-time to Roger and to Joan for detailees from their massive agencies. [Laughter.]

Ambassador BARSHEFSKY. We will continue to do that. We believe the way we structured—

Senator BAUCUS. Here is your opportunity to tell them right now you need more people. [Laughter.]

Deputy Secretary ALTMAN. Charlene, I am prepared to give you the entire RTC. [Laughter.]

Ambassador BARSHEFSKY. As I said, we have enough resources.

Senator BAUCUS. Or turn the IRS on Japan. That might help. [Laughter.]

Under Secretary SPERO. I will add something on that, if I may, Senator. Again, in the spirit of team work, we are sharing the labor

here. USTR is going to be leading in two of the baskets—in government procurement and enforcement. Treasury will be leading in the regulatory area. We will be leading in economic harmonization. And auto parts will be led by Commerce.

So in that sense, the team remains in place. The process that I think helped us to get to where we are remains in place, and we will be dividing the labor, so that there will be some heavy lifting from all of the agencies.

Deputy Secretary **ALTMAN**. If I might just add one word. We had a wonderful team. But the person perhaps most responsible within that team for getting this far is not here today. That is Bo Cutter of the staff of the National Economic Council. For those of you who know Bo, he is a very focused person. This is probably his highest priority in terms of the stuff he is interested in.

I do not think he has any intention of letting the focus slide, even despite the numerous priorities and other issues that you mentioned.

Senator **BAUCUS**. Is the administration fully prepared to use all our trade laws? I am thinking specifically of Section 301. Like what happens in 6 months or a year, say 6 months, and there is no progress?

Ambassador **BARSHEFSKY**. We are absolutely committed to using all of our trade laws, yes.

Senator **BAUCUS**. What about Super 301, is the administration still as totally committed to extension of Super 301?

Ambassador **BARSHEFSKY**. Mr. Chairman, as you know, Ambassador Kantor was here just 1 month ago reiterating that administration fully supports reenactment of Super 301.

Senator **BAUCUS**. And Under Secretary Spero and Mr. Altman, you agree?

Under Secretary **SPERO**. It is an administration position.

Deputy Secretary **ALTMAN**. Well, that is the position of the administration. Sure.

Senator **BAUCUS**. All right. I am just double-checking here. [Laughter.]

Under Secretary **SPERO**. Our first test.

Senator **BAUCUS**. I think that is important. Because to a large degree, it is still somewhat, as Teddy Roosevelt says, we need to walk softly with a very big stick.

If Japan knows we mean what we say, they will also know that we are going to followup with trade remedies if there are not results. Certainly we should first attempt negotiations and reach agreement through negotiations. But if we do not reach them, then we certainly should be fully prepared to use our trade laws and Japan should know that up front.

Senator **Daschle**?

Senator **DASCHLE**. No questions, Mr. Chairman.

Senator **BAUCUS**. Senator **Rockefeller**?

Senator **ROCKEFELLER**. I would just make one quick observation. There is a sense of really well done and you are getting congratulated from our side. And, of course, what really happens later is the first and second and the third litmus test.

I mean, I have always felt if we can do three consecutive actions that all made the same statement, that all showed the same commitment, the Japanese would understand that we really meant it.

My guess would be at this point they are really not sure, despite this spectacular beginning, that it was a presidential visit that needed to succeed, that toughness and all of that might have needed to accompany it.

I have no doubts that that continuity is going to continue, the unanimity between the various agencies of government will continue. But it really is the hard part now, is it not? They are going to watch very closely. They are going to see exactly what you do. They are going to look for every nuance and you are going to have to be very, very resolute.

One of the things that is going to happen in the second panel today is that we are going to talk about the Patent Office. My favorite building in Japan is their new Japanese Patent Office, which is a wonderful new building, but has absolutely no new practices in it.

One of the things I might just put forward to you is the whole concept of Super 301 being extended to intellectual property or Patent Office abuse. I do not make a case for it right now. I just put that out on the table for you.

Senator BAUCUS. Thank you, Senator.

Well, I am quite encouraged by the testimony and also with the provisions of the framework. I think you have done a great job and we have a lot of work ahead of us. But the committee is prepared to help us reach our mutual objective.

Thank you very much.

Deputy Secretary ALTMAN. Thank you, Mr. Chairman.

Ambassador BARSHEFSKY. Thank you, Mr. Chairman.

Under Secretary SPERO. Thank you very much.

Senator BAUCUS. Thank you.

Our next panel, please, consists of Dr. Allan Mendelowitz, Director of International Trade, Finance and Competitiveness for the U.S. General Accounting Office; Mr. David Duke, vice chairman of Corning Inc., in Corning, NY; Mr. James Hiney, vice president, corporate patent counsel, and director of government relations for Noise Cancellation Technologies, Inc. from Maryland.

Dr. Mendelowitz, as you know, this is a subject requested by the Senator from West Virginia, Senator Rockefeller. It is extremely important. Why don't you proceed with your testimony.

STATEMENT OF DR. ALLAN I. MENDELOWITZ, DIRECTOR, INTERNATIONAL TRADE, FINANCE, AND COMPETITIVENESS, U.S. GENERAL ACCOUNTING OFFICE, WASHINGTON, DC

Dr. MENDELOWITZ. Thank you very much, Mr. Chairman. I am delighted to submit my full statement for the record and read a—

Senator BAUCUS. Before you proceed, Dr. Mendelowitz, I have another commitment. Senator Rockefeller has kindly agreed to take over and chair this hearing. This is part of the hearing. Thank you. Why don't you proceed?

Dr. MENDELOWITZ. Thank you very much, Mr. Chairman. I am delighted to submit my full statement for the record and read a shortened statement.

[The prepared statement of Dr. Mendelowitz appears in the appendix.]

Dr. MENDELOWITZ. In recent years a number of concerns have surfaced in the United States regarding the Japanese patent system. These concerns have been voiced by a small number of U.S. companies that have been willing to go public with their difficulties in obtaining and enforcing patents in Japan.

In an effort to determine whether these patent difficulties represented a broad-based, systemic problem or were only isolated problems experienced by these particular companies, we conducted a comprehensive study of U.S. companies' patent experiences in Japan.

This study was requested by Senators Rockefeller and DeConcini and former Senator Bentsen. Our objective was to obtain statistically valid data on U.S. companies' patent experiences in Japan as compared to those in the United States and Europe.

We included Europe in our study as a basis of comparison in order to determine whether any validated problems U.S. companies experienced in Japan simply resulted from the obstacles of seeking patent protection in a foreign patent system as opposed to problems unique to Japan. U.S. companies' patent experiences in Europe are a good basis for such a comparison since the European patent system is fairly similar to the Japanese system.

GAO surveyed 346 U.S. firms that were top patent holders in three sectors—chemicals, semiconductors and biotechnology. We selected these sectors because they are ones (1) for which patents are important, (2) ones in which the United States and Japan both have a strong presence, and (3) the sectors represent a mix of industry types—one mature industry, one industry of intermediate maturity, and an emerging industry.

However, our coverage was even broader because over half the responding companies were either diversified or not primarily involved in the selected sectors. The responding companies included both large and small companies and represented over 90 percent to corporate U.S. patent holders in 1991.

More than three times as many of the companies were dissatisfied with their overall patent experience in Japan as compared with that in the United States and Europe. As shown in the chart on my left, which is chart 3 attached to my full statement, 39 percent of the companies were dissatisfied with their overall patent experience in Japan, while 13 percent were dissatisfied with their experience in the United States, and only 3 percent with that in Europe.

[Showing chart.]

Dr. MENDELOWITZ. And as you can see here, the gray rectangles in the histograms represent those companies that are dissatisfied and the white rectangles represent those that are satisfied. If you notice, there is an inverse relationship between those that are dissatisfied across the three patent systems—Japan, the United States and Europe—and those that are satisfied, with the highest level of satisfaction being with the European system and the highest level of dissatisfaction being with the Japanese system.

These results also indicate that U.S. companies were not necessarily partial to the U.S. Patent and Trademark Office since the

firms, as I pointed out, were more satisfied with their overall experience in Europe than in the United States.

The problems cited in obtaining Japanese patents included the length of time involved, the cost, the scope of the patent protection granted, and the difficulty in obtaining patents for pioneering inventions.

As shown in the second chart, which is on my right, and that is Chart 4 attached to my full statement, two-thirds of the companies—those represented in the histogram here on the far right—two-thirds of the companies report at least one major problem in obtaining patents in Japan, while only a quarter reported having such problems in Europe and 17 percent in the United States.

[Showing chart.]

Dr. MENDELOWITZ. The other elements of the histogram point out the incidence with which the firms had problems in the particular problem areas. Forty-two percent said patent pendency was a great problem in Japan, compared to 6 percent in Europe and 5 percent in the U.S. Patents generally take 6 or 7 years to be issued in Japan, compared to about 19 months in the United States.

Forty-two percent said the cost of obtaining a patent was a great problem in Japan, compared to 20 percent in Europe and 12 percent in the United States. And according to a recent study by the ABA on patent filing costs worldwide, the cost of filing for patents in Japan for foreign applicants was the highest in the world due to translation costs and fees charged by Japanese patent attorneys.

Forty-one percent said the scope of patent protection was a great problem in Japan, compared to 6 percent in Europe and 5 percent in the United States. In assessing the scope of patent protection the companies received in the three systems, 71 percent said the scope of patent protection granted was too narrow in Japan, as compared to only 25 percent in Europe and 12 percent in the United States.

And in the last area, 39 percent said the ability to obtain patents for pioneering inventions was a great problem in Japan as compared with only 9 percent in Europe and 7 percent in the United States.

Senator ROCKEFELLER. Is that pioneering as opposed to other types of inventions?

Dr. MENDELOWITZ. A pioneering invention is an invention which represents a major technological breakthrough.

In the course of the statement I talk about pioneering inventions which relate to the technology and then inventions of especially promising commercial value. I will refer to both of those a little bit later in the summary statement.

Many company officials said that it is particularly difficult to obtain patents on broad, commercially valuable technologies in Japan or those that involve important new technologies. Several U.S. patent attorneys said that the Japanese Patent Office does not provide broad protection for emerging technologies until Japanese industry is well established in the field, or when there are no Japanese competitors.

These survey results indicate that companies were consistently having major patent problems in Japan, whereas they generally had far fewer problems in Europe or in the United States.

U.S. firms also cited problems in enforcing their patents in Japan. Many patent attorneys told us it is more difficult to enforce patents in Japan than in the United States because of the lack of discovery procedures, which are particularly important for process patents; the length of court proceedings; the Japanese courts' narrow interpretation of patent claims; and the negative Japanese attitude toward litigation.

While U.S. companies are experiencing patent problems in Japan partly because of delays in patent issuance and the narrow scope of patent protection, another source of U.S. companies' patent problems can be attributed to their own patent practices. Both United States and Japanese patent attorneys told us that some of the problems encountered by U.S. firms are due to their lack of understanding of the Japanese patent system, translation difficulties, and poor communication between U.S. companies and their Japanese patent representatives.

Some U.S. companies have adopted strategies to improve their patent experience in Japan, such as establishing patent offices in Japan, translating their applications back into English to ensure their accuracy, and tailoring their applications to better conform to the Japanese application style.

Currently, multilateral efforts are underway to harmonize international patent procedures through the World Intellectual Property Organization, an agency of the United Nations. If the harmonization treaty is enacted, it could lead to significant changes in both the Japanese and U.S. patent systems.

The proposed changes in the Japanese patent system under harmonization address many of the concerns raised by U.S. companies regarding patent protection in Japan. About two thirds of the companies that responded to the GAO survey also supported changes in the U.S. patent system under harmonization that would align the U.S. system more closely with those of other countries.

However, the U.S. companies emphasized that they would not support changes in the U.S. patent system unless Japan made significant changes in its patent system.

Thank you.

Senator ROCKEFELLER. Thank you, sir, very much.

Dr. David Duke, vice president of Corning, I want to point out that I am particularly grateful that you are here because you made a very special effort. I know that you cancelled a meeting with the Governor of New York, which is important to you, to be here. I am very grateful for that.

STATEMENT OF DR. DAVID A. DUKE, VICE CHAIRMAN, CORNING INC., CORNING, NY

Dr. DUKE. Thank you and good afternoon, Mr. Chairman, and members of the subcommittee. My name is Dave Duke and I am the vice chairman of Corning Inc.

I am here today because of my previous experience developing and commercializing Corning's revolutionary fiber optic technology. In this prior capacity, I had considerable experience trying to patent and sell Corning's pioneering invention. We just heard about pioneering inventions in Japan.

As you will see from my testimony, it was a very frustrating experience. I should say from the outset that I am not here today to criticize Japan. Rather, I am here in the interest of providing information that may prove useful to you in developing a strategy to enhance the protection of U.S. intellectual property worldwide.

Corning strategy from our early beginnings, over 104 years ago, has been to invest in our future through aggressive R&D efforts. We consistently spend 5 to 6 percent of revenue on R&D which is well above the average of about 3 to 4 percent for manufacturing companies in the United States.

This aggressive R&D effort has yielded tremendous results that have touched everyone's lives. Our pioneering inventions range from the process of manufacturing the glass enclosure for Thomas Edison's light globe which brought light to the world, to more recently the pioneering invention of optical fiber that is ushering in the world information age.

My focus today will be on our experience with fiber optics. The term fiber optics encompasses the family of technologies which enable the transmission of light pulses over long distances without repeating or boosting the light signal. It out performs all other transmission medial.

For example, I brought a few props.

[Showing props.]

Dr. DUKE. This is a fiber. Two strands of this fiber will carry as much information as 20 of these cables. So you can see what is happening to the revolution in the information age. It is going from the long distance to the loop, ultimately we are going to have fiber optics, I think, in all aspects of the fiber optic into all parts of the network.

At any rate, this really ushered, I think, us into the information age. Our key patents in optical fiber were applied for in 1970. The following year we applied for our foreign patents. In the United States patents were issued very quickly. Normally it is a year-and-a-half or two and in this case the same thing happened. Our two key patents were issued in 1971 and 1972.

Our experiences, particularly in Japan, were very different. In Japan, the examination of our applications did not conclude until 1977, 5 to 6 years later. Then, as is still the practice in Japan, the patent applications were published for opposition.

Of course, by this time our U.S. patents were well-known and the technology had been disclosed and these applications were opposed by five companies and two individuals, presumably the individuals were acting on behalf of two other companies.

One of the things that really frustrated me was that it took 5 years of arguing with the Japanese Patent Office to persuade them that these inventions were patentable and the reward was that we had to take on seven Japanese companies in various opposition proceedings.

Although I did not know it at the time, there were a few more surprises in store. To describe that, I need to provide a little commercial background.

In 1972, about the time the patents were being granted in the United States, in order to access the Japanese market, we granted

to a Japanese company an option to form a joint venture with Corning or to obtain an exclusive license under our Japanese patents.

In 1977, that company said it wanted to discuss these options, so I went to Japan. My first surprise was to see that our technology was already in fairly good use across Japan. My second surprise, and a major disappointment, was being informed by our prospective licensee that it was not able to enter into a joint venture with Corning because the Japanese Government would not approve it.

Further, and this is what really was a surprise to me, the prospective licensee said it wanted to grant sublicenses to two of its competitors. I said, why would you want to license your two competitors and their answer was very simple, the government wanted it that way.

My final surprise on that trip was that the two companies that would become sublicensees were the two companies that were opposing our patents.

Well, we finally negotiated the license and the sublicenses and 5 years later in 1982 after all the oppositions and appeals, et cetera, one of the two patents were issued. The patent that was issued covered the process which we had invented to make the first low loss fiber. The product patent never did issue.

By the time all of these proceedings were concluded, most of the Japanese companies had developed their own process to make the same product. Of course, since our product patent was not granted, we could not attack their products. Because they had developed a different process and the Japanese interpret patents very narrowly, our processed patent was not as useful as we had expected.

In addition to problems we experienced trying to gain adequate protection of our patents in Japan, we faced massive infringement by the Japanese company, Sumitomo Electric in both the Canadian and U.S. markets. In fact, we were forced to sue Sumitomo on three separate occasions in order to effectively protect our patents. Our claims were upheld in each of these cases.

In summary, from about 1977 to 1989, the period covering over a dozen years, we are constantly involved with patent suits or proceedings either in Japan or in the United States against Japanese companies.

I would like to close with a couple of overall comments about patents and business activity in Japan. First, I want to say that I have a lot of admiration for Japanese companies. They are in my experience tenacious and single-minded in purpose. They recognize the importance of technology and the need to invest in it.

There is much about Japanese industry that U.S. industry could profitably emulate. With respect to patents, in my view, there can be no doubt that Japanese companies and, indeed, Japan as a whole, recognize the importance of patents.

However, there are historic differences between the attitudes in this country and in Japan regarding patents and I think many of these differences are at least in part explained by differences in our cultures. In the large part, I think they are explained by a national will in Japan to be a technological leader, even if discriminating against foreigners, if necessary.

Regarding doing business in Japan, I believe the Japanese market is more open today than it was 10 years ago. But it is still not nearly as open as the U.S. market.

In the optical fiber business, for example, Corning now participates in the Japanese market to a much greater extent than we did 10 years ago.

Senator ROCKEFELLER. Can I interrupt, Mr. Duke?

Dr. DUKE. Yes.

Senator ROCKEFELLER. I apologize. You indicate that the market is more open. But are you indicating in that that in some way the patent process is a part of the reason for that or are you just making that as a side statement?

Dr. DUKE. It is a general statement. I have not seen a lot of changes in the patents. In this case, after the years, the patents have basically run out. But I think, as I will point out, the encouragement of the government and on trade issues, et cetera, has enabled, I think, helped to open up the Japanese market for high technology companies in Japan.

Senator ROCKEFELLER. Thank you, sir.

Dr. DUKE. As I say, it is not nearly as open as the U.S. market. But I have to admit it is better than it was 10 years ago. Through our affiliate, Secor Corporation, we are, along with three Japanese companies, developing a new generation of fiber and cable for universal deployment in Japan by the year 2015. We hope to get a reasonable portion of this business, but only time will tell.

However, this has not happened by accident. Corning has made a commercial commitment for 25 years and Japan has consistently beat the competition on price and quality and delivery. And as I point out, the U.S. Government is quietly, but persistently, pressed Japan to open up its market.

Corning has been successful in other Japanese markets, specifically glass sub-rates for flat panel displays and ceramic sub-rates for catalytic converters. This success is a further sign of improvement in Japan.

But the main point I would like to make is that a cultural change like momentum does not occur unless force is applied. Thus, I think, it is both appropriate and necessary that the U.S. Government continues to press Japan to open its markets, affect structural change to reduce its change imbalance, and enhance protection of intellectual property.

With respect to that, the enactment of your bill, Senator, S. 149, would certainly help. It is right on the mark. And I thank you for the opportunity to appear before this Subcommittee.

Senator ROCKEFELLER. Thank you, sir, very much.

[The prepared statement of Dr. Duke appears in the appendix.]

Senator ROCKEFELLER. Mr. Hiney?

STATEMENT OF JAMES W. HINEY, VICE PRESIDENT, CORPORATE PATENT COUNSEL, AND DIRECTOR OF GOVERNMENT RELATIONS, NOISE CANCELLATION TECHNOLOGIES, INC., LINTHICUM, MD

Mr. HINEY. Senator, thank you very much for inviting us to this hearing. We are at the bottom of the food chain, being a small entrepreneurial company over in Maryland.

With your permission, I would like my written comments to be introduced into the record.

Senator ROCKEFELLER. They are.

[The prepared statement of Mr. Hiney appears in the appendix.]

Mr. HINEY. I would like to say also we appreciate the efforts of the administration to assist small businesses in this regard. It is difficult enough developing the products, and in our case making the market on top of that, and then having to take on an industrial giant like the Japanese.

We represent, Senator, a sector that is, I believe, a real strength of America, small businesses and within that group, a tiny, select group, the pioneer technology companies like ourselves. The small business playground, I believe, is where the trade wars are won or lost in the long run.

NCT is, in our humble opinion, the industry leader in the design, development, production and distribution of electronic systems that actively reduce noise and vibration. Potential applications for the company's systems cover a wide range of multi-billion dollar markets, including those served by the transportation, manufacturing, commercial and consumer products industries.

We have four products out. One of them we just introduced at the Chicago Trade Show, the Noisebuster headset. It is here if anybody would like to try it. It is battery powered. You put it on and it can reduce the noise level surrounding your working environment. We have other demonstrations which we will be glad to put on after the hearing, time permitting. We also have industrial mufflers.

Senator ROCKEFELLER. It would be very interesting to apply that in the U.S. Senate. [Laughter.]

Mr. HINEY. Can we get a grant on that?

Senator ROCKEFELLER. It might help.

[Laughter.]

Mr. HINEY. We have worked with Walker Muffler in designing mufflers for automobiles, trucks, and buses. In fact, some of our mufflers are on the New York City transit system right now giving them better gas mileage.

We are about to introduce a headset for emergency vehicles to enable the police, and fire squads, and rescue squads to be able to hear the dispatcher and to hear horns and so forth. I am sure we are all aware of the increasing number of accidents they are getting involved in.

Part of the problem was they cannot hear anything over the sirens. So we are blocking the siren out and allowing them to hear like they were in a normal passenger vehicle.

We have arrangements with Siemens Medical where we sell our MRI systems to reduce some of the scary affect of CATscans, that ominous hum that people report. We are working with Phillips, Bosch-Siemens, various companies here and in Europe. We have 176 employees of which over 95 are technical staff.

We also recently concluded an arrangement with Dowdy and Saab and we now have prototypes flying in Europe of cabin quieting systems in turbo-prop aircraft.

We consider ourselves fairly successful. One of the problems we have is dealing with the Japanese Patent Office. We own approxi-

mately 30 patents. We have over 50 on file and more disclosures going in every week.

Of the initial seminal patents, I will call them the Chaplin patents, were the result of work done by Barrie Chaplin in Colchester, England back in the 1970's. Of the 10 seminal patents two were filed in Japan. We are still attempting to get patents from those applications.

The delay is especially agonizing when we hear that Nissan, for instance, introduced a cabin quieting system in their Japan-only version of the Ultima called the Blue Bird over there. They further announced that they will be coming into the U.S. market this fall. So the upshot of this, without having a patent to bring suit against them over there is we have to wait and let them test market it and wait for them to come in here.

In addition, during this time frame Nissan has applied for an obtained four U.S. patents because of the very expeditious treatment of applicants here in the United States.

Others in Japan are staking out a position in the active noise field. Toshiba is developing a quiet refrigerator. Hitachi is working on air ducts and Sony is working on similar devices to this. All of these companies regularly file here and obtain patents very quickly in regard to total time from filing to issuance of the patent.

At present, about 22 percent of U.S. patents are being granted to Japanese companies. We account for only half of our own filings at this point. Vice versa, we are only responsible for 5.8 percent of filings in Japan. The result being that while we have a 2.5 to 1.0 advantage here in obtaining monopolies, they have a 14.0 to 1.0 advantage over us over there. We do not feel that is what anyone would define as a level playing field.

The cost is another item. I put a note in my prepared statement. I am preparing 30 nationalizations. That is going to cost \$180,000 to file in Japan. That may not be a lot to my counterpart's company over here, but I assure you it is to us.

I think that if Japan would allow U.S. companies to file in English and perhaps have the translations made as they get around to examining them, it might help us diffuse that big impact of filing all at once and getting that big bill in. I think that stretching that out over several years would certainly help our balance sheet.

We are an aggressive company. We do not ask for help from anybody. We fight our own battles. We have grown. We are, as Inc. magazine pointed out, one of the fastest growing companies in the United States. We have got excellent entrepreneurial minds—Mike Parella, our President and sage counseling through John J. McCloy, II, our Chairman, and the best technical brains in the business.

We have no problem with big U.S. companies, in dealing with them. That is business, as we understand it. But right now the Japanese have created the Japanese High-Technology Committee on Active Noise Control and it includes members like Nissan, Toshiba, Hitachi, et cetera, and they are forming up to slice up the pie over there; and we are still trying to get our patent application through.

In essence, I believe the Japanese have a system to develop technology that others invent that has been, and continues to be in my

mind, the way the system works over there. We have done everything by the book. We have dozens of patents, patent applications and trade secrets.

We have a good relationship with our Japanese joint venture partner. We are not into Japan bashing. We have great respect for the Japanese and their methods of development and we have a fine relationship with Foster Corporation with whom we have the joint venture agreement.

I think there are a lot of ways to help us. I think one way would be the passage of your bill. It would surely give us a level playing field. That is really all we are asking for. I think American business is much maligned and put down. But in my experience I do not find that to be true. I think given a level playing field we can beat anybody.

Thank you very much.

Senator ROCKEFELLER. Thank you, Mr. Hiney.

I am caught in the awkward position, actually I am very happy about it, I love it when other Senators do not show up because then we can really talk. But I have to vote and it is a particularly important one. We are trying to reverse something, a terrible mistake that we made about an hour-and-a-half ago.

Would you forgive me if I just recessed this for about 7 minutes, ripped downstairs, vote and come back. I have lots of questions. Thank you.

[Whereupon, at 4:35 p.m., the hearing was recessed and resumed at 4:55 p.m.]

Senator ROCKEFELLER. I apologize. We had two votes back-to-back.

[A brief demonstration of noise cancellation equipment.]

Senator ROCKEFELLER. I could have used that, Mr. Hiney, because that is the way I lost some of my high decibel hearing. I was Governor of West Virginia for 8 years, and for 5 years had a helicopter. We could not afford, so to speak, both the thing and the mouthpiece.

Mr. HINEY. Oh, yes. Sure.

Senator ROCKEFELLER. So for 5 years I did not have anything on. So where were you when I needed you?

Mr. HINEY. Well, we were there.

Senator ROCKEFELLER. Held up by the Japanese?

Mr. HINEY. Held up by the Japanese no doubt.

Senator ROCKEFELLER. I genuinely thank you, and I apologize to all of you.

Let me start with sort of an interesting question. It is not like we are the only country potentially that could be disadvantaged by the Japanese patent system. What about some of their own small businesses that come up with inventions?

I would be very interested to know from any of you, particularly Dr. Mendelowitz, if they have a new technology, a small Japanese company, is there any pattern of difference in the way they are handled or is there frustration on their part? I would think there would be.

Dr. MENDELOWITZ. I think that the information we developed in the course of our study showed that the problems were not unique to any particular size firm—small firms, intermediate sized firms,

and large firms all face problems. So it is not just a problem of small companies.

Senator ROCKEFELLER. No, I am talking about Japanese.

Dr. MENDELOWITZ. Second, I think that there is a fundamental difference in the underlying philosophy of the patent system in Japan and the patent system in the United States. In the United States, the underlying philosophy views technological change as important to economic development. The best way to promote technological change is to protect the property rights of the inventor so that the inventor has the economic incentive to invent the invention.

In the Japanese system, the underlying philosophy is one that is geared more toward promoting economic development through the diffusion of technology. So the things that we find particularly troublesome are, in fact, I think an inherent part of the Japanese system. They reflect the philosophy that the Japanese patent system and the government's administration of it are designed to encourage to the maximum extent possible the diffusion of new technology. They view that as the way to get the economic benefits of technology.

Senator ROCKEFELLER. This question again would be to any of you. You have variously mentioned that we are the only country that has our particular foreign patent system. Australia used to be with us, but now they are——

Dr. MENDELOWITZ. I think the Philippines are still.

Senator ROCKEFELLER. The Philippines, that was it. That was it. And that excuse or that is handed to me on a pewter platter often by the Japanese as a reason. They say, well, look, you do things the way we do things and, you know, it will not be the same. You are out of synch with the rest of the world.

So, one, I would like to get a response to that. And secondly, in that obviously Germany or France, or pick a country, uses the other system than we do, do we have presumably very different experiences there?

Dr. MENDELOWITZ. I think the question that you ask goes to the very heart of the issue. Are the problems that U.S. industry experiences with the Japanese patent system unique to Japan or are they merely a reflection of the fact that any company from the United States because it is operating in a foreign environment is going to find difficulty and experience hard times.

It was because of that fundamental question that we included a comparison of the experience of the companies in the United States with their experiences in Japan and in Europe. This comparison, I think, really is critical because it prevents our answers from being merely the result of U.S. companies operating in a foreign environment.

And secondly, it addresses the concern that you raised, that we have a system that is different than the Japanese. Basically, the European system and structure is very close to the Japanese system. In fact, when the Japanese were developing their patent system they sent experts to Germany who studied the system, and copied it and adapted it.

Basically, even though the European system is a first-to-file system, even though the European system not only is a first-to-file

system but has many other attributes that are similar to the Japanese system, U.S. companies as a group found the patent experience in Europe much more positive and much more satisfying. In fact, they found their patent experience in Europe even more satisfying than their patent experience in the United States.

So we do believe without a doubt that the problems that U.S. firms experience in Japan are problems unique to the administration and the use of the Japanese system and not a reflection of the fact that we are out of step with the rest of the world and we have a different system.

Senator ROCKEFELLER. So it is true, but it is not an excuse?

Dr. MENDELOWITZ. Exactly, yes.

Dr. DUKE. Senator, if I could just add to that. I completely agree that we are not the one that has the first-to-file system instead of the first-to-invent. So in that case we are different. But our experience in Europe is very different.

You could also say the Japanese system is quite different. They are the only ones I know of that has a position pre-grant of the patent. So I mean they have some things that are different as well. So it is not the system as much, it is the delay in the system, it is the opposition, it is the scope.

I mean, there are a lot of things in the Japanese patent system that is quite different than the Europeans. So in a way they are quite different as well. We are the only ones that do not have the first-to-file.

Senator ROCKEFELLER. Do you have information on French, German, Dutch or other dissatisfaction that matches our own with the Japanese patent system?

Dr. DUKE. My discussions with people I know in both the Netherlands and in France and Germany all have the same issues dealing with the Japanese Patent Office—a great frustration.

Senator ROCKEFELLER. If you had been able, Dr. Duke, to increase your sales of optic fiber to Japan without the Patent Office being a barrier so to speak, so it would be a normal patent office, what would your market share be, do you think?

Dr. DUKE. That is a tough question. Senator, it is really hard to say.

Senator ROCKEFELLER. No, it is not. I mean, you have experience in other countries.

Dr. DUKE. I would say if we had a market share comparable to the rest of the world, I would say through either our own manufacturing or joint ventures, which we have formed, we have probably about half of the world manufacturing capacity in sales of fiber optics in the world.

If we had that, if we had 50 percent in Japan, that would be a big change. I mean, after we had zero for 20 years and now we probably are up to maybe 5 or 6 or 7 percent.

Senator ROCKEFELLER. You mentioned you had been there for 25 years. So the non-tariff barrier type of distribution system relationships problem—you could and would have surmounted that?

Dr. DUKE. I believe we would have, yes. We know the customers and we knew what was required. So I think we would have, yes.

Senator ROCKEFELLER. So instead of 5 percent it might have been 40 to 50 percent?

Dr. DUKE. Yes. And I think it has been important in the past, but I think it is even more important in the future. As I pointed out, the Japanese have decided they are going to wire up Japan by the year 2015. The good news is that we are now part of that next development with three Japanese companies and Corning through our affiliate, Secor.

So the bad news is that we were not able to really participate for the last 20 years. The good news is it looks like we will be a participant in the next 20 years. But that is an assumption. That is like the trade negotiations.

Senator ROCKEFELLER. Yes.

Dr. DUKE. We will have to wait and see on it.

Senator ROCKEFELLER. Who wants to wait 25 years if you do not have to?

Dr. DUKE. That is right.

Senator ROCKEFELLER. Dr. Mendelowitz, are there a lot of companies like Corning, in fact, who might have significant sales in Japan but do not because of the patent office experience?

Dr. MENDELOWITZ. We have a number of examples that we developed in the course of our study which, in fact, lead us to believe that Corning's experience is not unique. It is fairly representative.

As I indicated in my statement, companies that had real problems, the companies that were the sources of the complaints about patent flooding, and sources of complaints about use of the opposition system to slow down patents, tended to be companies with products with either breakthrough technologies or—

Senator ROCKEFELLER. Pioneering.

Dr. MENDELOWITZ. Pioneering or products that appeared to have great commercial value; and that these are the companies which had their patent applications dragged out and then wound up losing market share.

In my statement on page 7, I mentioned the case of Allied Signal, which had come up with a breakthrough invention of an amorphous metal material. It took years, decades to get one patent and the patent was only granted after the Japanese competition had mastered the technology; and it was for a product which had an annual market in Japan of about \$90 million.

So over 10 years that is almost \$1 billion of potential sales that were lost. This was a unique product. The competition did not have it. They did not get to exploit it. They lost the sales.

Senator ROCKEFELLER. Did the GAO find evidence—you referred to this, but I want to just get it on the record in a different way. Did the GAO find evidence of Japanese companies and the Japanese Government working together to either delay or to deny?

Dr. MENDELOWITZ. Well, I would like to differentiate between the behavior of Japanese companies and the behavior of the Japanese Government in this area. We did not find any evidence that the Japanese Government was directly involved in efforts to delay or deny U.S. companies patents.

In fact, several U.S. companies who we spoke to indicated that they did not believe that MITI coordinated the attempts to deny patents.

Senator ROCKEFELLER. Well, now the Japanese Patent Office is not a free enterprise creation.

Dr. MENDELOWITZ. Oh, no, it is part of the government.

Senator ROCKEFELLER. Right. But you indicated—and I am interrupting, and I apologize. But there is sort of coincidence between it always comes upon those pioneering.

Dr. MENDELOWITZ. That is right.

Senator ROCKEFELLER. I mean, there really is something more than coincidence there, isn't there?

Dr. MENDELOWITZ. You know, the feeling on the part of the U.S. companies was that Japanese companies were aware of what critical technologies were coming down the pike; and that they, in fact, work together to hinder competitors' efforts to obtain patents in this area.

In interviews with a Japanese patent attorney that we had, he told us that he was present at meetings where Japanese companies in an industry association coordinated their efforts to file oppositions against competitors' patent applications, both domestic and foreign, in order to delay patent issuance.

Several U.S. patent attorneys said they also have first-hand experience of this. There was one case in which a breakthrough patent application was being made and there were, I think, 17 oppositions filed and 16 of the oppositions came in without anything new, so to speak, in their opposition. Furthermore, they all had the same photocopier marks on them, indicating that there seemed to be a concerted effort on the part of the companies to work together.

Senator ROCKEFELLER. Mr. Duke, would you go further than Dr. Mendelowitz in terms of a sense on your part that the government itself was involved in some of this?

Dr. DUKE. Well, Senator, we have no, what I would call, evidence that there was a government intervention. But I guess I have a feeling. We had a number of discussions with NTT, with MITI. The patent office is a part of MITI. We have no evidence that there was anything that was not right. But it is surprising that our pioneering patents took so long, that Allied Signals did, that other people. I mean, it just happens.

Senator ROCKEFELLER. I am not trying to put words in your mouth. But if you were to turn to a colleague in a casual conversation on a Saturday afternoon, might you say something like the government is making it very hard for us to get patents over there?

Dr. DUKE. Yes, I would say that. You know, I cannot prove anything, but I have to tell you it does not fit. It does not sound right. It does not feel right. But I cannot prove it.

Senator ROCKEFELLER. During these delay periods by whomever, what were Japanese doing during those delays that was of interest or consequence?

Dr. DUKE. Let me give you the Corning experience, and then fiber optics. Again, this is back in the 1970's, in the middle 1970's. NTT started a program with three companies—Feracowa, Fugicura and Sumitoma—in the NTT laboratories and the four of them developed the technology where they shared the patents, et cetera.

NTT continued to buy from those companies. When they got ready to install fiber optics, they bought only from those companies. The specifications were basically written around the processes which were co-developed by NTT and those three companies. And when we asked for the specifications, we were told that they were

proprietary, even though they were buying \$100 million worth of cable at three times the world price.

Companies like us and some others were unable to get even the specifications to compete on that while we are in the midst of NTT/U.S. bilateral talks. So a decade, 10 or 15 years, later the Japanese industry is very strong, very competitive, both in performance, price, et cetera. Then we finally start to get the specifications. We finally start to get the patents issued, et cetera. So there is no question.

And in my mind, on a Saturday afternoon if I were talking to something, there was a pattern there to make sure, to ensure, that the Japanese industry was strong and powerful and competitive and that companies that made the pioneering inventions like Corning would not be allowed to participate until the Japanese industry was strong and could compete on their own.

Dr. MENDELOWITZ. I would give a two-word hyphenated answer to your question—catching-up.

Senator ROCKEFELLER. Yes.

Mr. HINEY. That seems to be the pattern with us. We keep fighting; they keep building and filing their own applications and building their R&D labs.

Senator ROCKEFELLER. Yes. But you have exonerated, Allan, at least it appeared to me, MITI. I mean, you know, this catching-up, this has been traditional since the Meiji restoration; this has been going on. Now you insist on excluding government policy.

Dr. MENDELOWITZ. No, what I was referring to was this coordinated industry response to a pioneering patent or a patent with high commercial value. No one suggested to us that they believe that 17 or 18 patent oppositions were filed by members of an industry association because MITI had gone out and rounded them up and told them to do it.

Where we received, I think, complaints in terms of the government's role is not in organizing industry to oppose the patents, but it was the behavior of the patent office itself which tended to drag its feet and take a very long time to grant patents that were, in fact, pioneering patents or of great commercial value.

One of the companies we spoke to, actually a premier American company, had a breakthrough technology in the telecommunications or electronics area. When it applied for its original patents, no one—their view is that no one in Japan understood the significance of the patent and the technology that was involved.

Patents were granted fairly quickly. At some point somebody realized what was going on and suddenly this company stopped receiving patents in this particular area. So I did not mean to give the impression I was exonerating the Japanese Government across the board. All I was saying was that in the case of the oppositions to the patent applications, it did not seem to be a case of MITI rounding up the industry. The industry knew what to do on its own.

But with respect to the patent office—

Senator ROCKEFELLER. When you say that, was that individual industry or could that have been the Keidanoven—

Dr. MENDELOWITZ. Well, the Japanese community we spoke to said it was an industry association.

Senator ROCKEFELLER. Okay.

Dr. MENDELOWITZ. And Keidanren tends to be something equivalent to the NAM and the Business Roundtable all rolled into one rather than—

Senator ROCKEFELLER. Multiplied and so forth.

Dr. MENDELOWITZ. Yes, it covers multiple industries. I think that something more akin to the type of industry association we were about talking would be something like the Japanese equivalent of the American Semiconductor Industry Association or the Electronics Industry Association.

Senator ROCKEFELLER. Mr. Hiney, you mentioned this already, but I would like to get it again on the record. For a small business with the determination to prevail, what are the costs of putting up with the process—the lawyers, the time, the years?

Mr. HINEY. Senator, it is just a major impact. I do my monthly battle with our CFO on patent costs and he expresses the opinion over and over again he cannot believe costs are this high over there. I have had to send him fee schedules and government filing fee schedules, translation costs.

It really makes it difficult from the outset to file. Yet, one has to file. Although I have heard now of companies starting to abandon the process.

Senator ROCKEFELLER. Because of cost?

Mr. HINEY. Well, the delay coupled with the cost. They are looking down the road and saying, this just is not going to be effective. We will give up on the Japanese market.

Senator ROCKEFELLER. Including some pioneering potential?

Mr. HINEY. Yes.

Senator ROCKEFELLER. Can you name, not companies, but types of products?

Mr. HINEY. Well, people in telecommunications and there was another electronics company that thought they would just avoid it.

Senator ROCKEFELLER. Just stopped?

Mr. HINEY. Yes.

Senator ROCKEFELLER. Does that affect larger corporations?

Dr. DUKE. Well, it affects us, but we feel so strongly about the need to compete on a global economy that we have the same kinds of problems, but fortunately we have a little bit bigger corporation to help fund those. So it is an issue, but it is not the top three. There are some other issues which are more important to us than cost.

Senator ROCKEFELLER. Have you ever run into an experience wherein, let us say particularly in small business, but also in large business, where a delay was taking place in the patenting process but then there was an offer made of let us say cross-licensing? We will buy your technology or we will buy you or we will take an equity position in you. This would be more directed, I guess, at you, Mr. Hiney. Then all of a sudden a patent would come through. This is clearly a predicated, conspiracy question I am asking you.

Mr. HINEY. Right.

Senator ROCKEFELLER. But it is interesting because cross-licensing is one of the absolute underpinnings of the Japanese success.

Mr. HINEY. Oh, absolutely. Forced licensing.

Senator ROCKEFELLER. Yes.

Mr. HINEY. Well, after this week they may come to us and talk to us about cross-licensing. But so far I think the process has been, let the JPO take care of us and we are not making—we are making headway, but we are faced with one rejection, arguing around it and faced with a totally new rejection next time.

In other words, they do not focus all their examination into a one-shot deal like they do here. Now we are getting rejected over one of our own patents. Those patents were both patented, both of these applications were patented in most of the modern, industrialized countries.

But the Japanese have taken the view that one of these is indistinguishable over the other, which is somewhat ironic because the Japanese tend to give very narrow scope to patents.

So I have to look at that and say that is an intentional act on their part, or somebody's part over there, to keep us from getting our patents very quickly.

Senator ROCKEFELLER. I will come back to you. Let me ask that same question a different way. Have U.S. companies been forced to share their technology with Japanese companies as a result of patent difficulties in Japan? And as a result of that, has there been a decrease of exports from this country to that?

Mr. HINEY. I would certainly think so. That has been my experience from talking—

Senator ROCKEFELLER. I used the word "share." I did not use the word "cross-licensing."

Mr. HINEY. Right.

Senator ROCKEFELLER. Share.

Mr. HINEY. Right.

Senator ROCKEFELLER. So you sort of said you are not sure to the first but yes to the second.

Mr. HINEY. Well, we are not at that stage yet, Senator. But from what I get from my cohorts they find themselves in that situation.

Senator ROCKEFELLER. Comments from you, gentlemen?

Dr. MENDELOWITZ. I was going to respond to your original question about forced cross-licensing. That is, before we began the study we heard a lot of complaints about the issue of oppositions, patent flooding, activities by Japanese companies that were particularly troublesome.

When we got our questionnaires back from the companies, it turned out only about 15 percent of the companies said that patent flooding and pre-grant oppositions were a major problem. Only about a tenth said that they had been forced to cross-license as a result of these activities.

We found it hard to reconcile those relatively small percentage responses with the tremendous attention given to those issues. So we wanted to get behind the numbers and called up a number of companies to ask them why they had responded to our questionnaire the way they had responded.

It turns out that the answer is really significant. It turns out the issue of cross-licensing, which I said about a tenth of the companies said they were forced into because of this process, and the 15 percent who complained about pre-grant oppositions and patent flooding, all said that these activities involved highly significant technologies.

So that all the complaints that you hear are really not universal complaints but they are complaints in response to very targeted action.

Senator ROCKEFELLER. That is the question I was about to ask because you could look at the 15 percent on patent flooding and pre-grants and say that is not a very large amount. Your answer to that is, 15 percent may not be a very large amount. But if it is in targeted or pioneering, it is significant.

Dr. MENDELOWITZ. It is very significant.

Senator ROCKEFELLER. Yes.

Dr. MENDELOWITZ. You have heard from Mr. Hiney how expensive it is to file in Japan. Now, we think it is actually cheaper for Japanese companies to file in Japan than for foreign companies because their patent attorneys have two fee schedules—one fee schedule for foreign filers and a second one for domestic companies.

Senator ROCKEFELLER. How big is that difference?

Dr. MENDELOWITZ. I do not know how much the difference is, but my understanding is the Japanese companies, in fact, get to negotiate rates. It is a little bit like when GSA goes out and negotiates special rates because it is a big purchaser. Well, the Japanese companies basically can do the same thing.

But even so, it is expensive to file oppositions and to try to weaken another company's patent application through multiple applications, to fence in that application. So that Japanese companies do not randomly expend resources to oppose all patents or to try to hem in a patent by preparing a lot of patent applications around that initial patent.

They undertake these activities in a very highly targeted way when the patent application involves a very significant technology.

Senator ROCKEFELLER. A question to any and all of you. I will not go on with this endlessly. You will have dinner and all that kind of stuff.

We have been trying, our government has been trying, a lot of times through hearings like this and other mechanisms to try to cause the Japanese Patent Office to become different. I remember several years ago the head of the Japanese Patent Office, a very distinguished, very fine gentleman came to visit me and showed me pictures of their brand new building, which was, I think, highly computerized.

In fact, I think one of the things that I had asked was that they hire a lot more people. And I think they did that. I think they hired in that year, maybe 2 or 3 years ago, maybe 500 new people.

So my question to you is, have you seen any changes of significance in the last several years for the better in the Japanese Patent Office, rather than just sitting here bludgeoning them nonstop? I mean, have there been some improvements, changes?

Dr. MENDELOWITZ. That was one of the questions we asked the companies in our survey. We have been able to identify some improvements that have taken place. They have hired a few extra examiners. But we still have the situation in which the Japanese Patent Office gets twice as many patent applications a year as PTO and they have half as many examiners as the United States.

So if you have twice as many patent applications and half the number of examiners, it is pretty easy to see that the workload per

examiner is four times as great. So that still remains a very serious problem.

They took a few other steps in the mid to late 1980's—permitting multiple claims on a single patent application which they had not permitted before. They provided for an—

Senator ROCKEFELLER. To limit?

Dr. MENDELOWITZ. No. Previously you could only apply for a patent to protect one specific thing. You had to file separately for each specific one.

Senator ROCKEFELLER. I understand that. So this was an improvement?

Dr. MENDELOWITZ. Yes, this was an improvement beginning in 1988.

Senator ROCKEFELLER. Okay.

Dr. MENDELOWITZ. And in 1986 they introduced procedures for accelerated examination if you are working your patent in Japan or plan to do so within 6 months.

Senator ROCKEFELLER. But still an average of 7 years?

Dr. MENDELOWITZ. Still. Although there has been a reduction. You know, for example, in SII they made a commitment to reduce the patent examination time to a maximum of 2 years by 1995 and they have reduced the average period between 1988 and 1991 from about 37 months down to 30 months.

But that just deals with the central part of the patent process, examination. There is still this long waiting period before you get your patent examined and there is still a long period afterward if there are oppositions.

So there have been some changes, including, I think, elimination of examination requirements for, utility model patents. So that we can identify some small changes, some small improvements. However, where the rubber hits the road in terms of the experience of the companies, they do not see a lot of changes. We ask the companies basically, how has your patent experience in Japan changed over the past 5 years, and over half of them said it had not changed at all, and only about 14 percent said it had improved.

So I would say the difference in those numbers is quite significant, so that there still remains a tremendous amount to be done.

Senator ROCKEFELLER. I do not want this to sound self-serving—and actually, Dr. Mendelowitz, I do not know if you are allowed to answer this question—but in what way do you think that S. 149 would help?

Dr. DUKE. Could I answer?

Dr. MENDELOWITZ. Go ahead.

Dr. DUKE. Since you think you cannot answer. I think it addresses what I consider are the major issues. These are things such as the delay of the patents. Your bill says very clearly that it has to be timely. It eliminates things such as the pre-grant opposition, which as we talked about, is after the first 5, 6, 7 years why then you finally get ready and then it gets opposed by 25 people or 7 or whatever.

So your bill addresses that. It addresses the narrow scope of the patents. So I mean it is right on the key issues in my mind, probably three, four or five major issues. The other one I guess I would

like to see is some sort of discovery on the process side, on process patents.

But I think if we have this bill, your bill, Senator, it will give us, give the government, the U.S. Government, an opportunity to then say you do not comply with our bill, with our laws, and we are able to take, if we decide to, some action.

So my reaction is, your bill is right on the mark.

Mr. HINEY. I would agree with that, Senator. It is scope and delay and the pre-grant opposition. Those are the real three critical areas.

Senator ROCKEFELLER. Other than bills and hearings, do you think the U.S. Government—I am asking each of the two businessmen—do you think the U.S. Government as a government is exhibiting interest in this problem or trying to be helpful?

Mr. HINEY. I think it is beginning to. I am very impressed by the administration's efforts to get focused. The comment you made earlier about State, Treasury and USTR all sitting at one table and singing the same song is, first, I think it is very encouraging.

Senator ROCKEFELLER. You think that might lead to discovery of the patent problem?

Mr. HINEY. Well, one can hope.

Dr. DUKE. I would concur. Our experience is that USTR and Commerce and others are always very helpful. State was not. And to have them there—

Senator ROCKEFELLER. Interesting. Interesting. Can you say a bit more about that?

Dr. DUKE. Well, whenever we would go visit NTT, go visit MITI, Bill Rapp or somebody from the Embassy would be there and go with us. But there would be people from, you know, back in the 1980's, Mike Smith and Jim Murphy and others and Clyde Prestowitz, and others, who were all there working with industry.

But we never saw anybody from State. I mean, they were invisible. They were off on other agendas and as a result not much happened.

Senator ROCKEFELLER. Do you think that required action under Special 301 to obtain special or substantive standards for patents are a, say, crazed, off-the-wall thought or is it something to consider?

Dr. MENDELOWITZ. The problems that we have identified in the course of our study fall into two categories. The first category relates to the specific structure of the Japanese patent system and the second category of problems relates to how it is administered.

Now, the WIPO Treaty, if we sign it, and the Japanese sign it and implement obligations under that treaty, would go a very long way toward addressing the systemic or design aspects of the Japanese system that American firms find so troublesome. There would be a 2-year cap on the examination time. Pre-grant opposition would be eliminated. Native language filing would be permitted.

One of the problems, for example, today is that a U.S. filer in Japan has to file in Japanese and if there is an error in the translation—

Senator ROCKEFELLER. Yes, I know. They go paragraph by paragraph, right? I mean, you get one paragraph there is an error and

then a month later you get the third paragraph. I mean, it literally is that; is it not?

Dr. MENDELOWITZ. Yes. And the problem is that the translation becomes the governing document. You know, it sounds reasonable to me that if you have a patent in the United States and you are applying for one in Japan and there is a problem with the translation, you should be able to go in and say, listen the translator made a mistake. This is what is done in the United States. However it is not permitted under the current Japanese system.

But under the WIPO Treaty, the native language version would become the governing document. Then there would also be a maximum time period on the deferred examination and there would be a grace period and all sorts of other things.

So I believe based on two things, one, the extent to which the problems identified by the U.S. companies, the systemic problems, would be addressed by the WIPO Treaty; and secondly, given the fact that the vast majority of the companies in our survey support changes in the U.S. system in order to get changes in the Japanese system, I think pursuing that WIPO Treaty would go a long way toward addressing a lot of concerns of U.S. business.

Now, even if the WIPO Treaty gets adopted and the changes are made, you still have the second set of problems, the problems associated with the administration of the system. It is to respond to those type of problems why it is nice to have the stick in the closet. It is nice to have the sanctions there so that if the system is changed, but the outcome does not change because those who administer it frustrate it, you have something there to use as a sanction basically to try to get corrective action.

Senator ROCKEFELLER. You know, it is interesting, I think, from my point of view—unless there are other things you would like to say, I think I have tortured your afternoon enough—S. 149 will help. It is interesting. I mean, you get up on the floor of the Senate and start talking about the U.S. Patent Office, I mean the Japanese Patent Office, and it is not exactly what you would call a charismatic experience. I mean, people flee from the chamber.

But that does not matter. Lots of things can still happen. S. 149 can happen. But I think the real hope is the first panel today, don't you think—sort of everybody on the same wave length?

Mr. HINEY. Definitely.

Senator ROCKEFELLER. That once the Japanese understand that we really do mean it. I mean, I think Jack Danforth was really wrong, that they are not falling into a trap at all, that President Clinton, is very much focused on this and, you know, exports are a clear driver of the economy and all kinds of things, that that kind of unity and focus is what is going to push all of us and ultimately the Japanese for its not doing things which they clearly should not be able to do, but are able to do because this is still a very discreet subject.

Dr. MENDELOWITZ. The really important things are not always glamorous.

Senator ROCKEFELLER. I do not mean government; I meant Patent Office. Yes.

Dr. MENDELOWITZ. The really important things are not always glamorous. I think your focus on the problems with the Japanese

Patent Office are absolutely right on the mark because the experience of U.S. companies in the Japanese market are important. Protection of important technologies is absolutely a critical issue for U.S. competitiveness.

But one of the other things that is not glamorous is following up and tracking and enforcing trade agreements.

Senator ROCKEFELLER. I was going to ask about—

Dr. MENDELOWITZ. All I was going to say is, I think you are absolutely correct when you say having the whole government singing off of the same song sheet is a great first step. But I would say that the next piece of it is that when an agreement is reached, we really have to devote effort and resources to the unglamorous part of the process, which is following up and enforcing the agreement.

We have assessed a large number of U.S. trade agreements in the past decade to see what the United States got out of them. In most cases we negotiated agreements with a very long list of benefits. After they went into effect we wound up getting very little out of them because no attention and no resources were devoted to enforcing our rights under those agreements and ensuring that we receive the benefits.

Senator ROCKEFELLER. Yes. I thought that Charlene missed a chance to say that 157 people in USTR is not exactly, you know, an overwhelming mass. I also think that the fact that the heads of State have to meet every 6 months is going to help produce the results we are looking for. Well, this is what we are talking about—results oriented, and with S. 149 you are looking for results.

The heads of State having to come together, all of the government preparation has to go into that. This will increasingly lead to change.

Well, I award all of you the Congressional medal of freedom.

Dr. MENDELOWITZ. Thank you.

Senator ROCKEFELLER. Dr. Duke, you and I are going to confer. I am going to go roaring back to my office and Tom Forbord and Bill Reinsch will walk you back there. But I really thank all of you.

Dr. DUKE. Thank you.

Senator ROCKEFELLER. Allan, you are a part of my life, and a very good part of my life. You are extraordinary.

Dr. MENDELOWITZ. Thank you.

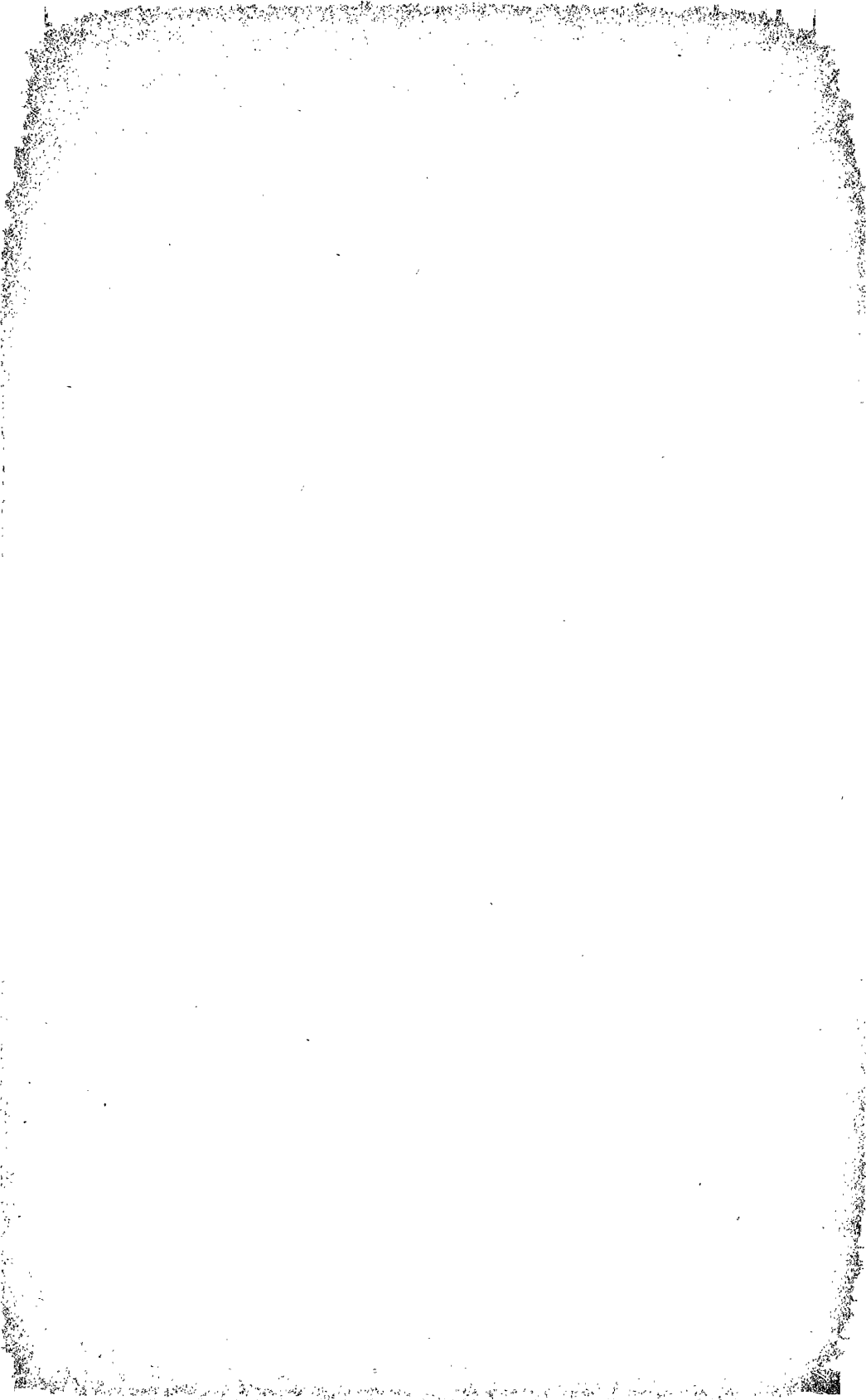
Senator ROCKEFELLER. And, Mr. Hiney, I really appreciate you because you are the engine, you know, in small business. And if we cannot get small business, and small business is going to be consistently discouraged and the word gets out that it is not worth trying, God knows what we are missing in the way of export opportunities.

Mr. HINEY. We really appreciate the opportunity to be here, Senator.

Senator ROCKEFELLER. I like your sound system, too. I just wish you had been there about 10 years ago. [Laughter.]

This hearing is adjourned and I thank you.

[Whereupon, at 5:35 p.m., the hearing was adjourned.]



APPENDIX

ADDITIONAL MATERIAL SUBMITTED

PREPARED STATEMENT OF ROGER ALTMAN

Thank you, Mr. Chairman. I am pleased to have the opportunity to discuss with you the U.S.-Japan Framework for a new economic partnership.

My testimony provides a more complete description of what the Framework deal is: the five baskets and what's in them; the timetable and the wording on qualitative and quantitative indicators. Let me put the situation in perspective.

In the 1980s, the U.S. was running substantial trade and current account imbalances, which were the major asymmetry in the world economy. Now, however, the asymmetries are on the Japanese side. Japan has large trade surpluses with virtually every region in the world—the U.S., Asia and Europe. This surplus drains growth from a demand-starved world economy. It creates the very protectionist pressures which threaten the open trading system that has been the engine for world growth over the past four decades. Our Framework addresses these two imbalances.

Let me also say that the Framework is an integral part of the Administration's economic policy, which is based on the premise that the United States must compete, not retreat. Our policy is directed at more trade, not less. And it is directed at getting other countries to expand their imports, not reduce their exports.

The importance of an open, expanding world economy to our economic well-being has grown enormously over the past decades:

- Since the mid-1980s, over half of our growth in income and almost all our growth in manufacturing jobs has resulted from export growth.
- Exports as a share of GDP have increased from about 4 percent in 1959 to just under 11 percent today.
- Export-related jobs pay 17 percent more, on average than other jobs, 10 percent more in the manufacturing sector, and 20 percent more in services.

This is a critical time for the U.S. economy. Our efforts to reduce our budget deficit have pushed U.S. exports to the forefront as a vital engine for economic growth. Yet, while our exports to Japan increased by 17 percent per year from 1986-1990, more recently they have declined in nominal terms. The Framework will provide new opportunities for U.S. firms to sell to the second largest economy in the world. It represents an important step.

The Framework embodies a basic bargain between the two nations, with each side making two commitments. The U.S. commits to complete the job of reducing the budget deficit by \$500 billion over the next five years, to keep our markets open, as they have always been. In exchange, Japan commits to pursue policies that will produce domestic demand-led growth that will result in a highly significant reduction in its external surplus. In our view, when you talk about "highly significant reductions" in a current account surplus that is 3 percent of GNP, that probably means something below 2 percent. In addition, Japan has agreed to increase the import penetration of its markets for foreign goods, services and investment through structural and sectoral reforms.

MACROECONOMIC AGENDA

The world economy is in the third year of slow growth and prospects are for only a modest recovery. As a result, more than 36 million are expected to be unemployed in the major industrial countries by the end of the year. The G-7 countries agreed at the Summit to a global growth strategy and are committed to taking the necessary actions to promote an economic expansion that will create substantial increases in employment.

Japan is the world's second largest economy and is experiencing the slowest growth in 20 years. The causes of the Japanese recession are rooted in government policies, particularly tight monetary policies aimed at deflating the speculative bubble of the late 1980s. In addition, the government had until recently been following contractionary fiscal policies in the belief that such action was necessary to deal with the consequences of an aging population. The effects of the combined tight monetary-tight fiscal policies have been an erosion in consumer confidence and reduced investment, which have sharply lowered domestic demand. This has caused the external surplus to increase to a forecasted \$150 billion this year, which represents more than 3 percent of GNP.

The Japanese government has responded by taking certain steps to stimulate economic growth. Interest rates have been reduced progressively to their current low levels. But monetary policy may be less effective in stimulating economic growth in countries like Japan because of the effects of asset price deflation on balance sheets. Consequently, the recent emphasis has been on fiscal policy, which acts quickly and directly on demand. Two fiscal stimulus packages have been implemented during the past year which have been designed primarily to offset the contractionary effects of the government's initial budgets as the economy deteriorated.

Japan has a uniquely strong fiscal position in the G-7, which gives it considerable flexibility to pursue fiscal stimulus. Even after two stimulus packages, Japan still has a general government surplus, with the bulk of the recent deterioration due primarily to temporary cyclical factors. Moreover, the net stock of outstanding publicly held debt is still remarkably small in comparison with the rest of the G-7.

The achievement of domestic-demand led growth consistent with significant reduction in Japan's external surplus will require continued fiscal action to ensure that a recovery in private demand is not offset through renewed government restraint. Some have suggested that a possible area for stimulus is through reductions in income taxes to spur private consumption. These measures are further supported by the fact that since 1986, private consumption has declined as a share of national income as tax revenues have increased.

PREVIOUS NEGOTIATIONS HAVE MET WITH LIMITED SUCCESS

As you know, the United States and Japan have been engaged for many years in a variety of fora to open the Japanese market and so reduce trade imbalances. These included the Market Oriented Sector-Specific (MOSS), Yen-Dollar discussions, the Structural Impediments Initiative (SII) and the discussions in the Uruguay Round. These efforts have enjoyed only limited success for several reasons:

- The U.S. never accorded primacy to the economic relationship. Other objectives (strategic and political) always held the upper hand.
- The U.S. effort to initiate structural reforms that would cause the Japanese economic system to behave more like our own, became bogged down in mutual demands for societal change.
- Our failure to live up to our own commitments by reducing our budget deficit weakened our effectiveness in getting the Japanese to follow-through on meeting their commitments.

OUTLINE OF THE U.S.-JAPAN FRAMEWORK

Unlike earlier negotiations, the U.S.-Japan Economic Framework was formulated to respond to two specific economic problems that exist in Japan. The first problem (the "imbalance problem") reflects how the slowdown in economic growth has increased the size of Japan's current account surplus. The sharp fall-off in domestic demand has resulted in the current account surplus growing from its historical average of 1.5 to 2 percent of GNP to more than 3 percent.

As part of the Framework agreement, Japan has committed to promote strong and sustainable domestic demand-led growth in order "to achieve over the medium term a highly significant decrease in its current account surplus." A reduction in the external surplus from 3 percent to less than 2 percent of GNP would provide major benefits for the world economy. It would lead to increased employment in foreign countries—as much as 1-2 million additional jobs worldwide, including hundreds of thousands in the United States—as a result of increased exports. It would also help reduce the protectionist pressures that threaten the multilateral trading system which has underpinned international growth for some 4 decades.

The second problem (the "import penetration problem") is the difficulty foreign firms have in obtaining access to the Japanese market. Macroeconomic policies that produce strong domestic demand-led growth and a significant reduction in Japan's external surplus will not eliminate the access problems facing foreign firms. Japan's

selective engagement with the global economy persists despite successive commitments to liberalization and large fluctuations in the external surplus.

- The market share of manufactured imports in Japan is still less than half of that in the rest of the G-7;
- Foreign direct investment levels in Japan are only a small fraction of those in the United States and Europe, which is important because trade follows investment.

These problems are the result of specific restrictions in individual sectors and structural features of the Japanese economy which cut across all sectors. In some areas, the current problems are the legacy of past discrimination. In others, explicit government measures frustrate imports and investment, and in still others, government policies support or reinforce exclusionary business practices by private companies.

The Framework provides that Japan and the United States will engage in negotiations or consultations with respect to the following five baskets:

- *Government Procurement.* Measures undertaken in this area will aim at significantly expanding Japanese government procurement of competitive foreign goods and services.
- *Regulatory Reform and Competitiveness.* Measures undertaken in this area will address reforms of relevant government laws, regulations and guidance which have the effect of substantially impeding market access for competitive foreign goods and services, including financial services, insurance, competition policy, transparent procedures and distribution.
- *Other Major Sectors.* Measures undertaken in this area will address other major sectors, including the automotive industries.
- *Economic Harmonization.* This area will address issues affecting foreign direct investment in Japan and the United States.
- *Implementation of Existing Arrangements and Measures.* All existing bilateral arrangements and measures will be closely monitored and fully implemented. Specific commitments made under the Strategic Impediments Initiative (SII) talks will be absorbed into this basket as appropriate.

Japan and the United States have agreed in the Framework that within six months we will have sectoral or structural agreements in autos, insurance and government procurement of computers, supercomputers, satellites, medical technology and telecommunications. Within a year, we will have agreements in all the other areas covered under the Framework, including financial services and reform of the distribution system in Japan.

There are no guarantees. The Framework negotiations were very difficult and the basket negotiations will not be easier. But, there are a few reasons to believe that we will see better results through this agreement.

WHY WILL THE FRAMEWORK SUCCEED?

Unlike earlier efforts, the United States and Japan have agreed to a trade policy that is results-oriented. Both Governments concur that agreements under this Framework will include both quantitative and qualitative indicators to measure results. This will permit us to move towards standards that will be agreed by our negotiators in lieu of demands that Japan should change the nature of its economic system. The Framework will bring a new impetus to our efforts because it has the specific deadlines of the biannual meetings between the President and the Prime Minister to drive progress.

Another reason to expect success is that this Administration has initiated measures that will lead to real and meaningful deficit reduction. Unlike past efforts, the United States will meet its commitments.

The success of these efforts will help to provide economic benefits for Japan and the United States. They include:

- *More Rapid Economic Growth.* Faster growth is an important means of reducing current account imbalances. Japan is uniquely situated to stimulate its growth without adding to inflation. It can take care of both its domestic and international economic problems.
- *Higher Living Standards.* Manufactured goods cost more than a third more in Japan than in the United States because of more expensive import prices. Allowing more imports into Japan would help it become a "life style superpower" by reducing prices and expanding choices for consumers.

- *More Open International Markets.* Both the United States and Japan have a substantial stake in preserving a free and open international trading system. Agreeing to the Framework will forestall protectionist pressures abroad.
- *Cheaper Intermediate Goods.* Reducing barriers to foreign products will enhance exports to Japan while reducing the costs of capital goods to Japanese industry.

CONCLUSION

President Clinton's international economic policy is fundamentally different from the policies of his predecessors. The Cold War is over. Communism is dead. Economics is now inseparable from foreign policy. Our relationship with Japan is a three-legged stool. Two of the legs are strong—security and global cooperation. However, the third leg, the economic relationship, is badly in need of repair. Strategic continuity in effect, requires economic discontinuity.

You may argue that these objectives will be difficult to attain. Tough negotiations lie ahead. But the Administration believes that this results-oriented and comprehensive Framework provides the best opportunity yet to effectively address the problems in our economic relationship with Japan.

Thank you.

RESPONSES OF DEPUTY SECRETARY ALTMAN TO QUESTIONS SUBMITTED BY
SENATOR WALLOP

Question No. 1. I have read that the Administration plans to appeal the Court of International Trade decision that Nissan Pathfinders should be subject to the 2.5 percent tariff rate for cars rather than the 25 percent rate for trucks. In ruling in favor of Nissan, Judge Restani accepted in this case that this vehicle is principally designed for carrying *people not cargo*. The President indicated some months ago, however, that he intended to raise this tariff issue in the context of broader trade talks with Japan, I would guess under the new "framework" basket on autos. Where are we going with this? Why are we subjecting ourselves to a potential GATT challenge by raising this rate? And why are we again socking it to the consumer, who will likely be faced with higher prices for Multi-Purpose Vehicles?

Answer. This is a significant legal issue. Because we believe the Court of International Trade incorrectly decided the case, we are appealing the case.

Question No. 2. The European Community is now under pressure from some of its members to arm itself with the equivalent of the U.S.'s "Super 301" trade retaliation tool. Although "Super 301" was created with Japan as its intended target, I've long speculated about the consequences for freer world trade should France or Luxembourg or any country with whom we maintain a trade surplus decide that they are going to balance that trade with whatever means necessary. That's why I have been and continue to be opposed to 301, whatever its form. What would be the prospect for continued multilateral trade talks were more and more GATT members to insist on wielding unilateral trade weapons like 301?

Answer. Unilateralism does pose risks for the stability of the world trading system. For this reason we have used Section 301 only when we find foreign practices to be unreasonable. In many cases this has meant targeting foreign practices which are also inconsistent with the GATT, and referring the issue to dispute settlement in the GATT before retaliating. This process strengthens rather than weakens the international trading system. Moreover, the current global trade negotiations should reduce the temptation to resort to unilateral action outside the GATT system by setting enforceable multilateral standards, e.g., those governing services and intellectual property rights, and by improving the GATT dispute mechanism.

PREPARED STATEMENT OF AMBASSADOR CHARLENE BARSHEFSKY

I welcome the opportunity to appear before the subcommittee today to report on the United States-Japan Framework for a New Economic partnership. Agreement on the Framework on July 10 in Tokyo, completed a week of extraordinary achievement for the President and for the global community, through the G-7 process and separate bilateral efforts.

The Framework represents an integral element of this Administration's economic policy, which begins by building competitiveness at home through policies aimed at deficit reduction, new investment in education and training and infrastructure. But success in the domestic sphere needs to be complemented by efforts to expand trade and create new markets and opportunities for American products overseas. The Framework and its follow on negotiations will promote these goals.

Along with completion of the Uruguay Round and the NAFTA, a major trade policy goal of this Administration has been real progress in addressing Japan's economic imbalances. Many factors contribute to our bilateral trade deficit with Japan. Our budget deficits, low savings rates, and historic emphasis on military, rather than civilian R&D, have in the past undermined our competitiveness with Japan. We have great admiration for what Japan has accomplished: the quality and determination of its work force, the excellence of its education system, and the products that are produced there.

But even allowing for these factors, in case after case, U.S. products and services which are highly competitive in other foreign markets meet little success in Japan. Many of our trading partners have suffered the same experience.

The U.S. and Japan are the world's two major trading nations, accounting for more than 40 percent of world GNP. We have the potential and the responsibility to drive world growth and maintain a dynamic world trading system. However, without a fundamental change in the nature of Japan's economic interaction with its trading partners, we face further erosion of the base of support for maintaining free trade and an open and strong multilateral trading system.

At their meeting in Washington in April, President Clinton and Prime Minister Miyasawa took steps to address the economic asymmetry that has had a corrosive effect on the relationship. They agreed that to meet the needs of a new era, Japan and the U.S. needed to build a new partnership—one based on mutual respect and responsibility, and on a longer term vision for the global role played by our two nations. At the center of this bilateral relationship was to be a new Framework for trade, on macroeconomic, sectoral and structural issues that would allow us to make consistent and measurable progress toward removing barriers to the Japanese market.

This Framework would allow us to focus on macroeconomic, sectoral and structural issues; would enable us to begin negotiating on key issues under tight time frames and would establish meaningful indicators for assessing progress made in each area. We started from a strong position in the negotiations, because this Administration's constant emphasis on the economy has led to real efforts to attack the budget deficits and the very domestic weaknesses that Japan often cites as the main reasons for the trade imbalance between our nations. Moreover, we are pursuing this strategy at a time when our companies are increasing their international competitiveness and will be fully able to benefit from a more open Japan market.

The Framework we agreed upon meets all of our negotiating goals. It establishes, for the first time, a results-oriented trade policy. It mandates that tangible progress toward market access be achieved, and that objective criteria, both quantitative and qualitative, will be used to evaluate progress on each sectoral and structural area accomplished by the Framework. It establishes time deadlines for negotiations in individual sectors, and incorporates a review process at the highest levels. The gains sought under the agreement would be available on a most favored nation basis to Japan's other trading partners.

The Framework commits Japan to pursue a "highly significant" decrease in its current account surplus, increases in its global imports, and the U.S. to a significant reduction in our budget deficits. It also envisions cooperative efforts by the two countries to enhance foreign direct investment, access to technology, intellectual property rights, and the environment.

The Framework fully incorporates in its five "baskets" our priorities for addressing sectoral and structural barriers encountered by foreign firms seeking to sell to the Japanese market. These are:

- Japanese Government procurement, which will include discussions aimed at significantly expanding Japanese Government procurement of competitive foreign goods and services especially in the procurement of computers, supercomputers, satellites, medical technology and telecommunications.
- Japanese regulatory reform, which will address those Japanese government laws, regulations and guidance that impede market access for foreign goods and services, including financial services, insurance, competition policy, transparent procedures and distribution.
- Other major sectors, through which we will focus on barriers to the U.S. automotive industry with the objective of achieving expanded sales opportunities of foreign parts by Japanese firms as well as removing problems affecting market access and encouraging imports.
- Economic harmonization, where we will address issues affecting foreign direct investment, intellectual property rights, technology access and buyer-supplier relationships.

—Implementation of all prior arrangements and measures, including those commitments made in the Structural Impediments Initiative (SII).

As noted, we will use objective criteria as benchmarks to measure progress as negotiations on each of these "baskets" move forward. These will be goals or standards against which progress towards achieving full market access will be assessed; pulling together various comparative indicators as relevant in each area. What we will be seeking in each sector are data points that will be gathered and then jointly monitored. We will utilize quantitative information where appropriate on such factors as relevant market trends, market share statistics in Japan, or comparisons between the public and private sector. We will also employ qualitative indicators where helpful, such as the nature of the business links between Japanese manufacturers and their suppliers in the United States, or changes in the business or regulatory environment favoring foreign firms. There will most likely be several such data points in each sector; no single benchmark will determine the success or failure of a sectoral agreement.

Equally important, the Framework reflects our preferences for the timing of follow up negotiations to address these "baskets" by incorporating a review by the President and Prime Minister twice yearly. These reviews will provide strong momentum for the Japanese to conclude agreements on our top priority issues; significant market access problems in government procurement, the insurance market, and automotive industries and other areas to be determined, by the first Heads of Government meeting in 1994, or within six months. Agreements on measures in the remaining areas will be sought by the second such meeting in July 1994.

In addition, both government have committed to hold Subcabinet meetings prior to the Heads of Government meetings.

This Framework firmly places the economic pillar of the U.S.-Japan bilateral relationship at center stage for the first time; recognizing that addressing our economic imbalances requires urgent attention. The Heads of Government consultations incorporated into the agreement will serve to keep it there. It is a sophisticated approach that recognizes the interrelationship between macroeconomic, structural and sectoral policies. By integrating this broad range of policy objectives, it helps ensure that we do not pursue one set of objectives at the expense of another.

At the same time, this agreement meets the Administration's goal of trade expansion. It is in no way a "managed trade" or protectionist approach to our economic imbalances with Japan. On the contrary, by seeking to unlock Japan's government procurement and other restrictive policies and regulations, we seek to make the Japanese market more amenable to market discipline than it is now. The focus is on areas where the Japanese Government has either a direct or indirect role in the dynamic of a particular sector or structural problem; sectors where the Japanese Government is in fact managing inbound trade, and where our companies are poised to compete. This specifically includes the automotive sector, where we perceive the role of Japanese Government guidance to be significant.

The Framework represents a basis for future negotiations. It is far from a complete solution to the trade problems that have hampered our relationship with Japan. It is a firm beginning to a larger process, and successfully establishes the direction in which we wish to proceed in order to place this crucial economic relationship on a satisfactory and equitable footing. Hard bargaining on important issues remains, including the enforcement of agreements already in effect. We intend to make tangible progress, and recognize it will not be easy. We are committed to the utmost efforts to obtaining measurable results under this Framework, but if the consultations and negotiations under the Framework do not make the requisite progress, we will not hesitate to use other approaches, including those that Congress has provided in the trade law. These prerogatives have been fully safeguarded in the agreement. However, our strongest tool in building on the solid foundation offered by the Framework is in the continuing commitment of this Administration, at the highest levels, and the Congress, to seeking real, measurable improvements in our economic relationship with Japan.

PREPARED STATEMENT OF DAVID A. DUKE

INTRODUCTION

Good afternoon Mr. Chairman and Members of the Subcommittee. My name is Dave Duke. I'm the Vice Chairman of Corning Incorporated. I'm responsible for guiding and managing Corning's R&D resources.

I'm here today because of my previous experience managing Corning's fiber optics business in the very early stages of development of this revolutionary technology.

In this prior capacity. I had considerable experience trying to patent and sell Corning's pioneering invention in Japan and elsewhere overseas. As you will see from my testimony, it was a very frustrating experiencing.

I should say from the outset that I'm not here today to criticize Japan. Rather, I'm here in the interest of providing information that may prove useful to you and others in developing a strategy to enhance the protection of U.S. intellectual property worldwide.

The United States is a high-wage country. As such, the only way we can maintain our international competitiveness and increase the income of our workers is by the invention of new products and processes.

Once created, the intellectual property associated with these new inventions must be effectively protected on a worldwide basis or their value will be eroded by low-wage manufacturers. As a result, we won't be able to create higher-value, higher-wage jobs for Americans. In this sense, patent protection is very much a jobs issue.

WHO IS CORNING?

I guess the first question is: Who is Corning, and why do we care about intellectual property protection?

Corning is the largest specialty glass and ceramics manufacturer in the United States. We supply essentially three product markets: consumer, communications, and advanced materials. We also have a significant laboratory services business, but that is not the topic of discussion today. So, I will focus my comments on our manufacturing business.

Corning had revenues of \$3.7 billion last year. About \$1 billion was generated from laboratory services. The rest was generated from glass and ceramics manufacturing. So, as you can see, we are very much a manufacturing entity.

Our strategy from our early beginnings, 140 years ago, has been to invest in ourselves and in our future through aggressive R&D efforts. We're in a business that's 4,000 years old. The early Egyptians knew how to make glass.

Given the maturity of basic glass manufacturing technology, the only way we can survive is through the constant development of new products and new processes. As one of our scientists put it, "We have to constantly obsolete ourselves to stay alive." Hence, our interest in patent protection.

Because we are technology-driven, we invest heavily in R&D. We consistently spend 5 to 6 percent of revenue in R&D, substantially above the average for manufacturing in the United States. Our R&D efforts have paid off. For one thing, we've survived, and in fact thrived, for over 140 years.

This remarkable record is due in large part to our pioneering inventions. There are far too many to list, but I will mention three that have touched all our lives. First, Corning invented the process for producing the glass enclosure for Thomas Edison's light bulb. Second, in cooperation with RCA, we invented the process for making the glass bulb for television. And, most recently, we invented optical fiber, the ultra-pure, thin strands of glass that are ushering the world into the information and knowledge age.

I'm sure you would agree that our lives today would be very different without these pioneering inventions, all of which are still used today on virtually every part of the globe.

My focus today will be on our experience with fiber optics.

WHAT IS FIBER OPTICS?

The term fiber optics encompasses the family of technologies which enable the transmission of light pulses over long distances without repeating, or boosting, the light signal. It out-performs all other transmission media because of its unique characteristics.

—It has far more information-carrying capacity than any other media. Two strands of optical fiber can carry the equivalent of 24,000 telephone calls versus one call on two strands of copper wire.

—Communication signals over optical fiber are void of interference, witness Sprint's pin-drop commercial on television.

—Communications over optical fiber are extremely secure because it's virtually impossible to tap fiber without detection.

—And, fiber optics is easy to install because it's extremely light. One-quarter pound of fiber does the same work as 33 tons of copper.

As a result, optical fiber is revolutionizing communications worldwide. It has become a principal technological driver for the National Information Infrastructure which President Clinton and Vice President Gore have spoken about so eloquently.

As far back as 1975, Japan realized the significance of this technology. It targeted the development of the technology, organizing and financing a consortium of Japanese companies to develop a manufacturing process indigenous to Japan. And, Japan encouraged R&D through discriminatory procurement, the exclusion of foreign products, and the exclusion of foreign investment to ensure the success of domestic producers.

Now that Japan has developed a world-class manufacturing capability, it is implementing a plan to deploy fiber optics to every residence, school, small business, and government institution in the country by the year 2015. The United States has no such plan. In fact, Corning estimates that unless communications policy changes in this country, we won't see fiber universally deployed until some time after the year 2035! In other words, under current policy it won't happen in our lifetime, and maybe not in our children's lifetime.

Fortunately, Corning's affiliate, Siecor Corporation, has been selected, along with three Japanese companies, to develop a new generation of fiber and cable for universal deployment in Japan. Massive deployment will begin in 1995, and we hope to get a reasonable portion of the business.

CORNING'S PATENT EXPERIENCE IN JAPAN

This background is necessary to put Corning's patent experience with optical fiber in Japan in context.

First, let me establish a time frame. The patents for our key inventions in optical fiber were applied for in the United States in 1970. The following year, we applied for foreign patents. In the United States, patents were issued quickly. Our two key U.S. patents were issued in 1971 and 1972.

Our experiences overseas, and particularly in Japan, were starkly different. In Japan, the examination of our applications did not conclude until 1977. Then, as is still the practice in Japan, the patent applications were published for opposition. Of course, by this time, our U.S. patents were well known and the technology had been disclosed. The applications were opposed by five companies and two individuals. Presumably, the individuals were acting on behalf of two other companies.

At this point, one of the things that really frustrated me was that it took five years of arguing with the Japanese Patent Office to persuade them that the inventions were patentable. Then the reward was that we had to take-on seven Japanese companies in opposition proceedings. Although I didn't know it then, Japan had some more surprises in store for me. To describe them, I need to provide a little commercial background.

In 1972, in order to obtain some funding, we granted to a Japanese company an option to obtain an exclusive license under our Japanese patents. In 1977, that company said it wanted to exercise its option So I went to Japan.

My first surprise was to see that our technology was in use in Japan.

My second surprise was being informed by our prospective licensee that it could not enter into a joint venture with Corning because the Japanese Government wouldn't approve. Further, and this really was a surprise, the prospective licensee said that it planned to grant sub-licenses to two of its competitors. I asked, "Why would you ever want to do that?" Their answer was simple. "The Government suggested it."

My final surprise on that trip was that the two companies who would become sub-licensees were two of the companies who were opposing our patents.

Welcome to Japan.

Well, we finally negotiated the license and the sub-licenses, and five years later, in 1982, after all the oppositions and appeals concluded, one of the two patents issued. The patent which issued covered the process which we had invented to make the first low loss fiber. The patent which did not issue covered the basic product.

By the time all of these proceedings were concluded, most of the Japanese companies had developed a non-infringing process to make the same product. Of course, since our product patent was not granted, we couldn't attack their products. And because they had developed a different process, our process patent wasn't as useful as we had expected.

While this was on-going, we learned in 1980 that Japanese-made fiber was being sold in Canada. Of course, our Canadian patents had issued, so we started a suit in Canada against a Canadian cable company which was using the fiber and against the Japanese manufacturer, Sumitomo Electric Company, which supplied the fiber. That case was tried in January 1984, and we won.

In 1983, we started to see Sumitomo fiber in the U.S. market. At that time, Sumitomo also announced that it was building a R&D center in North Carolina.

By early 1984, enough Sumitomo fiber was sold in the U.S. market that we decided we had to do something. So, we initiated a proceeding in the U.S. International Trade Commission ("USITC") to exclude infringing fiber from the United States. Soon after we started that case, Sumitomo announced that the facility which it had said was an R&D facility was really a production facility and argued, therefore, that the USITC proceeding should be dismissed.

The USITC refused, and we eventually won that proceeding on the patent issues. But, relief didn't issue because of a flaw in the statute which was corrected by amendment in the 1988 Trade Act.

When we learned that Sumitomo was making fiber in the United States, we started a suit in the Federal court. That case was finally tried in 1987 and we won. Sumitomo appealed and we prevailed again.

In summary, from about 1977 to 1989—a period covering over a dozen years—we were constantly involved with patent suits or proceedings, either in Japan or in the United States, against Japanese companies.

CONCLUDING OBSERVATIONS

I'd like to close with a couple of overall comments about patents and business activities in Japan.

- First, I want to say that I have a lot of admiration for Japanese companies. They are, in my experience, tenacious and single-minded in purpose. They recognize the importance of technology, and the need to invest in technology. There is much about Japanese industry that U.S. industry could profitably emulate.

With respect to patents, in my view there can be no doubt that Japanese companies, and indeed Japan as a whole, recognize the importance of patents. However, there are stark differences between the attitudes in this country and in Japan regarding patents. I think these differences are, at least in part, explained by differences in culture. But, in a large part, think they're explained by a national will in Japan to be a technological leader, even if discriminating against foreigners is necessary.

In this country, companies are comfortable with the notion that the purpose of getting a patent is to obtain the power to exclude competitors, both foreign and domestic. From my experience, I think this is not culturally true in Japan. In Japan, the idea of sharing, rather than excluding, is more dominant.

- Sure, Japanese companies, like companies in the United States, would like to have the biggest market share possible. However, in Japan, the desire for harmony is far stronger and, as a result, Japanese companies are far more likely to view patents as simply "trading chips." Under this view, two or three others in their industry swap rights, very much like the attitude which prevailed in this country in the semiconductor industry during the 1960s. Because of this cultural orientation, Japanese companies simply have had a very hard time dealing with the concept of being excluded from a market because of patents.

The idea of "sharing" is also reinforced by the Japanese Government. In my experience, it is not unusual for the Japanese Government to decide that certain domestic companies (usually two or three) will be in a business, and no others. And, the selected companies will then engage in orchestrated research which is, at least in part, funded by the Government. I saw this through the actions of NTT, the major telephone company in Japan which was government-owned during our early experiences with fiber optics in Japan. This sort of activity, or "industrial policy," puts U.S. companies at a real disadvantage.

Regarding doing business in Japan, I do believe that things are different today from 10 or more years ago. Although I do not believe that Japanese markets are nearly as open as U.S. markets, things in Japan have improved.

In the optical fiber business, Corning now participates in the Japanese market to a much greater extent than existed 10 or more years ago. However, this hasn't happened by accident. Corning has made a commercial commitment to Japan and has consistently beat the competition on price, quality, and delivery. And, the U.S. Government has quietly, but persistently, pressed Japan to open its fiber optics market.

But, the main point is that cultural change, like momentum, does not occur unless force is applied. Thus, I think it is both appropriate and necessary that the U.S. Government continue to press Japan to open its markets and effect structural change to reduce its trade imbalance.

Similarly, I think it is important that our Government should actively address needed changes in the Japanese patent system. For example, oppositions of patent applications should be abolished, as was done by all the EEC countries 10 years ago. Also, the law in Japan should be changed so that at least some pre-trial discovery is allowed, which would result in really enforceable Japanese process patents. These

are matters which, in my view, should be in the forefront of the minds of our trade representatives who are addressing intellectual property issues either bilaterally or multilaterally. Enactment of Senator Rockefeller's bill, S. 149, would certainly help. Thank you for the opportunity to appear before the Subcommittee.

PREPARED STATEMENT OF SENATOR CHARLES E. GRASSLEY

Thank you Mr. Chairman. I would like to commend you on holding today's hearing on U.S./Japan relations in the areas of macroeconomic and sector-specific objectives, along with the issue of intellectual property rights protection.

The Detroit Free Press in a July 8, 1993 editorial, I believe best illustrated the outcome of the Tokyo summit when it stated: "Out of this summit there has to come at least some progress toward liberalizing the rules of the trading game, and some assurance that the industrial democracies can still work together in mutual interest. The alternative, after all, is terrible to contemplate: Trade wars, the abandonment of multilateral trade agreements, and the slow grinding down of the gears of everyone's industrial economy." Clearly the trade negotiators took a major leap toward putting our long-stalled global trade agreement back on track during the Tokyo summit. I would like to commend the President and our negotiators for preventing the alternative that clearly would have been the case as cited in the Detroit Free Press editorial.

The summit, however, is far from rosy and expansive, in that, the Europeans are still clinging to their farm subsidies and the Japanese are still barring foreign vodka and gin, even as they have agreed to expand imports of other liquor. In addition, we are all aware of Japan being on the "Special 301" "watch list" of countries since 1989. And lastly, I am also concerned with the Japanese refusal to accept initiation of Section 301 petitions under the framework agreement. However, I do commend Ambassador Kantor for his strong stance to preserve this right.

Mr. Chairman, a great deal of importance was riding on the Tokyo summit. . . . Jump starting the Uruguay Round and bringing to a positive conclusion the North American Free Trade Agreement are but two. More importantly it is a quantum leap for the American working men and women in terms of jobs and a higher standard of living. For every billion dollars of exports, we create twenty thousand new jobs in the United States. These are good jobs, a majority of them in the manufacturing sector, and earn on average, almost \$3,500 dollars more than non-export jobs. For service workers their paychecks will be 20 percent higher than the average non-export service worker's salary.

Finally, Mr. Chairman, for me the proof will be in the results. I will be closely watching the discussions in the next six months to a year between our respective country's. I sincerely hope that the Japanese are not nodding in agreement for the purpose to further delay concrete results. The Japanese consumers can ill afford such action, the American working men and women deserve better, and the global trading community deserves more respect and opportunity to compete in an open trading system.

I'm looking forward to the comments of those who will be testifying.

Thank you Mr. Chairman.

PREPARED STATEMENT OF SENATOR ORRIN G. HATCH

Mr. Chairman, I commend your initiative in organizing today's hearing on the important topic of our trade relationships with Japan.

I want to hear from the witnesses on the so-called "framework" agreement; and I especially want to express my support for Senator Rockefeller's initiative on expanding the Special 301 provisions of the 1988 Omnibus Trade Act to further assure the ability of our firms to secure their technologies in the Japanese market. I might add that I supported the Senator's bill, S. 3190, in the 102nd Congress and am solidly behind S. 149 at present. Let me turn to the latter issue first.

INADEQUATE PATENT PROTECTION IS AN UNFAIR TRADE PRACTICE

The Bush Administration miscategorized the patents issue by placing it in the Structural Impediments Initiative, or the SII talks, as they were called.

Japanese patent processes are only partly structural problems. By structural I mean trade obstacles that tend to be less visible and equally difficult to change because of historic or cultural roots.

I accept the legitimacy of such structural patent practice problems as public opposition—which means that third parties in Japan can challenge a patent application

before a grant is made. Japan awards a patent to whomever files first; the U.S., by contrast, awards a patent to whomever first establishes a unique invention. But the U.S. does not allow for opposition.

It is understandable, therefore, for the Japanese to allow a challenge to a patent claim lacking the scientific credibility that would be required for a U.S. filing. But it is equally sensible for the U.S. to deny opposition to solidly established patents. If the problem were as simple as that, I would think that we could come into agreement.

Unfortunately, the structural problems are overlapped by insidious practices, such as those that allow a flurry of often distortive claims. The challengers will make the most minor modification possible to the patent, forcing the original patent filer to either cooperate with the Japanese challenger or lose the benefit of the patent entirely.

This is why we need to expand the coverage of Special 301. The structural aspects of inadequate property protection cannot be separately addressed.

ADMINISTRATION NEEDS TO EXPLAIN THE "FRAMEWORK" CONCEPT

Mr. Chairman, let me turn to the second major issue before us today, the administration's framework agreement with Japan. Let me say right off that, from all reports, Ambassador Charlene Barshefsky, who will be forever known as "Stonewall," a label assigned to her by her Japanese counterparts, underwent a rather brutalizing baptism by fire. This was her first mission, as unbelievable as that may seem. I regret that I was undergoing surgery at the time she came to my office for a courtesy call.

Madam Ambassador, welcome. I suspect you will have at least a few strong promoters on this committee, my colleague from Michigan foremost among them.

Turning to the business at hand, I would like to know just what the framework agreement accomplishes. You could begin by answering a few fundamental questions:

- How is it different from the SII or MOSS talks of the past administration?
- How sustainable is any agreement given two extenuating conditions: the value of a commitment made by outgoing Kiichi Miyazawa, and the conflict between the Ministry of Foreign Affairs and the customarily more powerful Ministry of International Trade and Industry?

There are still other concerns that I have, that reach to the heart of some of the post-Summit statements made by the parties. The steel agreement is contingent upon the Multilateral Steel Agreement talks which have been disbanded without much hope of success. And the boastful commentaries coming out of the European Community that, on IPR matters, nothing has changed. Which is another way of saying that audio-visual products from the U.S. will continue to be the subject of discrimination.

I am looking forward to hearing a more detailed explanation of just what it is we gained from Japan and for the GATT Round as a result of the Tokyo G-7 Summit.

Mr. Chairman, I thank you for your courtesy in entertaining my remarks and look forward to hearing and questioning the witnesses.

PREPARED STATEMENT OF JAMES W. HINEY

Mr. Hiney has been associated with NCT for almost 3 years. He has been a partner in several Washington, D.C. law firms and has dealt with energy, legislative, corporate, administrative and patent/trademark matters throughout his career. He is a member of the D.C. bar and Virginia bar, a member of AIPLA and the Japan Study Group.

I. NCT BUSINESS OVERVIEW

Noise Cancellation Technologies, Inc. ("NCT" or the "Company") is the industry leader in the design, development, production and distribution of electronic systems that actively reduce noise and vibration. The potential applications for the Company's systems cover a wide range of multi-billion dollar markets, including those served by the transportation, manufacturing, commercial and consumer products industries. The Company has begun commercial application of its technology, with four products currently in production, and expects to introduce several new products this year. Additional products which have been technologically proven are expected to be introduced in 1994. The Company has entered into a number of strategic alliances to develop, manufacture, distribute and/or market its products with companies such as Walker Manufacturing Company (a division of Tenneco, Inc.), Siemens Medical Systems, Inc., AB Electrolux, Foster Electric Company, Ltd., Detroit Diesel Corporation, Philips Electronics N.V., Analog Devices, Inc., Bosch-Siemens and others, in order to more rapidly and efficiently penetrate major markets. The Company currently has 176 employees of which over 95 are technical staff. NCT just introduced its active noise canceling headset, the "Noisebuster", last month. It will appear in stores this fall. See Appendix A for a complete description.

Noise and vibration caused by machinery, vehicles, consumer appliances and other sources are disruptive, irritating and damaging to health and hearing. Active noise control systems reduce noise by emitting sound waves that are equal in frequency but opposite in phase to the unwanted noise. They offer many advantages over traditional passive methods of noise control such as conventional mufflers, ear protectors and acoustical padding, in that active noise control systems (i) cancel only unwanted noise and permit desired sounds such as the human voice, music or warning tones to pass freely, (ii) are more successful in attenuating low frequency noise, (iii) contribute to energy savings and other economic benefits in various applications and (iv) generally are smaller and lighter. Active vibration control systems have similar advantages in that they reduce unwanted vibration caused by machinery operations, sounds and other sources, thereby improving manufacturing efficiency and prolonging equipment life.

With the advent of increasingly powerful microchips and digital signal processing, it is now possible to actively control undesirable noise and vibration in a cost-effective manner. NCT has capitalized on these advances in electronics and its own advances in algorithms to improve active control technology through its in-house research, engineering and product design. The Company's broad intellectual property rights and technological know-how have allowed NCT to create advanced systems to cancel both repetitive and random noise and vibration. For example, the Company's active noise control systems, through the use of a proprietary fast adaptive process, can adjust to sudden changes in repetitive and random noise. If the offending noise changes - as when an engine accelerates or a fan changes speed - the system adapts virtually instantaneously, enabling the Company's electronic systems to maintain constant noise cancellation.

II. NCT TECHNOLOGY OVERVIEW

(a) Introduction

Active Noise Cancellation is not a new idea. Creating a copy of the noise and using it to cancel the original dates back to the early part of this century. The first systems used a simple "delay and invert" approach and showed some promise, but the variability of real world components and the complexity of the noise problems limited their effectiveness.

In the mid 1970's a major step forward took place with the application of adaptive filters to generate the anti-noise. This greatly enhanced the effectiveness of the systems as they could continuously adapt to changes in their external world as well as changes in their own components. A second breakthrough was made by Professor Chaplin in the mid 1970's. He recognized that many noise sources, particularly those produced by man-made machines, exhibit periodic or tonal noise. This tonal noise allows a more effective solution as each repetition of the noise is similar to the last and the predictability of the noise allows creation of an accurate anti-noise signal.

Practical application of this technology still had to wait as the electronic technology available at that time was not sufficient for implementation of Active Noise Cancellation systems. Now digital computer technology has evolved to the point where cost effective Digital Signal Processing (DSP) microcomputers can perform the complex calculations involved in noise cancellation. This technology advance has made it feasible to apply Active Noise Cancellation to previously difficult problems in low frequency environmental noise at a reasonable cost.

(b) Noise Types

Sources of noise exist throughout the environment. Noise can be classified into two types, (i) broad band noise and (ii) tonal noise.

The first type of noise is turbulent and inconsistent. These noises tend to distribute their energy evenly across a range of frequencies and are therefore referred to as "broad band-noise". Examples of broad band noise are:

Jet planes:	The low frequency rumble
Grinding:	In certain manufacturing operations
Wind:	Everywhere
Flowing Water:	In plumbing and waves at the beach

A large number of common environmental noises have a different nature. These "Tonal Noises" concentrate most of their energy at specific frequencies. Sources of these noises are man-made rotating or repetitive machines, the noise frequencies are all multiples of a basic "Noise Cycle" and the noise is periodic and consists of a set of tones (or harmonics as in music). This "Tonal Noise" is common in the environment as man-made machinery tends to generate it at increasingly high levels.

Examples of tonal noise include:

- Engines: In transportation and as auxiliary power sources
- Compressors: As auxiliary power sources and in refrigeration units
- Vacuum Pumps: Used to transfer bulk materials in many industries
- Rotating Machines: Imbalances cause vibration and secondary acoustic noise

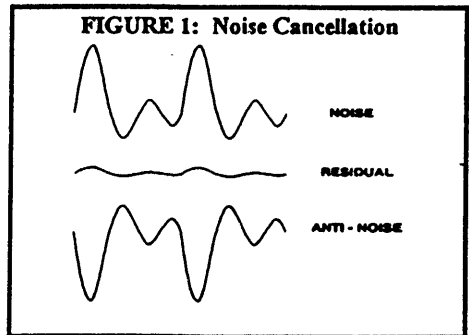
(c) **Passive Noise Control - The Historical Approach**

ENERGY ABSORPTION - The classical approach is to contain, deflect and/or absorb noise and vibration energy and control its propagation using passive materials. The use of sound absorbing and rigid materials to reduce noise level is an effective approach at high frequencies. Below about 500 Hz, however, the cost, weight, and inefficiency of passive sound attenuation often makes this approach ineffective or impractical. A new technique for noise control was therefore required.

(d) **Active Noise Cancellation Technology - The New Method**

ANTI-NOISE - The idea of creating a copy of the noise and using it as "Anti-Noise" to cancel the original dates back to the early part of this century. Figure 1 shows the relationship, in time, of a noise signal, an anti-noise signal and the residual noise that results when they meet.

Active Noise Cancellation (ANC) does not mask the noise, it removes a significant portion of the noise energy from the environment. ANC systems use digital signal processing and sophisticated algorithms to attenuate noise.

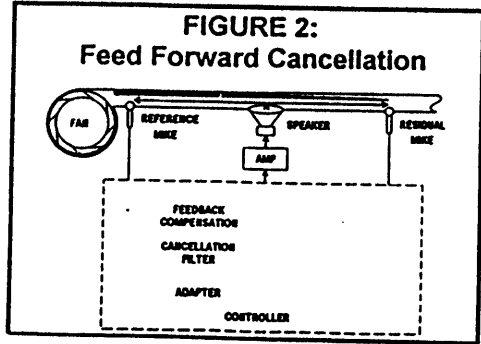


(e) Principal Active Noise Control Algorithms

DIGITAL FEED FORWARD -

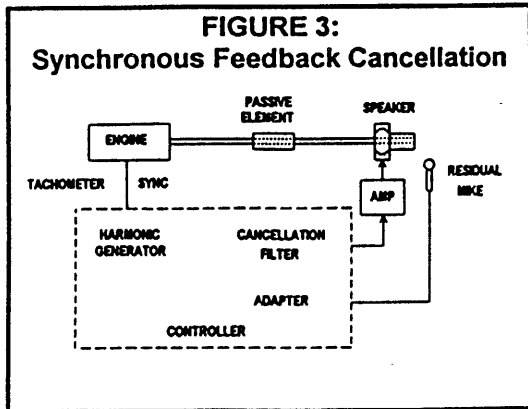
This form of Active Noise Cancellation is shown in Figure 2 as used by NCT to reduce fan noise. It is the earliest high tech form of active noise control and is covered by patents owned by Noise Cancellation Technologies, Inc.

Here a microphone is placed "upstream" in the duct to get a reference sample of the noise. The effect of the duct on the noise is modeled to produce an anti-noise wave form at the output speaker. A residual microphone is placed downstream in the duct to determine how well the system is operating and the duct model is continuously adjusted to maintain peak cancellation. Feedback Compensation is also required since the anti-noise wave also propagates backwards along the duct making the reference signal inaccurate.

**SYNCHRONOUS FEEDBACK -**

This technique, patented by G.B.B. Chaplin in the mid 1970's and recently improved and patented by Noise Cancellation Technologies, Inc. is very effective on repetitive or tonal noise and does not rely on an advanced indication of the noise.

Here, instead of the reference microphone, a tachometer signal is used to provide information on the RATE of the noise. Since all of the



repetitive noise energy is at harmonics (or multiples) of the machine's basic rotational rate, the DSP microcomputer can dedicate its resources to canceling these known noise frequencies.

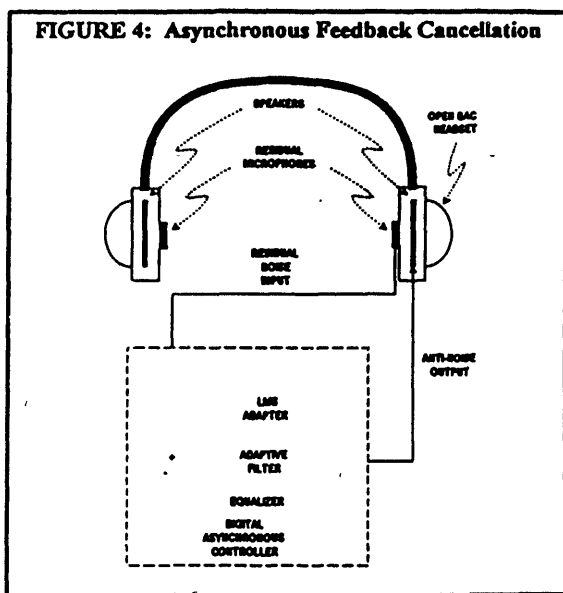
Figure 3 shows the configuration of a synchronous noise cancellation system applied to reduce engine exhaust noise. NCT has successfully applied this approach to the high noise levels generated by industrial and transportation diesel engines, compressors and air blowers achieving 10 to 20 dB more noise reduction than that obtainable by conventional means. The unrestricted flow through these mufflers provides significant energy savings ranging from 2.5% in a bus application to 24% in an industrial blower used to transfer bulk material between railroad cars and trucks.

NCT has also demonstrated these active mufflers on automobiles showing the ability of this approach to track the rapid changes in noise as cars change speed. The resulting cars are quieter than those with standard passive mufflers, have better fuel economy (about 5% city and 2% highway in a typical car), and accelerate faster.

DIGITAL VIRTUAL EARTH -

This advanced technique, recently developed and patented by Noise Cancellation Technologies, Inc., is very effective on tonal noise and needs neither an advanced indication of the noise nor a synchronization signal. It is therefore very useful in applications where the solution must retrofit onto existing equipment. It has also proved effective for tracking rapid variation of simple tonal noises such as those from electronic emergency sirens.

Figure 4 shows the configuration of a digital asynchronous feedback noise cancellation system applied to reduce this noise with a light weight headset.



The controller internally develops its own reference signal as it synthesizes the anti-noise required to minimize the resulting noise at each ear. NCT has demonstrated 20 dB cancellation of these rapidly varying siren signals providing hearing protection as well as improved safety through the enhanced ability to hear other sounds. This technique is also being used in many of NCT's Industrial Muffler systems.

MULTI-CHANNEL SYSTEMS -

Noise Cancellation Technologies, Inc. has also developed and patented the MISACT system that deals effectively with the fact that some complex applications (cabin quieting, engine mounts, etc.) require multiple active noise cancellation systems working together to achieve the desired result. Interactions between these separate systems or channels can result in unstable operation. MISACT continuously compensates for these interactions to guarantee good performance.

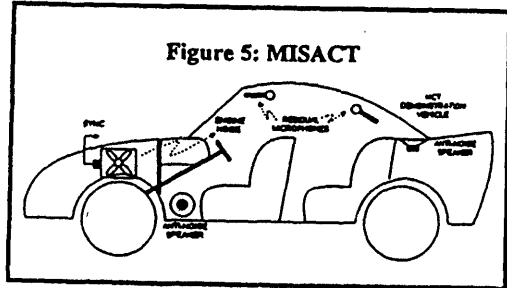


Figure 5 shows the application of a multi-channel MISACT system to quieting an automobile cabin. NCT has demonstrated a 10 dB reduction in engine related noise in actual use on the road. This allows the use of fuel efficient, but relatively noisy, 4 cylinder engines while maintaining a luxurious and quiet ride for the owner.

(f) Summary of Benefits

NCT's active noise cancellation technologies have demonstrated practical and effective solutions to many environmental noise problems. They reduce noise and vibration significantly (10 to 20 dB in most applications, often more) while, in many cases, improving the energy efficiency of the machine. These are significant noise reductions as a 10 dB improvement is a reduction of noise power by a factor of 10 and a 20 dB improvement corresponds to a noise power reduction by a factor of 100.

NCT has also demonstrated significant energy savings in several applications. The active muffler has shown 2% to 24% fuel savings. Active fans can be designed

with higher efficiency and have shown as much as a 30% reduction in energy usage. Using fewer of the heavy passive materials for control of noise also provides savings.

The active engine mount jointly developed by NCT with automotive vendors has also demonstrated significant reductions (10 to 30 dB) in engine vibration transmitted to the rest of the vehicle using the MISACT system. This allows the production of good handling, luxurious feeling cars without sacrificing low weight and fuel economy.

NCT continues to develop further improvements on these technologies extending the range of noise cancellation products that can be delivered today.

(g) NCT Product Applications

NCT is currently delivering the following noise cancellation products:

- Magnetic Resonance Imaging Headset (Siemens)
- Emergency Vehicle Headset (Federal Signal)
- Industrial Muffler (Cooper, CSX)
- Consumer Headset ("Noisebuster")

NCT has prototyped and successfully tested active noise cancellation in the following applications:

- | | |
|---|---|
| <ul style="list-style-type: none"> • Active Muffler <ul style="list-style-type: none"> Truck Bus Car | <ul style="list-style-type: none"> • Fans <ul style="list-style-type: none"> Consumer (Electrolux) Heating, Ventilation, and Air Conditioning |
| <ul style="list-style-type: none"> • Active Mounts <ul style="list-style-type: none"> Industrial Automotive | <ul style="list-style-type: none"> • Enclosures <ul style="list-style-type: none"> Marine Industrial |
| <ul style="list-style-type: none"> • Zone Cancellation <ul style="list-style-type: none"> Automotive Cabin Quieting (Trucks & Cars) Aircraft Cabin Quieting (SAAB) Silent Seat | <ul style="list-style-type: none"> • Headsets <ul style="list-style-type: none"> Aircraft Cabin Locomotive |

Many of these designs are now being refined and packaged into viable products. NCT has already achieved manufacturing cost levels which are consistent with penetration of cost sensitive market areas like automotive and small consumer appliances.

III. THE CHAPLIN PATENTS

In the early 1970's Professor G.B.B. ("Barrie") Chaplin of Colchester, England, together with others, developed a series of techniques for actively attenuating noise in an acoustic manner. Commencing in 1978, Professor Chaplin and his coinventors were issued a series of patents covering inventions on both the system and method of active noise attenuation. The inventions are 10 in number and are numbered I through XII, number IV and XI being absent. Applications for the patents on the 10 inventions were filed world-wide and today there are 78 international patents covering the inventions. The average time required for obtaining patent coverage being three years from date of filing. The applications had been assigned to Sound Attenuators Ltd. (a U.K. corporation) at the time of filing.

Applications were filed in Japan in 1980 and 1983 on the inventions noted as Chaplin III and Chaplin X, respectively. Requests for examination on these two Japanese applications were not submitted until 1987 and 1990, respectively. The requests were made by Chaplin Patents Holding Company, Inc. (CPH), the present owner. Chaplin Patents Holding Company is a pure patent holding company owned 50% by NCT and 50% by a competitor. It was created to resolve a conflict dealing with the ownership of the Chaplin patents.

Of the two inventions, Chaplin III and X, Chaplin III is the most critical to NCT and CPH at present. Approximately two years after the examination request the Japanese Patent Office (JPO) rejected the application as unpatentable over prior art. This despite the fact that Chaplin III had been granted in the U.S., South Africa, Norway, Australia and in Europe covering the U.K., France, Germany, Netherlands, Sweden and Switzerland.

After a good argument, the JPO again rejected the case this time rejecting Chaplin III over patents issued on Chaplin II. This was their approach in spite of the fact that Patent Offices of other industrialized nations allowed patents on both Chaplin II and III. This "piece-meal" prosecution, built-in delays and different standards from the rest of the world has resulted in denials and delays in obtaining patent coverage in Japan. It is now six years since examination was requested in Chaplin III and we have no patent. Our last response was filed in October 1992 and to date we have heard nothing. A similar situation is occurring in the prosecution of Chaplin X.

The delay in Chaplin III is especially agonizing when we hear that Nissan had introduced a cabin quieting system in their Japan only version of the Altima, the "Bluebird". (See Appendix B for articles on the Nissan system). Nissan announced that it would be introducing it's sound suppression on one of its U.S. models in Fall 1993. I.e., if we are to believe Nissan, they will be here in a few months having successfully test marketed their system in Japan without fear of being sued for patent infringement. In addition, Nissan filed for and obtained four U.S. patents on their system in record time due to the promptness of the U.S. Patent Office in examining their applications.

There are others in Japan staking out a position in active noise cancellation. Toshiba is busy attempting to develop a quiet refrigerator, Hitachi (who allegedly worked on the Nissan system) is working on quieting air ducts and Sony is attempting to develop quiet headsets. All of these companies regularly file in the U.S. and obtain patents quickly. This fits the historical pattern of the last two decades. At present, about 22% of U.S. patents are being granted to Japanese companies. U.S. companies now account for only half of U.S. filings.

Contrast this picture with the fact that only 5.8% of Japanese patents are issued to U.S. companies.

The result is that U.S. companies have a 2½ to 1 advantage over Japanese companies in obtaining U.S. government sanctioned product monopolies ... and monopolies for 17 or 20 years is what we are talking about while Japanese companies have a 14 to 1 advantage over U.S. companies in obtaining government of Japan sanctioned monopolies. Our monopolies, by the nature of our patent system, are much broader in scope than the Japanese monopolies. U.S. and other European companies continue to lose headway in Japan.

In the U.S. we must, at NCT, disclose all the pertinent prior art to the U.S. Patent Office. In Japan, there is no such requirement but under the Patent Cooperation Treaty, U.S. companies/individual applications cite the art which is made known to the Japanese Examiner. The Japanese company filing "blocking disclosures" in Japan is under no such constraint.

IV. FILING IN JAPAN

The cost of filing for and obtaining patent protection is higher in Japan than anywhere else in the industrialized world. Their filing fees just jumped by almost 50%. I am presently evaluating filing the national stage applications in Japan for 30 applications we have filed under the Patent Cooperation Treaty (PCT). The cost just to get the cases filed is estimated at \$180,000.00.

These outrageously high fees are in part due to the Japanese government's high fees, the translation costs (one can only file a case translated into Japanese ... unlike elsewhere) and the Japanese *benrishi* and *bengoshi* (agents and attorneys) high fees.

To a small company like NCT these costs are an overwhelming burden.

V. SOLUTIONS

As an American company which has grown from 35 employees to 176 in two years and was the fastest growing corporation in *Inc.* magazine's list last year, we are best described as "aggressive". We have put together a fine team of people which include brilliant entrepreneurial minds, sage counseling and the best technical brains in the active noise cancellation business. We are proud to have Dr. Chaplin on board as a consultant to us as well as Dr. Fuller from VPI. While we have domestic competition and we have U.S. corporate giants sniffing around constantly we are confident that we can hold our own inasmuch as we are all playing by the same rules, are under similar legal constraints and we are just that much better.

However, the Japanese are in a position to have our lunch, not to mention dinner unless the U.S. decides to reorder its priorities by assisting U.S. companies, especially small businesses, in the great "Patent and Trade Wars". We have done everything by the book; we have dozens of patents, patent applications and trade secrets; we have a Japanese joint venture partner which makes speakers and with whom we have a good relationship; we have other joint venture partners, American and European, and we have tried to be the leader in the field. Last year, e.g., at our urging, Congress approved language in the Energy Act directing the Department of Energy to study active noise cancellation.

We are, I believe, the classic front-runner of a new technology that will be one of the biggest and most widespread of the first decades of the next millennium. It also promises to have a major impact on our armed forces ability to carry out their mission. A military that is not only smart but stealthy.

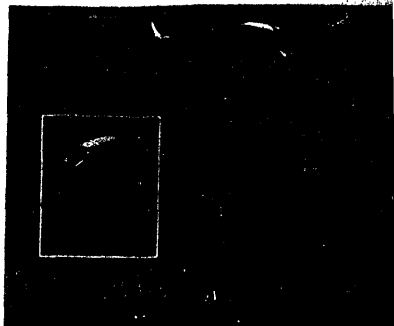
How to help U.S. companies like us? One sure way is the passage of S3190, the International Protection of Patent Rights Act of 1993 to allow more effective use by USTR of Special 301 provisions to "even up the patent playing field". We are the second Maryland small high-tech company facing this type of problem. Fusion Systems of Rockville, Md. has had problems with Mitsubishi.

All we ask for is level terrain, we will do the rest.

NoiseBuster™

Active Noise Canceling Consumer Headset

The NoiseBuster stereo headset uses innovative active noise canceling technology to reduce a variety of annoying noises encountered in everyday life. NoiseBuster can be used alone for its noise reduction benefits or in combination with portable stereo devices to enhance listening pleasure in noisy environments.



Features:

- Electronic noise cancellation
- Selective cancellation leaves speech, music or a ringing telephone audible while reducing noise
- Comfortable, light-weight, high-quality stereo headset
- Small, light-weight, battery-powered controller with belt clip — approx. size 2"x2"x3/4"
- Plug adapter to connect to portable audio player
- Headset and controller snap together for easy carrying
- Active cancellation can be switched off and the headset becomes a standard stereo headset

Some suggestions for use:

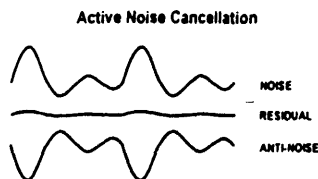
- When operating a lawn mower, weed wacker, leaf blower or other gardening equipment
- When vacuuming or using other noisy equipment in the home
- When traveling in a car, bus, truck, train or plane (subject to regulatory limitations)
- When walking in a city where there is a high level of vehicle engine noise

Performance:

The user can expect an estimated overall 10 dB or 50% reduction in noise within a 50 Hz to 1000 Hz frequency bandwidth.

How "active" works:

Microphones in the earcup of the headset listen to the offensive noise you hear at your ear. That information is fed to the NoiseBuster electronic controller where it is analyzed. An anti-noise wave is generated by the controller as an electronic signal that is sent to the speakers in the headset. The speakers output the anti-noise. When the anti-noise wave meets the offensive noise, that noise is reduced.



The NoiseBuster has been developed by Noise Cancellation Technologies, Inc., the leading developer of active noise and vibration cancellation products. NoiseBuster is a trademark of NCT, Inc.

NOISE CANCELLATION TECHNOLOGIES, INC.

410 Summer Street Stamford, CT 06901 TEL 203-961-0500 FAX 203-348-4106



AMPERSAND

EDITED BY RICHARD HOMAN



Nissan Bluebird aka Stanza

NISSAN'S UPDATED BLUEBIRD will be America's Stanza, powered by a bigger engine and made in Tennessee.

Nissan's type 310 small car from 1959 was named after the carnet of happiness in a fairy tale by the late then-president Katsuji Kawamata, a shrewd banker-turned-auto-exec who was also a self-declared romantic. The Bluebird name has never been used in America (subsequent models were given numerical appellations, including the immortal 510 of 1967) until the incumbent model, which got the Stanza name from another Nissan model.

The new Bluebird for the Japanese market is available in two 4-door sedan variants in front- and all-wheel-drive configurations. The American Stanza replacement will be the less formal version powered by the 240SX's dohc 16-valve fuel-injected 2.4-liter engine.

The Japanese Birds will have five powertrain choices, from the base carbureted 1.6-liter four up to a turbocharged 210-bhp 2.0-liter four, all featuring dual overhead camshafts and four valves per cylinder. Each

comes with either a 5-speed manual or a 4-speed automatic transaxle. New for the 2.0-liter all-wheel-drive range is an electronically controlled "smart" 4-speed automatic. The awd system employs a center differential combined with three viscous couplings, one each in the front, center and rear differentials. That's pretty thorough.

The suspension follows current Stanza practice in that Messrs. MacPherson's and Chapman's struts are used at the front and rear respectively; the latter laterally located by twin parallel links that provide dynamic toe adjustment for added stability.

No new Japanese cars come without some interesting and innovative features, and these new Nissans are no exception. The top Bluebird is equipped with the world's first active noise-suppression system. Four microphones in the roof lining detect resonance from the engine and send signals to the ultrahigh-speed computer that produces secondary sounds to cancel out the primary noise. Twin dedicated speakers under the front seats emit the secondary noise. Unfortunately, I had to drive the car in a tropical

storm, which cancelled out almost all mechanical and exhaust noise, so I cannot attest to the system's effectiveness.

The new Bluebird is a pleasant and likable automobile, which reminded me of the first really good Japanese car, the S10. And the 210-bhp awd version does justice to its designation "SSS," obviously short for super sports sedan.

—Jack Yamaguchi

Ecology has high priority

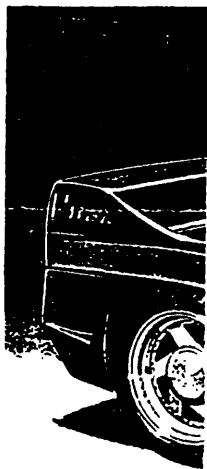
ECOLOGY IN THE automobile industry isn't limited to only clean exhaust emissions (see also Miscellaneous Ramblings in this issue). It is now realized

(1) that the resources of our planet are not inexhaustible, (2) that scrap material that cannot be recycled is becoming an ever-increasing embarrassment, and (3) that pollutants are also emitted from certain automotive manufacturing processes.

Not only in pollution-conscious Germany are measures being taken to reduce the nuisances created by cars and their manufacturing processes. Joining Mercedes-Benz, BMW, Opel, VW and Audi are the French PSA Group (Peugeot-Citroën) and Renault. Both have dis-

carded most of the non-recyclable materials from their cars.

VW, Audi and Opel have all announced that many plastic components incorporated in their new cars—such as bump-



TECHNICS

Active Noise Control System

by Hannu Karkkainen

Even though cars are being produced to operate ever more quietly, it's going on for a long time before they generate no noise at all. Practically speaking, there are three types of automotive noise that are not wanted by the cabin. The engine, of course, makes its own peculiar sound, to which is added the noise of the road and the noise of the wind. All three contribute to break the silence, or at least to disturb one's quiet listening enjoyment, for example, when the car is moving.

Four-cylinder engine cars, which are the most popular, deliver more engine noise than those with larger engines. The noise is a major matter with these smaller cars, because it disturbs drivers and passengers alike. This happens basically during rapid acceleration.

Nissan's engineers studied this problem over a ten-year period to find a way of cutting engine noise during rapid acceleration. They succeeded and developed the ANC (Active Noise Control) system, which is now available in the new domestic Bluebird in Japan.

The ANC reduces noise levels by more than ten decibels, and is the world's first such system available in a production vehicle. As usual, introduction of the new unit did not take place until all of the problems were worked out. Even though the entire ANC package is small, it includes a lot of the latest technology and advanced techniques, some of which have not been seen before.

Compared to a normal noise reduction problem, a car's cabin is even more complicated than, for example, a concert hall. The noise characteristics depend on how many persons are riding in the car, and whether or not the windows are open. Even temperature plays a role in this noise scenario. In addition, the en-

gine produces different noise levels and pitches depending on

the system's **ACTIVE SOLUTION**

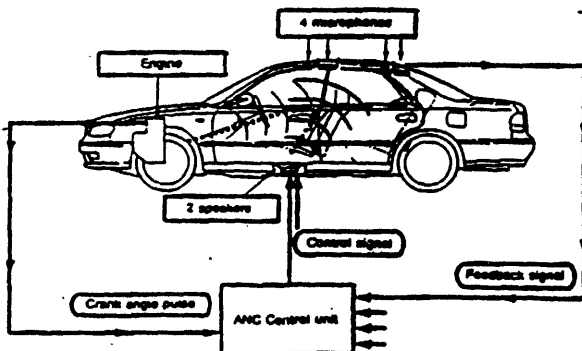
The heart of the new system is the ANC controller, which includes an adaptive digital filter with a special algorithm working on a DSP (Digital Signal Processor). This small, portable CD player-sized unit is housed in the shelf behind the rear seats. The unit receives noise data from the management computer and four microphones situated in the roof close to passengers' ears. The ANC controller analyzes the noise and sends the opposite sound waves to two actuators (speakers) hidden under the front seats.

For all practical purposes, Nissan's ANC does not cut engine noise. Instead, it combines the noise with opposing sound waves, which are produced by the speakers, in effect serving to cancel the dominant portion of the engine noise. Even though additional sound is produced, the result is that the interior is quieter than it would be without the ANC.

In an ordinary car, the primary noise comes from the engine alone. In the case of Nissan's new Bluebird, there is also secondary sound delivered by the ANC. The frequency must be the same for both sound waves and the timing must be perfect in order to reduce the noise level. The multiple error filtered-X LMS algorithm with real-time operation through a DSP is the key to commanding a "mirror image" wave from the speakers beneath the front seats.

The developers of the ANC believe that the same technical approach, with modifications, could be used in the future to reduce other noises such as those from the road and the wind.

Photo writer Hannu Karkkainen has lived and worked in Tokyo for eight years. He is a frequent contributor to European and U.S. automotive magazines. ©1991 S. Nissan Technology Newsline



PREPARED STATEMENT OF ALLAN I. MENDELOWITZ

Mr. Chairman and Members of the Subcommittee: I am pleased to be here today to testify on U.S. companies' patent experiences in Japan as compared with those in the United States and Europe. I will also address the sources of U.S. companies' patent problems in Japan and practices that may be affecting their patent experiences in Japan. Finally, I will discuss progress in working toward greater international patent harmonization and U.S. companies' views on harmonization.

BACKGROUND

Patents are one of the primary forms of intellectual property rights in worldwide use.¹ A patent is the grant of a property right issued by a national government for an invention. While the nature of patent rights varies by country, a patent typically gives an inventor the right to exclude others from commercially making, using, or selling the invention during the patent term. Any violation of the right is considered an infringement.

In recent years, some U.S. companies have complained about difficulties in obtaining adequate and effective protection for their patents in Japan. Some of these firms have asserted that their Japanese competitors use the Japanese patent system as a weapon against foreign firms to appropriate their technologies. Since 1989, Japan has been on a U.S. Trade Representative (USTR) watch list of countries that have inadequate protection for intellectual property, partly because of reported problems with its patent system.

DIFFERENCES BETWEEN THE U.S. AND JAPANESE PATENT SYSTEMS

There are fundamental differences between the U.S. patent system and those of other countries, including Japan. The United States, for example, is the only developed country that awards patents to the first inventor regardless of when the patent application is filed. Moreover, U.S. patent applications are kept secret until a patent is granted. Japan, like most developed countries, awards patents to the first inventor to file an application and publishes all patent applications 18 months after they are filed. In addition, the United States allows patent applications to be filed in different languages, whereas Japan only accepts applications in Japanese.

According to many U.S. and Japanese patent experts, patents are perceived and used differently in the United States than in Japan. In the United States, the focus of the patent system is to protect individual patentees and provide them with exclusive rights to their inventions. By contrast, many experts contend that the focus of the Japanese patent system is to promote industrial development by disseminating technology.

U.S. COMPANIES' PATENT EXPERIENCES IN JAPAN, THE UNITED STATES, AND EUROPE

To develop an understanding of U.S. firms' patent experiences in Japan, we surveyed 346 U.S. firms that were top U.S. patent holders (in terms of the number of patents held) in three sectors—chemicals, semiconductors, and biotechnology.² Over 90 percent of the 300 firms that responded to our survey had filed patent applications in Japan in the past 10 years, and two-thirds held 10 or more Japanese patents.³

As shown in chart 1 of our attachment, the majority of the responding companies were large, with almost 60 percent reporting annual sales of over \$1 billion. Ninety percent were U.S. companies or subsidiaries of U.S. companies; 10 percent were U.S. subsidiaries of foreign firms (1 percent of these were subsidiaries of Japanese firms). As shown in chart 2 of our attachment, 50 percent of the firms had filed for chemical patents, while 41 percent had filed for biotechnology patents, and 35 percent had filed for semiconductor patents.⁴

¹The other major forms of intellectual property rights are trademarks, copyrights, and trade secrets.

²The companies that we surveyed included over 90 percent of U.S. companies that were among the top 200 patent holders in the United States in 1991.

³All subsequent survey results are based on responses from companies that had filed patent applications in Japan in the past 10 years.

⁴Percentages add up to more than 100 because some companies filed for patents in more than one sector.

U.S. Firms Were More Dissatisfied With the Japanese Patent System

According to the survey results, U.S. companies generally reported more widespread patent problems in Japan than in the United States or Europe.⁵ As shown in chart 3 or our attachment, more than three times as many of the companies were dissatisfied with their overall patent experience in Japan as compared with that in the United States and Europe. Thirty-nine percent of the companies that had filed for patents in Japan were dissatisfied with their overall patent experience, while 13 percent were dissatisfied with their patent experience in the United States, and 3 percent with that in Europe. These results indicate that U.S. companies were not necessarily partial to the U.S. Patent and Trademark Office (U.S. PTO), since the responding companies were generally more satisfied with their overall patent experience in Europe than in the United States.

As shown in chart 4 of our attachment, 65 percent of the companies reported at least one major problem in obtaining patents in Japan. In contrast, 25 percent reported at least one major problem in Europe, and 17 percent reported at least one in the United States. The problems frequently cited in obtaining Japanese patents were:

- the length of time involved,
- the cost,
- the scope of the patent protection granted, and
- the difficulty in obtaining patents for pioneering inventions (those involving important new technologies).

Forty-two percent of the companies said that "patent pendency" in Japan, or the length of time needed to obtain a patent, was a great problem. In contrast, only 6 percent said they had similar problems in Europe and 5 percent in the United States. As discussed in the following section, patents usually take about 6 to 7 years to be issued in Japan, compared with about 19 months in the United States. One clear result of the long pendency period in Japan is a shorter patent life, which begins at the time a patent application is filed in Japan. Several company officials noted that excessive delays in obtaining patents "eat into the effective patent life."

Forty-two percent of the companies said that the cost of processing a patent application in Japan was a great problem, while 20 percent said that this cost was a great problem in Europe, and 12 percent in the United States. According to a 1993 survey on patent filing costs in various countries, the costs of filing an application in Japan for foreign applicants are the highest in the world, due to translation costs and the fees charged by Japanese patent attorneys (Japanese patent attorneys have separate fee schedules for foreign and domestic clients).

The scope of patent protection outlines the boundaries of the invention for which the inventor holds exclusive rights. We asked companies to rate the scope of protection they received in Japan, Europe, and the United States. As shown in chart 5 of our attachment, 71 percent of the firms indicated that the scope of protection granted in Japan was "too narrow." In contrast, only 25 percent said that the scope granted in Europe was too narrow, while 12 percent said the scope granted in the United States was too narrow.

Patent attorneys from several U.S. firms told us that the narrow scope of patent protection they have received in Japan makes it difficult for them to obtain adequate protection for their inventions. For example, one company official said that in two cases, where his firm's patents were successfully enforced in the United States, the scope of the corresponding Japanese patents for these products was too narrow to bring an infringement action in Japan.

Patents on Pioneering Inventions Face Particular Difficulties

Forty-four percent of the companies said that it was more difficult to obtain patents for pioneering inventions in Japan than in the United States or Europe, while only 3 percent said it was less difficult in Japan. Virtually all of the other companies (52 percent) said they were "not sure." Many company officials told us that it is particularly difficult to obtain patents on broad, commercially valuable technologies in Japan or on those that involve important new technologies. Several U.S. patent attorneys told us that the Japanese Patent Office (JPO) does not provide broad protection for emerging technologies until Japanese industry is well established in the field or unless there are no Japanese competitors.

⁵ When we refer to U.S. companies' patent experience in Europe in this testimony, we are referring to their experience through the European Patent Office, a centralized organization founded in 1977 under the European Patent Convention. The European Patent Office issues "European patents" that are valid in up to 17 European countries.

In one widely reported case, Allied-Signal filed two patent applications in Japan in the 1970s related to a breakthrough amorphous metal technology.⁶ In the late 1970s, Allied-Signal officials said that Japan's Ministry of International Trade and Industry organized and subsidized a consortium of Japanese companies to develop amorphous metal technology. JPO granted the respective patents in 1984 and 1989. However, they were due to expire in 1993 and 1997 (20 years after the initial filing date). Thus, less than 10 years of patent life remained as a result of the delays in patent issuance.

Allied-Signal officials maintained JPO intentionally reassigned examiners to their cases several times to delay patent processing. They also contended that JPO purposely delayed patent issuance to allow Japanese competitors time to catch up in developing amorphous metal technology and to lock Allied-Signal out of the Japanese market. According to company estimates, the value of the Japanese market during this time totalled \$90 million annually for electric utility transformers, the major product using amorphous metals. In 1990, Allied-Signal filed a complaint with USTR for an investigation under section 301 of the 1974 Trade Act.⁷ However, the case was settled when the Japanese government agreed to protect Allied-Signal's manufacturing rights until 1997 and to purchase a specified amount of the material.

In another case, the patent counsel at a U.S. electronics company said that in the early and mid-1980s, his firm had encountered no problems in Japan in obtaining the first 10 patents related to an important new telecommunications technology. In his view, "No one understood the technology's importance" at that time. Since then, however, he said that the technology has become the U.S. standard in its field, and Japanese companies have become interested in developing it. During the past 5 years, the firm suddenly stopped receiving additional Japanese patents on this technology, although the corresponding patents have been issued "all around the world."

Pre-grant Oppositions Add to Delays

Forty-five percent of the companies responding to the GAO survey said that at least one of their patent applications was opposed in Japan in the last 5 years. (In Japan, unlike the United States, third parties can file oppositions to patent applications that they believe should not be granted.) Of the companies that reported receiving at least one opposition, 10 percent said it had adversely affected their companies to a great extent. Many patent attorneys told us that applications for pioneering inventions are commonly the target of oppositions because of their high technological and commercial value. Moreover, several U.S. attorneys said they had firsthand knowledge of Japanese companies working together to oppose both domestic and foreign applications.

U.S. and Japanese patent attorneys also told us that pre-grant oppositions in Japan can delay patent issuance from 2 to 5 years, and in some cases extend the process of obtaining a patent beyond its useful life. For example, the patent counsel at a major U.S. chemical company told us that one of his firm's applications for a pigment encountered six oppositions, and the opposition period lasted 11 years. The patent was issued with 1 month of its term remaining. He noted that the process can take so long because Japanese patent examiners do not review oppositions concurrently, but consecutively.

Patent Flooding Is Not Rampant but May Be Targeted

"Patent flooding," the practice of filing many patent applications claiming minor, incremental changes surrounding another patentee's core technology, has been publicized as a widespread problem in Japan. Of our survey respondents, 12 percent said that patent flooding was a great problem in Japan. Five percent reported that it was a great problem in the United States and 3 percent in Europe.

Both U.S. and Japanese patent attorneys agreed that pioneering inventions and/or technology that promise high commercial return are the usual targets of patent flooding in Japan when it occurs. For example, a chemical company official described a case involving a breakthrough synthetic fiber, for which it had filed several applications in Japan in the 1970s. Within 10 years, a major Japanese competitor had filed 150 patent applications directed at making incremental changes in the U.S. company's claimed inventions. In the U.S. company official's view, the competitor's objective was to limit the U.S. inventor's use of its own technology. He noted

⁶An advanced material, amorphous metals are made of alloys of iron, boron, and silicon, giving them a glass-like structure. The most promising commercial use for amorphous metals is as cores for electric distribution transformers used by power utility companies.

⁷Section 301 of the Trade Act of 1974, as amended, provides a procedure under which affected enterprises or individuals may petition USTR to initiate actions to enforce U.S. rights under trade agreements. It may also be used to respond to unreasonable, unjustifiable, or discriminatory foreign government practices that burden or restrict U.S. commerce.

that the Japanese company attempted to pressure the company into cross-licensing its technology, but the U.S. company refused.

Japanese Patent Office Treatment of U.S. Applicants

Twenty-one percent of the responding companies reported that they believed they had been treated differently by the Japanese Patent Office than Japanese applicants. A majority (63 percent) indicated that they were uncertain. One corporate patent counsel noted that the patent applications his firm co-owns with a Japanese company have been processed much more quickly by JPO than those his firm has filed only in its own name.

Asked whether the Japanese Patent Office's treatment of their company has changed in the past 5 years, the majority (56 percent) said that it has remained the same. Fourteen percent said it has improved, while 6 percent said it has worsened. Several companies noted that within the last 5 years, JPO has become more willing to hold interviews with applicants regarding patent applications.

U.S. Firms of All Sizes and Types Experienced Patent Problems in Japan

Our survey results indicated that U.S. companies of all sizes and types were experiencing patent problems in Japan. For example, of the firms with 1991 sales of less than \$100 million, 40 percent reported great problems with the scope of patent protection they received in Japan, while 40 percent of firms with 1991 sales of over \$1 billion responded similarly. Further, there was not a major difference in the severity of problems perceived among companies involved in different sectors (e.g., chemicals, semiconductors, and biotechnology) or among those that file frequently and, thus, have more experience filing in Japan and those companies that file less frequently.

Some U.S. Firms Transferred Technology to Avoid Patent Problems

Eight percent of the responding companies said that in the past 5 years, they had transferred their own technology to Japanese firms solely to avoid patent problems in Japan. The great majority (83 percent) indicated that they did not enter into technology transfer agreements in Japan solely to avoid patent problems.

However, in cases where firms responded that they definitely did transfer technology to avoid patent problems, significant technologies were generally involved. For example, the patent counsel at a chemical firm told us that about 10 years ago, his company filed an application in Japan for a breakthrough plastic material. Soon after, a Japanese competitor filed applications surrounding his firm's invention with minimal, alleged improvements on the material. The Japanese company later filed many oppositions to the chemical firm's application. The patent is still pending due to the opposition proceedings. When the Japanese firm began to sell a product using technology in the U.S. firm's pending patent, the company felt compelled to negotiate a licensing agreement or face losing its technology without gaining compensation. The U.S. attorney told us that when his company faces patent problems in Japan, it is generally forced to license its technology.

Patent Problems in Japan Generally Had Little Adverse Impact on U.S. Firms

Although many companies reported great difficulty in obtaining patents in Japan, only 6 percent said that these problems had adversely affected their firm to a great extent. We conducted follow-up interviews with several companies to ask why they reported significant patent problems in Japan but said that these problems had not caused adverse effects. Some corporate officials noted that it is difficult to isolate the impact of patent problems in Japan from other problems their companies face in trying to penetrate the Japanese market. They noted that they currently had few or no sales in Japan, and therefore, patent problems had not yet had any severe consequences.

Some companies that reported they were adversely affected by patent problems in Japan told us that these problems contributed to their difficulty in establishing market share in Japan. The following are examples:

- A U.S. patent attorney for an electronics firm told us that there is a distinct difference between the number of patents that his firm has obtained worldwide and the number it holds in Japan. This situation is problematic because his company is involved in negotiating many licensing agreements with Japanese companies. He explained that the low number of patents his firm holds in Japan puts his company in a weak bargaining position when it comes to negotiating these agreements. He believes that this weakened position effectively prevents companies like his from gaining a dominant position in Japan and allows Japanese companies to monopolize the field.

—An official from a small U.S. biotechnology firm said that start-up firms like his face particular problems in Japan. He told us that the narrow scope of patent rights his firm has received in Japan allows competitors to enter the market and produce similar products without incurring the substantial research and development costs that firms like his have incurred. As a result, the value of his patents is diminished.

SOURCES OF U.S. COMPANIES' PATENT PROBLEMS IN JAPAN

Most of the patent problems in Japan experienced by the U.S. firms that responded to the GAO survey relate to the long pendency period and the limited scope of protection that their inventions have received. While it is difficult to compare the pendency period in Japan and the United States because of fundamental differences in the two systems, it is clear that the pendency period in Japan is significantly longer than in the United States. In Japan, the typical patent takes an average of 6 to 7 years to be issued, compared with about 19 months in the United States.

The longer pendency period in Japan is due to several factors, including the pre-grant opposition system, which allows rival companies to raise objections to a proposed patent before it is granted. Another problem leading to delays is the fact that JPO receives twice as many patent applications per year as its U.S. counterpart while employing far fewer patent examiners. As shown in chart 6 of our attachment, the ratio of patent applications filed to patent examiners is about 4 times higher in Japan than in the United States.

Further, several Japanese patent attorneys told us that the scope of patent protection granted by JPO is narrower than that granted by U.S. PTO. According to many patent experts, under Japanese patent practice, Japanese patent examiners restrict patent claim scope as much as possible, frequently limiting the scope of protection to the specific examples provided in the application. In contrast, U.S. patent applications generally include broad claims, which U.S. PTO will allow even if they are not based on specific examples.

Recent Measures to Improve Japan's Patent System

In the late 1980s, JPO began implementing measures to improve Japan's patent system, including introducing accelerated examination procedures and encouraging Japanese companies to file fewer applications. Under the U.S.-Japan Structural Impediments Initiative, the Japanese government has agreed to reduce patent pendency time and to increase the number of patent examiners. It has decreased the patent examination period by several months and has hired a small number of additional examiners. However, according to USTR, JPO is still inadequately staffed.

U.S. FIRMS' PATENT PRACTICES CAN AFFECT THEIR PATENT EXPERIENCES IN JAPAN

While some of the problems U.S. firms are experiencing in Japan stem from aspects of the Japanese patent system, others result from U.S. companies' patent practices in Japan. Both U.S. and Japanese patent attorneys told us that a number of problems encountered by U.S. firms are due to their limited knowledge of the Japanese patent system, translation difficulties, and poor communication between U.S. companies and their Japanese patent representatives. For example, some U.S. companies do not fully understand the Japanese system or make sufficient effort to work with and oversee their Japanese patent attorneys.

U.S. Applications Do Not Always Conform to Japanese Application Style

JPO officials told us that Japanese patent examiners frequently have difficulty understanding U.S. patent applications because of the style in which they are written. They explained that U.S. applicants tend to draft their Japanese applications based on U.S. patent law and format rather than on Japanese patent laws. They noted that some U.S. patent applications fail to adhere to Japanese procedure; for example, in some cases they do not discuss the "advantageous effect" of the invention, or how it is superior to previously patented inventions, as is required by JPO.

U.S. Firms Often Submit Late Applications to Japanese Patent Attorneys

Several Japanese patent attorneys told us that their U.S. clients frequently submit applications for filing in Japan only a week or two before their priority year deadline.⁸ This practice is problematic because applications generally have to be

⁸ Under the Paris Convention for the Protection of Industrial Property, foreign applicants have 1 year after filing in their country of origin to file in member countries without losing their claim to novelty. As of 1993, 108 countries were party to the Paris Convention, including the United States, Japan, and most European countries. The convention requires each contracting

Continued

translated into Japanese. In such cases, the attorneys divide the application among a number of translators and consolidate the application just before filing it by the deadline. They acknowledged that this practice often results in applications with numerous translation errors and poor overall coherence. This situation can be a significant problem because under Japanese patent law, translation errors cannot be corrected if such a correction is deemed to change the gist of the invention.

Poor Communication Between U.S. Firms and Their Japanese Patent Representatives

Some Japanese patent attorneys told us their U.S. clients do not clarify their expectations or give them clear instructions on how they would like their applications to be prepared. Moreover, some Japanese attorneys noted that their U.S. clients rarely tell them which of their applications they consider to be most important or give them any guidance on the scope of patent protection they expect to receive from JPO. A few U.S. patent attorneys said that their U.S. clients do not commit adequate time and staff to learning about the Japanese patent system.

On the other hand, the Japanese patent attorneys we interviewed did not appear to take a proactive role in filing applications for their U.S. clients. Most of the Japanese attorneys told us that they will give advice to their clients only when specifically asked. For example, one attorney told us that he will advise a client about how to get an application processed through JPO as quickly as possible only if he is specifically asked.

Some U.S. patent attorneys noted that the roles and duties of Japanese patent attorneys differ significantly from those of U.S. patent attorneys. The former will usually only translate and file an application in Japan, whereas the latter will generally take a more proactive role, rewriting an application to conform to the U.S. style and actively advising the client about filing.

Some U.S. Firms Have Adopted Strategies That Have Improved Their Patent Experience in Japan

To address these problems, some U.S. firms have adopted strategies that have improved their patent experiences in Japan. These strategies include establishing patent offices in Japan, translating their Japanese applications back into English to ensure their accuracy, and tailoring their applications to better conform to the Japanese application style.

U.S. FIRMS HAD PROBLEMS WITH PATENT ENFORCEMENT IN JAPAN

According to many patent experts, the Japanese legal system poses difficulties for a plaintiff in a patent infringement case that do not exist in the United States. These difficulties include the lack of discovery procedures,⁹ lengthy court proceedings, the courts' narrow interpretation of patent claims, and the adverse Japanese attitude toward litigation. According to several U.S. patent attorneys, these difficulties make it harder for a patent holder to enforce a patent in Japan than in the United States. About 20 percent of the firms that responded to our survey indicated they had experienced infringement problems in Japan but had not filed infringement suits in the Japanese courts. The most common reasons they cited for avoiding litigation in Japan included (1) the amount of time it takes to conclude cases and (2) the cost and difficulty of managing a suit in Japan.

Officials from some of the firms we interviewed said that the difficulties they had in enforcing their patents in Japan had adversely affected their companies. Of the 14 firms we interviewed that had filed patent infringement suits in Japan, several corporate patent counsel told us that their firms had suffered from some of the problems associated with enforcing patents in Japan. The following are examples:

- A representative from a large chemical company said his firm had filed a patent infringement suit in Japan in 1980. After 10 years of litigation involving 30 hearings, there appeared to be no prospect of receiving a decision. The company representative said that the judge pressured his firm to settle the case for a very low royalty. The U.S. firm subsequently decided to drop the suit in exchange for a 0.5-percent royalty. According to the company official, another licensee was paying a 25-percent royalty for use of this patent.
- An official from another company told us that his firm had filed an infringement suit on a chemical process patent in Japan in the early 1980s. He said

country to grant the same protection to nationals of other contracting countries as it grants to its own nationals.

⁹ Discovery refers to legal procedures that can be used by one party before a trial to obtain facts and information about the case from the other party in order to assist in preparation for the trial.

that three sets of judges and three sets of appeal examiners have been assigned to the case since it began. However, the biggest problem his firm has had in proving infringement has been the lack of discovery procedures. The suit is still ongoing.

- A representative from another company said his firm was forced to settle an infringement suit because by the time it reached trial, the patent term in Japan had expired.

PROPOSED CHANGES UNDER HARMONIZATION MAY ADDRESS U.S. COMPANIES' CONCERNS

The United States is currently involved in two sets of multilateral negotiations on intellectual property rights that may lead to significant changes in both the Japanese and U.S. patent systems. First, the United States has been negotiating a patent harmonization treaty through the World Intellectual Property Organization, an agency of the United Nations. Second, the United States has been involved in the Uruguay Round of the General Agreement on Tariffs and Trade (GATT), which includes negotiations on intellectual property issues. The patent harmonization negotiations have been postponed until mid-1994 because of the change in administrations in the United States, and the Uruguay Round of GATT is in a stalemate.

Proposed Changes in the Japanese Patent System

JPO is considering a number of major revisions in its system within the context of the multilateral negotiations to harmonize patent systems. The changes being contemplated include:

- allowing patent applications to be filed initially in English (and other languages) and to rely on the original language version when errors are found in the translations;
- completing patent examinations within 2 years; and
- eliminating the pre-grant opposition system.

The largest number of the U.S. companies responding to our survey (70 percent) said that the allowance of patent filing in English (and the ability to rely on the English-language original when errors are later found in the translations) would greatly improve their patent experience in Japan. Fifty-two percent of the companies felt that having JPO complete patent examinations within 2 years would greatly improve their patent experience in Japan. However, only 29 percent of the companies felt that the elimination of the pre-grant opposition system in Japan would improve their patent experience to a great extent.

Proposed Changes in the U.S. Patent System

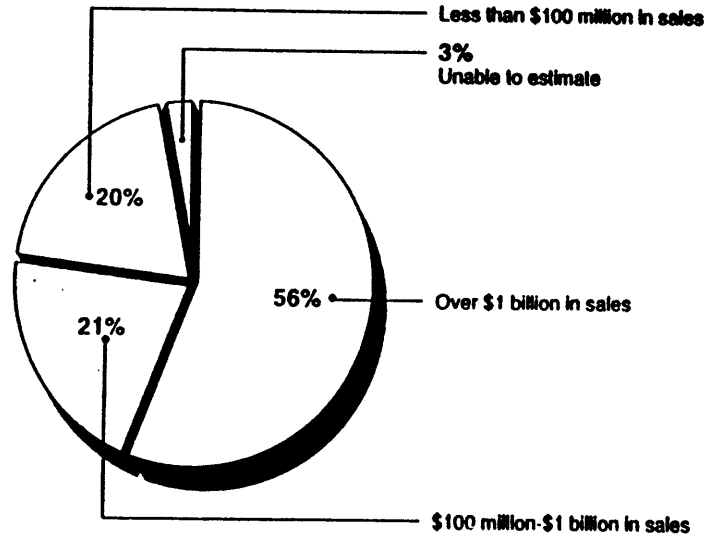
The United States is also considering a number of changes in its patent system within the context of international patent harmonization, most notably (1) the adoption of a system in which the first inventor to file an application is entitled to receive the patent and (2) the publication of all patent applications after 18 to 24 months. About two-thirds of the companies that responded to our survey supported these changes in the U.S. patent system in the context of a harmonization treaty. Many of the companies we interviewed emphasized that they would not support changes in the U.S. patent system unless JPO agreed to make significant changes in its system under harmonization.

Japanese Patent Office Views on Harmonization

JPO officials told us they support most of the changes in the harmonization treaty and the proposed GATT agreement. However, they said that they would not make the changes in their system called for in the harmonization treaty, such as allowing the initial filing in English, unless the United States agrees to (1) adopt a first-to-file system and (2) publish patent applications before they are granted.

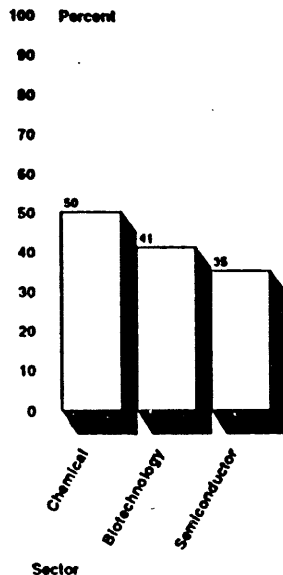
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GAO Size of Responding Firms, 1991 Sales



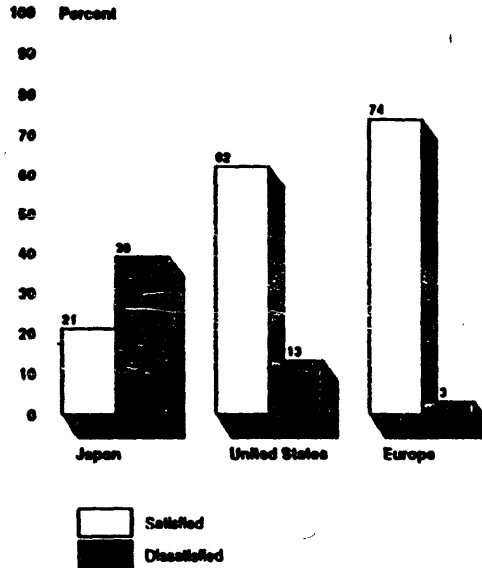
Source: GAO survey of U.S. firms.

GAO Current Filing Activity of Responding Firms, by Sector



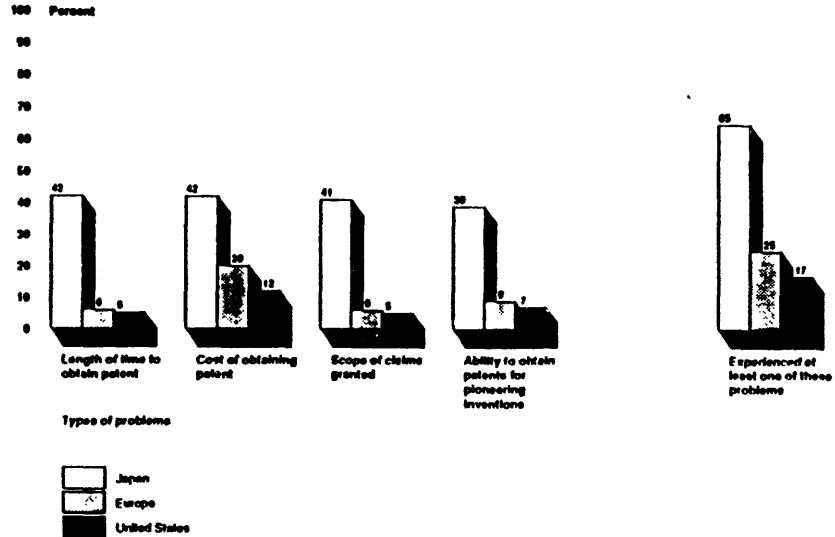
Source: GAO survey of U.S. firms.

GAO Firms' Overall Satisfaction With Patent Experience



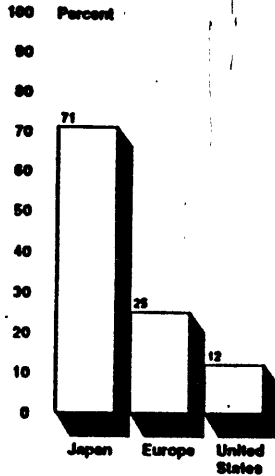
Source GAO survey of U.S. firms.

GAO Firms With Great Patent Problems in Japan, Europe, and the United States



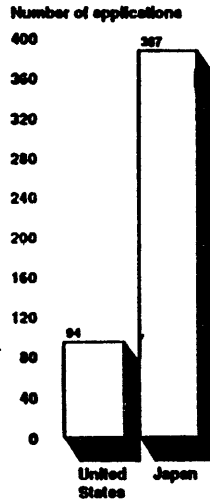
Source GAO survey of U.S. firms.

GAO Firms That View Scope of Patent as Too Narrow



Source: GAO survey of U.S. firms.

GAO Number of Patent Applications Per Patent Examiner, 1991



Source: U.S. Patent and Trademark Office and Japanese Patent Office.

United States General Accounting Office

GAO

Report to the Honorable
John D. Rockefeller IV and the Honorable
Dennis DeConcini, U.S. Senate

July 1993

INTELLECTUAL PROPERTY RIGHTS

U.S. Companies' Patent Experiences in Japan



Executive Summary

Purpose

In recent years, a number of U.S. companies have reported significant difficulties in obtaining adequate and effective protection for their patents in Japan. Some of these firms have asserted that their Japanese competitors use the Japanese patent system as a weapon against foreign firms to appropriate their technologies. Since 1989, Japan has been on a U.S. Trade Representative watch list of countries that have inadequate protection for intellectual property, partly because of reported problems with its patent system.

Senators John D. Rockefeller IV and Dennis DeConcini, and former Senator Lloyd Bentsen, asked that GAO review patent protection for U.S. products in Japan as compared with that in the United States and Europe. Specifically, GAO examined (1) U.S. companies' experiences in obtaining patents in Japan as compared with those in the United States and Europe; (2) the sources of U.S. companies' patent problems in Japan and recent changes in the Japanese patent system; (3) practices that may affect U.S. companies' patent experiences in Japan; (4) U.S. companies' experiences in enforcing patents in Japan as compared with those in the two other jurisdictions; and (5) progress toward greater international patent harmonization and U.S. firms' views on whether harmonization would improve their patent experience in Japan.

Background

There are significant differences between the U.S. patent system and those of other countries, including Japan. The United States, for example, is the only developed country in the world that awards patents to the first inventor regardless of when the patent application is filed. Moreover, U.S. patent applications are kept secret until a patent is granted. Japan, like most developed countries, awards patents to the first inventor to file an application and publishes all patent applications 18 months after they are filed.

GAO surveyed 346 U.S. firms that were top patent holders in selected sectors regarding their experience in obtaining patents in Japan as compared with that in the United States and Europe. Over 90 percent of the 300 responding firms had filed patent applications in Japan in the past 5 years, and two-thirds held 10 or more Japanese patents. The majority of the companies were large, with almost 60 percent reporting annual sales of over \$1 billion. Ninety percent were U.S. companies or subsidiaries of U.S. companies, while 10 percent were U.S. subsidiaries of foreign firms.

Results in Brief

More than three times as many of the companies responding to the GAO survey were dissatisfied with their overall patent experience in Japan as compared with that in the United States and Europe. Further, 65 percent reported at least one major problem in obtaining patents in Japan, while 25 percent reported at least one major problem in Europe and 17 percent in the United States. The problems most frequently cited in obtaining Japanese patents were the length of time involved, the cost, the scope of the patent protection granted, and the difficulty in obtaining patents for pioneering inventions (those involving important new technologies). Only 6 percent of the companies, however, said that patent problems in Japan had a serious adverse effect on their company.

Both the administration of the Japanese patent process and inherent differences in the U.S. and Japanese patent systems are posing problems for U.S. firms. Many of the difficulties are due to delays in patent issuance in Japan and the narrower scope of patent protection granted. The Japanese Patent Office has recently adopted some measures to improve the patent system, however.

Another source of U.S. companies' patent problems in Japan may be their own patent practices. Both U.S. and Japanese patent attorneys told GAO that some of the problems encountered by U.S. firms are due to their lack of understanding of the Japanese patent system, translation difficulties, and poor communication between U.S. companies and their Japanese patent representatives. Some companies have adopted strategies for dealing with these problems. For example, some companies have improved their patent experience in Japan by tailoring the applications they file to better conform to the Japanese application style.

Several of the U.S. firms GAO interviewed also reported problems in enforcing their patents in Japan. Some of these difficulties stem from differences in U.S. and Japanese substantive law and civil procedure. For example, the Japanese courts interpret patent claims more narrowly than those in the United States.

Currently, multilateral efforts are under way to harmonize international patent procedures through the World Intellectual Property Organization, an agency of the United Nations. If a harmonization treaty is enacted, it could lead to significant changes in both the Japanese and U.S. patent systems. The proposed changes in the Japanese patent system under harmonization address many of the concerns raised by U.S. companies regarding patent protection in Japan. About two-thirds of the companies

responding to the GAO survey also supported changes in the U.S. patent system that would align the U.S. system more closely with those of other countries.

Principal Findings

U.S. Firms Are More Dissatisfied With the Japanese Patent System

Thirty-nine percent of the U.S. companies responding to the GAO survey that had filed for patents in Japan were dissatisfied with their overall experience in obtaining patents, while 13 percent were dissatisfied with their patent experience in the United States, and 3 percent with that in Europe. These results indicate that U.S. companies were not necessarily partial to the U.S. Patent and Trademark Office, since the responding companies were generally more satisfied with their overall patent experience in Europe than in the United States.

Forty-four percent of the companies said that it was more difficult to obtain patents for pioneering inventions in Japan than in the United States or Europe, while only 3 percent said it was less difficult in Japan; virtually all of the other companies said they were "not sure." Twenty-one percent believed that they had been treated differently than Japanese applicants by the Japanese Patent Office.

Although many companies said they were dissatisfied with their overall experience in obtaining patents in Japan, only 6 percent said that these problems had adversely affected their firm to a great extent. GAO conducted follow-up interviews with several companies to ask why they had reported significant patent problems in Japan but had said that these problems had not caused adverse impacts. Some corporate officials noted that it is difficult to isolate the effect of patent problems in Japan from other problems their firms face in trying to penetrate the Japanese market. They noted that they currently had few or no sales in Japan, and therefore, patent problems had not yet had any severe consequences.

Sources of U.S. Company Patent Problems in Japan

Most of the patent problems that U.S. firms have reported in Japan relate to the long pendency period in Japan and the limited scope of protection that their inventions have received. It takes about 6 to 7 years for a typical patent to be issued in Japan compared with about 19 months in the United States. The longer pendency period in Japan is due to several factors,

including the pre-grant opposition system, which allows rival companies to raise objections to a proposed patent before it is granted. Another problem leading to delays includes the fact that the Japanese Patent Office receives twice as many patent applications per year as its U.S. counterpart, while employing far fewer patent examiners. Further, several Japanese patent attorneys said that the scope of patent protection granted by the Japanese Patent Office is narrower than that granted by the U.S. Patent and Trademark Office.

The Japanese Patent Office has recently introduced accelerated examination procedures, allowed multiple claims within one application, and encouraged Japanese companies to reduce the number of patents they file. Japan has also reduced patent pendency time by several months and has hired a small number of additional patent examiners.

U.S. Company Practices May Affect Their Patent Experience in Japan

Other factors also contribute to some U.S. companies' patent difficulties in Japan. According to both U.S. and Japanese patent attorneys, some problems are attributable to U.S. firms' patent practices in Japan as well as poor communication between U.S. firms and their Japanese patent representatives. For example, some U.S. companies do not fully understand the Japanese system or make sufficient efforts to work with and oversee their Japanese patent representatives. Further, Japanese patent attorneys told GAO that many of their U.S. clients do not give them sufficient time to translate their applications accurately into Japanese. On the other hand, some U.S. companies complained that their Japanese patent attorneys are not sufficiently aggressive in representing their interests before the Japanese Patent Office.

Some U.S. companies have improved their patent experience in Japan by translating their Japanese applications back into English to ensure their accuracy, by establishing a patent office in Japan, and by tailoring the applications they file in Japan to better conform to the Japanese application style.

U.S. Firms Had Problems With Patent Enforcement in Japan

According to U.S. and Japanese patent experts, the Japanese legal system poses difficulties for a plaintiff in a patent infringement case that do not exist in the United States. There are many problems in bringing infringement actions in Japan, including the lack of discovery procedures, the length of court proceedings, the courts' narrow interpretation of patent claims, and the adverse Japanese attitude toward litigation. According to

U.S. patent attorneys, these difficulties make it harder for a patent holder to enforce a patent in Japan than in the United States. Several of the 14 firms GAO interviewed that had filed patent infringement suits in Japan said that the difficulties they had had in enforcing their patents in Japan had adversely affected their companies.

Proposed Changes Under Harmonization May Address U.S. Companies' Concerns

The United States is currently involved in two sets of multilateral negotiations on intellectual property rights that may lead to significant changes in the Japanese patent system and the U.S. patent system: a patent harmonization treaty through the World Intellectual Property Organization; and the Uruguay Round of the General Agreement on Tariffs and Trade, which includes negotiations on intellectual property issues.

The Japanese Patent Office is considering making major revisions in its system within the context of a patent harmonization treaty, including allowing patent filing in an applicant's native language. A majority of companies responding to the GAO survey said that most of these changes would greatly improve their patent experience in Japan. About two-thirds of the companies also support fundamental changes in the U.S. patent system pursuant to harmonization, such as (1) the adoption of a system in which the first inventor to file an application is entitled to receive the patent and (2) the publication of all patent applications after 18 to 24 months. However, many companies told GAO they would not support changes in the U.S. patent system unless Japan agreed to make significant changes in its patent system under harmonization.

Recommendations

This report contains no recommendations.

Agency Comments

In commenting on portions of the draft report, the U.S. Patent and Trademark Office and the European Patent Office generally agreed with the information presented. The Japanese Patent Office provided some technical comments that GAO considered in preparing this report. In addition, GAO received comments from patent attorneys from these jurisdictions as well as verification from appropriate companies that specific examples presented in this report accurately represent their views of their experiences.

PREPARED STATEMENT OF JOAN E. SPERO

I welcome this opportunity to testify before you today on the recently concluded U.S.-Japan framework for a new economic partnership. As the administration addresses the imbalances in our trade relationship with Japan, we want to maintain close consultations with the Congress at each step.

The framework represents a major turning point in the U.S.-Japan bilateral relationship. While our strategic alliance and our cooperative efforts with Japan on global problems are strong, our economic relations have come under increasing strain. This administration has therefore made trade and other economic issues our highest immediate priority. We realize that resolution of our economic problems is critical to our broader relationship with Japan—a relationship which is central to U.S. foreign policy.

As the President has stated, there is no more important relationship to the United States than that with Japan. The U.S. and Japan are the world's two largest trading nations, accounting for almost one third of world GNP. Total annual trade between our two nations amounts to about \$145 billion.

We are Japan's largest export market. Japan is the second largest market for U.S. exports and our largest for agricultural exports. We see great potential for growth in exports to Japan as its barriers come down.

We cooperate closely with the Japanese to maintain peace and stability in East Asia and throughout the globe. We work with Japan in the important task of discouraging North Korea from pursuing a nuclear weapons program. The Japanese have also helped us encourage China to support non-proliferation and improve its human rights performance. As this year's Chairman of the G-7 countries, Japanese efforts were critical to organizing G-7 support for economic and democratic reforms in Russia. Japan also strongly supports our military presence there. By 1995, the Japanese Government will pay over 70% of the cost of stationing U.S. forces in Japan, or about \$4 billion/year. In sum, we work actively, together, to protect and promote our common aim of peace and stability in East Asia.

The U.S. and Japan also share fundamental interests and goals on global issues. We cooperate closely on global environmental protection, assistance to developing countries, peacekeeping operations and a broad range of other issues. It is our policy to continue and build upon this cooperation consistent with U.S. interests. The new U.S.-Japan framework, though economic in focus, also contains mechanisms for cooperation on five global issues: environmental protection, population, aids, technology development, and the development of human resources.

While our strategic alliance and our cooperative efforts on global problems are strong, our economic and trade relationship requires urgent attention to address persistent trade and investment imbalances. That is why the President and Prime Minister Miyazawa agreed, when they met in April, to develop a new framework to address our economic agenda. The framework for a new economic partnership which we have now negotiated was developed to work with Japan to repair the economic pillar of our relationship and make it as solid as the strategic and political pillars.

The framework for a new economic partnership provides structure to resolve these problems, while emphasizing our shared responsibility to protect the multilateral trade system by promoting growth, open markets, and free trade. It represents a positive effort to address our chronic imbalances in a collaborative spirit, consistent with our roles as the world's two largest trading nations. We have the potential and the responsibility to promote global prosperity through the multilateral trade system, and our framework is intended to reinforce our efforts in the Uruguay Round and elsewhere.

The foundation of the framework is a macroeconomic "bargain," or understanding, that Japan will substantially reduce its current account surplus and increase imports, while the U.S. in turn will reduce its budget deficit and promote domestic competitiveness. This "bargain" is indeed a bargain for both countries; its expected result is to create competitive opportunities for U.S. firms and improve consumer welfare in Japan.

The framework is aimed at integrating Japan more fully into the international trading system. It is designed to encourage Japan to take on the responsibility of a major trading power to contribute to, and not just benefit from, open markets and competitive opportunities for all. Japan still maintains an unacceptably high current account surplus, which impedes world economic growth and lifestyle improvements for Japan's citizens. Japan has a strikingly low level of manufactured imports to GDP as compared with other developed countries, at 3.2% compared to the G-7 average (excluding Japan) of 7.3%. Japan also has by far the lowest level of inward direct foreign investment of the OECD countries, with .6 percent of all global foreign

direct investment, compared to 44.3% for Europe and 24.2% for the U.S. This administration is committed to working with Japan to bring its economic system more in line with those of the rest of the OECD.

One of the major elements that distinguishes this administration's approach on Japan is that we in the U.S. are on the road to correcting our domestic problems that have affected economic imbalances. At the G-7 summit in Tokyo, I found that the Japanese and other G-7 partners place great stake in President Clinton's commitment to this administration's highest priority—economic renewal in the United States. His initiatives to reduce the Federal budget deficit and improve U.S. competitiveness add immeasurably to our credibility, not only with Japanese Government negotiators but also the average Japanese citizen whose opinions are increasingly heard.

The administration's success with its domestic economic agenda gives us the credibility we need when we call on Japan to do its part to support the free trade system—including economic policies to stimulate domestic demand-led growth in Japan, deregulation to promote competition, and genuine market opening for foreign goods, services, and investment. We look forward to cooperation with the Congress. In presenting our economic agenda internationally.

A second, crucial characteristic of our new policy with Japan is that it is results-oriented. We are insisting on achieving real results that can be measured by quantitative and qualitative criteria. Process changes will count for nothing unless they are accompanied by market access opportunities. The administration will be looking at a range of criteria, or benchmarks, for every sector or structural problem. These indicators will be used to measure progress in eliminating barriers.

Third, the agreement focuses on individual sectors of interest to U.S. industry, with specific timeframes for completing agreements. Japan has committed to reach agreements with us within six months in the areas of autos and parts, insurance, and government procurement. Within a year, we expect to have agreements in all other areas covered under the framework, including financial services and reform of the distribution system.

A fourth distinct element in the administration's policy with Japan is the strong political momentum provided to the negotiations by their direct link to biannual meetings between the heads of governments. Progress on sectoral and structural negotiations will be included in the statements at these meetings, which will place additional pressure on negotiators to produce tangible results.

Fifth, this framework integrates negotiations that cover macroeconomic, structural and sectoral issues. It folds in previous commitments made under the structural impediments initiative, and will track compliance with existing sectoral agreements. It also allows for continued negotiations under the market-oriented, sector-specific, or MOSS, talks where useful. All of these elements will be coordinated, not addressed in a piecemeal fashion as had been done before.

It is important to note, however, that the framework is just that an outline of steps to take to achieve our agreed goals. No results kick in automatically. We will take the next six months to negotiate step-by-step the first set of agreements. We don't expect these negotiations to be easy. We have learned first hand that our Japanese colleagues are tough negotiators.

We are asking the Government of Japan to take steps that are politically difficult. We will have to press hard to persuade Japan to implement these steps. You may have noted recent articles in the press reporting statements by Japanese officials that downplay the scope of the Japanese commitments under the framework. We recognize there are elements in Japan who oppose various framework provisions. It will be our task in the upcoming months to hold the Japanese Government to its commitments.

We have improved our leverage under the framework, though. By gaining Japanese commitments on specific sectors and timetables, we intend to avoid some of the quagmires of the past. Under SII we were hard-pressed to counter Japanese arguments that process changes signified adequate progress, even when market access did not improve and the macro position deteriorated. Under the framework, we will be in a strong position to demonstrate where progress is sufficient, and where it must be improved.

The unanimity of positions and purpose within the USG has been key to our efforts to obtain Japanese agreement to the framework. It will be critical to the success of our negotiations under it. In this connection, I want to stress that U.S.-Japan economic relations are an issue of strong interest in the current administration. The President has demonstrated his personal commitment to improving the bilateral economic relationship, which we all agree is essential to ensure the health of the overall relationship. Management of our economic relations under the framework is being coordinated by the White House, reflecting the President's interest

and attention and the USG's strong commitment to work as a team in this endeavor. Our goals and strategy have been worked out among the various U.S. agencies. We all back them completely. I would like to express the State Department's strong support for the framework process, and my intent to make every effort to ensure it produces the tangible results we seek.

Thank you for this opportunity to explain our economic framework and how it will address the imbalances in our trade relationship with Japan.

RESPONSES OF JOAN E. SPERO TO QUESTIONS SUBMITTED BY SENATOR WALLOP

Question No. 1. During his July 10 press conference in Korea, President Clinton spoke of China as more interested in becoming "a commercial power of the future, rather than a military power of the past." The President's assessment, while China is pursuing an increased defense budget, the development of an offensive military capability and reasserting claims to the South China seas, strikes me as a bit of wishful thinking. I raise this issue because, as you are well aware, the President has made clear, in pursuing framework talks with Japan, that he believes it is the economic aspect of our relationship that needs tending to. Maybe so, but I am very concerned that absent a U.S. focus on the broader security focus on Asia, we may be encouraging behavior in the region which will be inimical to U.S. trade interests. Your comments?

Answer. The administration believes that the health of our domestic economy is a critical component of our national security.

One element of our strategy to strengthen the domestic economy is to continue and expand u.s. trade and export competitiveness in the Asia-Pacific region, which as you know is the world's most dynamic region.

—But to sustain that dynamism, the Asia-Pacific region must be at peace. our goal, therefore, is to continue to play a strong security role in the region, as we have done for over fifty years, in order to sustain the region's economic vitality well into the 21st century.

In pursuing our security objectives in the region, we will emphasize four priorities, which President Clinton recently spelled out in his speech to the South Korean National Assembly:

- The bedrock of America's security role in the region must be a continued U.S. military presence;
- We will undertake new efforts against the proliferation of weapons of mass destruction;
- We will pursue new regional security dialogues; and
- We will strongly support democracy and the development of more open societies throughout the region.

In that same speech, the President said that a principal U.S. regional security objective is to encourage China to respect human rights and international agreements on trade and weapon sales. We intend to aggressively pursue that objective in order to integrate China into—not isolate it from—the region's evolving security and economic architectures.

I note in that regard that at the July ASEAN post-ministerial conference, the ASEAN states established a new regional security forum, the ASEAN regional forum. In addition to its seven dialogue partners—which includes the U.S.—the ASEAN member states invited China, Russia, Vietnam, Laos, and Papua New Guinea to participate in this new forum's planned annual discussion of security cooperation in the Asia-Pacific region.

JAPANESE ECONOMIC CHANGES

Question No. 2. In his speech at Waseda University in Japan, President Clinton insisted that, "you [students and faculty of Waseda] have a common cause with the people of America. Change would benefit both of us." Moreover, some Japanese politicians of the new center parties, like Mr. Tsutomu Hata of the renewal party, are hinting at more consumer-oriented economic policies, including moves to bring more low-priced foreign goods to Japanese buyers. Additionally, as the *Washington Post* reported, the "chairman of Japan's most influential business organization . . . says a 'national consensus is emerging' in his country on the need to move toward a more consumer-oriented society." However, the *Post* also reported a few days later that, "many analysts are skeptical . . . that political upheaval in Japan will help make the Japanese economy more consumer-oriented and open to foreign goods." What's your impression of such a consensus, or lack thereof, in Japan; and what does this administration intend to do to foster such a consensus?

Answer. A number of influential Japanese leaders, including some from the emerging democratic reform coalition, have called for a shift to more consumer-oriented policies for the Japanese economy. However, it is too early to tell what, if any, impact this will have on the pace of Japanese economic liberalization.

The President made the point at WASEDA that the Japanese and American people share a common interest in seeing the evolution of a Japanese economy that places more value on consumer rights. U.S. Government officials will take advantage of every appropriate opportunity to stress this message to the Japanese public.

COMMUNICATIONS

NATIONAL FOREIGN TRADE COUNCIL, INC.,
Washington, DC, July 27, 1983.

Hon. MAX BAUCUS, *Chairman,*
Subcommittee on International Trade,
Committee on Finance,
U.S. Senate,
Washington, DC.

Dear Chairman Baucus: The National Foreign Trade Council, Inc. (NFTC) appreciates the opportunity to submit comments on initiatives to improve the economic relationship between the U.S. and Japan and to reduce existing tensions between the two countries on economic matters of importance to the NFTC membership.

The NFTC is a trade organization with some 500 members, founded in 1914. Its membership consists primarily of U.S. corporations engaged in all aspects of international business, trade, and investment. The NFTC's emphasis is to encourage policies that will expand U.S. exports and enhance the competitiveness of U.S. companies by eliminating major tax and trade inequities in the treatment of U.S. companies conducting business abroad.

The NFTC would recommend that the U.S. adopt the following initiatives as a means of removing structural impediments that either deny U.S. companies access to Japanese markets or prevent U.S. companies from competing for a larger share of the Japanese market.

Proposal. The NFTC urges the U.S. to pursue a renegotiation the existing income tax treaty between the U.S. and Japan to reduce the withholding rates from 10 to 5 percent, respectively, on royalty payments and on most intercorporate dividend distributions.

Rationale for the Proposal. The following reasons support a reduction of the withholding rates on dividends and royalty payments as part of a renegotiation of the existing U.S./Japan Income Tax Treaty.

1. **Reduction of Withholding Rates on Royalty Payments and Intercorporate Dividends will Allow U.S. Companies More Effectively to Compete with Japanese Companies in their own Markets.** The NFTC strongly believes that a reduction in withholding rates from 10 to 5 percent on royalty payments and on most intercorporate dividend distributions will allow U.S. companies more effectively to compete with their Japanese counterparts in the Japanese marketplace. Since Japanese companies do not feel the impact of the 10 percent withholding rate on dividends and royalty payments, they are able to attract capital more efficiently than U.S. companies and can underprice their products in Japan relative to U.S. companies.

NFTC member companies are in complete agreement that a key element of Japanese business success in the global economy is their ability to dominate Japanese markets. By maximizing profits in the Japanese economy, Japanese companies can subsidize both their expansion in the U.S. market and their penetration of new markets abroad. A reduction of the withholding rates on royalty payments and on most intercorporate dividend distributions would ameliorate a structural impediment to the expansion of U.S. business activity in Japan.

2. **Reduction of Withholding Rates on Royalty Payments and Dividend Distributions Would Move the U.S./Japanese Income Tax Treaty Closer to U.S. Policy as Reflected in the U.S. Model Income Tax Treaty.** The U.S./Japan Income Tax Treaty provides for withholding rates on royalty payments and intercorporate dividend distributions of 10 percent. The recently withdrawn U.S. Model Income Tax Treaty provides for an exemption from withholding on royalty payments and a maximum rate of 5 percent on most intercorporate dividend distributions. (See Article 12 (1)/Royalties; Article 10(2)(a)/Dividends). While the U.S. Model Income Tax Treaty just al-

luded to is no longer in effect, there is no reason to believe that a newly issued Model Income Tax Treaty will increase the withholding rates on either royalty payments or intercorporate dividend distributions.

Historically, U.S. tax treaty policy has favored residence based taxation, which means either an exemption from withholding or lower withholding rates depending on the category of income involved. The rationale for residence based taxation is to reduce or eliminate double taxation and to promote the free flow of capital between treaty partners by eliminating tax barriers. Reduction of the withholding rates on royalty payments and on intercorporate dividend distribution clearly would reduce the incidence of double taxation on income earned by U.S. companies in Japan and would promote their competitiveness in Japanese markets.

3. *Reduction of Withholding Rates on Royalty Payments and on Most Intercorporate Dividend Distributions Would Encourage Direct Japanese Investment in the U.S.* A reduction of the withholding rates from 10 to 5 percent on royalty payments and on most intercorporate dividend distributions would promote increased direct investment by Japanese companies in the U.S. This development would lead to greater capital investment and increased employment for the U.S. economy. Moreover, it is quite probable that U.S. revenues derived from withholding tax collections would increase on royalty payments and dividend distributions from Japanese subsidiaries in the U.S., due to the incentive of lower withholding rates.

For the foregoing reasons, the NFTC urges the renegotiation of the existing U.S./Japan Income Tax Treaty to reduce withholding rates from 10 to 5 percent on royalty payments and on most intercorporate dividend distributions.

The NFTC appreciates the opportunity to submit comments on tax and trade initiatives that could improve the economic ties between Japan and the U.S. We would be delighted to answer any questions that you might have.

Very truly yours,

ROBERT H. GREEN, *Vice President/Tax Policy.*

STATEMENT OF THE SEMICONDUCTOR INDUSTRY ASSOCIATION

INTRODUCTION

The Semiconductor Industry Association (SIA) is pleased to have the opportunity to submit written testimony to this subcommittee about an issue which is SIA's top public policy priority—access to the Japanese semiconductor market and the U.S.-Japan Semiconductor Agreement. My name is George M. Scalise. I am the Senior Vice President and Chief Administrative Officer of National Semiconductor and Chairman of the SIA's Public Policy Committee.

The SIA is comprised of U.S.-based semiconductor manufacturers. Its member companies account for 85 percent of U.S. semiconductor production and employ over 240,000 Americans. A list of member companies is attached. The SIA was created in 1977 to address the public policy issues confronting the industry. SIA concentrates its energies on those issues which affect the ability of the industry to remain internationally competitive.

Members of the SIA have been actively involved in gaining access to the Japanese semiconductor market since the association's founding. The Japanese government and industry actively pursued policies which restricted access to Japan's market and promoted the development of Japan's domestic semiconductor industry. These actions, combined with Japanese dumping of semiconductors in the U.S. market in the 1980s, resulted in the near destruction of the U.S. memory chip industry. The U.S. industry and government, after years of negotiations with the Japanese on semiconductor trade (see chart 1), sought to address the access problem in Japan in a way more likely to lead to actual results.

The 1986 U.S.-Japan Semiconductor Agreement included a side-letter in which the Japanese committed to provide market access and a 20 percent foreign share benchmark to be achieved by July, 1991. The 20 percent benchmark was chosen because its achievement was a clear indication that access to the Japanese market was no longer restricted. Had the market been open, foreign share would have been in excess of one-third. It became obvious in 1990 that this goal would not be reached so the U.S. and Japan concluded a second Semiconductor Agreement in 1991. The Agreement extends the original commitment of 20 percent to the end of 1992, with gradual and steady progress in market share continuing thereafter. A historical view of the facts highlights why the use of quantitative indicators of progress along with other factors have been essential to encouraging market forces in Japan's semiconductor market.

BACKGROUND

The 1986 and 1991 Semiconductor Agreements were a response to Japanese targeting of the semiconductor industry, barriers to the Japanese market, dumping in the U.S. and third-country markets, and the failure of previous attempts to produce concrete results.

Formal Protection of the Japanese Market

Before the 1970s, the Japanese semiconductor market was protected by a wide range of formal and informal barriers. Imports were restricted by licensing requirements and quotas. Japan precluded foreign investment by placing semiconductors on the "negative list"—foreign majority ownership in such industries was not permitted without prior government approval, which was almost never granted. The Japanese Ministry of International Trade and Industry (MITI) required the Japan Electronic Computer Company, a government-subsidized computer leasing company that served as a leading source of Japanese computer demand, to accept only computers that satisfied a local content requirement, which was progressively tightened from 80 to 95 percent. MITI also informally pressured semiconductor users to use Japanese-made devices. During this period, with extensive government support, Japanese semiconductor producers became internationally competitive and began challenging the U.S. industry in world markets.

Japan's Liberalization Countermeasures

In 1971, the Nixon Administration mounted a major effort to persuade Japan to liberalize imports of computers and computer parts. Japan initially resisted U.S. pressure, but eventually agreed to liberalization after the U.S. threatened to lodge a complaint under the General Agreement on Tariffs and Trade (GATT). Japan pledged to liberalize semiconductor imports and foreign investment in a series of negotiations between 1971 and 1975.

At the same time that Japan agreed to eliminate its formal restrictions, however, the Japanese government also developed a series of "liberalization countermeasures" to offset the effects of liberalization. These countermeasures included MITI subsidies to encourage product specialization among the producers, government sponsorship of joint R&D projects, continued administrative guidance to buy Japanese, the creation of horizontal links between Japanese producers, and encouragement of tight relationships between Japanese producers and consumers of semiconductors.

As a result of these steps, the U.S. share of the Japanese market in the post-liberalization period remained virtually the same as the U.S. share during the period of formal protection, generally around 10 percent. In specific product areas, U.S. companies encountered a recurring phenomenon: U.S. firms could achieve sales in Japan with a given device as long as sufficient quantities of a competing Japanese product were not available. As soon as Japanese firms could supply the product, U.S. firms' sales fell dramatically, sometimes to zero. Given the buy-Japan policies and the increasing ability of Japanese companies to replicate foreign chips, the U.S. share began declining in 1980 and, in 1982, was lower than the U.S. share in 1974, the last year the market was protected by quotas.

High Technology Working Group

By the beginning of the 1980s, the market access problems U.S. semiconductor firms encountered in Japan and the alleged dumping of Japanese devices made semiconductors a subject of significant bilateral trade friction. In 1982, the U.S. and Japanese governments established an informal working group to address conflicts in high technology products called the "U.S.—Japan Work Group on High Technology Industries." In a set of recommendations approved by the cabinets of both governments, Japan agreed to eliminate barriers to market access in high technology products and, in 1983, MITI said that it would encourage Japanese companies to increase their purchases of U.S. semiconductors.

In retrospect, this agreement served little purpose other than to dissipate U.S. pressure on Japan to open its semiconductor market. Increased U.S. penetration of the Japanese market lasted only as long as the world-wide boom in demand for semiconductors. In late 1984, as semiconductor demand started to decline, U.S. companies immediately saw orders cut back and a loss in market share. U.S. companies reported that Japanese firms showed little or no interest in forming long-term relationships and foreign sales were not increasing. By mid-1985, the U.S. share of the Japanese semiconductor market was actually lower than it had been when the recommendations were adopted at the end of 1983.

The 1986 and 1991 U.S.-Japan Semiconductor Agreements

In 1985, in reaction to Japan's violation of its 1983 commitments, SIA filed a petition against Japanese semiconductor producers pursuant to section 301 of the Trade Act of 1974.¹ At about the same time, Micron Technology filed an antidumping case in reaction to dumped Japanese 64K DRAMs, Advanced Micro Devices, Intel, and National semiconductor filed an antidumping case in reaction to dumped Japanese EPROMs, and the department of Commerce self-initiated an antidumping case in reaction to dumped 256K and above DRAMs. The massive dumping that occurred in 1985 and 1986 was substantially attributable to Japanese government targeting and the closed Japanese market. Japan's closed market gave its firms a sanctuary and reduced the uncertainty associated with investing in new manufacturing capacity.

At the same time that these cases were pending, the United States and Japan entered into long and arduous negotiations designed to reach an overall agreement on semiconductors. The U.S. government was proceeding toward a section 301 determination against the Japanese government, but suspended the proceeding when the 1986 U.S.-Japan Semiconductor Agreement was signed. Under the 1986 Agreement, Japanese semiconductor producers agreed not to dump in any world market. The Japanese producers entered into antidumping suspension agreements with the United States government for DRAMs and EPROMs and established a fair market value (FMV) system to ensure that Japanese exports were above costs. Because of U.S. frustration over the failure of prior agreements to produce market opening results, U.S. negotiators pressed for a more explicit market access commitment, which led to a side letter exchanged concurrently with the text of the main Agreement. In the letter, Japan committed itself to providing market access and agreed to a measure by which to judge progress:

The Government of Japan recognizes the U.S. semiconductor industry's expectation that semiconductor sales in Japan of foreign capital-affiliated companies will grow to at least slightly above 20 percent of the Japanese market in five years. The Government of Japan considers that this can be realized and welcomes its realization.

Despite the commitment, foreign market share in Japan remained stagnant in the months after conclusion of the 1986 Agreement. Although Japanese firms solicited more information from U.S. firms about their products, there was little evidence of Japanese interest in new supply relationships. Coupled with clear evidence of Japanese noncompliance with the antidumping provisions of the 1986 Agreement, the failure of the market access accords provided the basis for the formal imposition of sanctions by the U.S. government against Japanese electronics products for breaches of the 1986 Agreement. On April 17, 1987, President Ronald Reagan announced the sanctions.²

U.S. retaliatory action, along with the prospect that Japan might be designated as a "priority" country pursuant to the Super 301 provisions of the Omnibus Trade and Competitiveness Act of 1988, appeared to bring about a major change in attitude within Japan. The U.S. share of the Japanese semiconductor market rose from 8.6 percent during the first quarter of 1987 to 12.2 percent during the first quarter of 1990.

By 1990, however, it was evident that the target foreign market share of 20 percent would not be reached by the time the 1986 Agreement expired on July 31, 1991. Foreign market share was only 13.0 percent by the first quarter of 1990, and the growth in U.S. market share was leveling off (see chart 2). Nevertheless, the 1986 Agreement had led to increased foreign market share and greater efforts by the Japanese to increase foreign sales and the design-in of foreign products. Consequently, SIA preferred the negotiation of a new agreement that would build on the existing momentum toward a more open Japanese market to the alternative of new sanctions. Accordingly, SIA and the Computer Systems Policy Project (CSPP)³ jointly proposed that the President negotiate a new semiconductor agreement maintaining the emphasis on market access for U.S. semiconductors. The United States

¹ Petition of the Semiconductor Industry Association, Investigation of Semiconductors under Section 301 of the Trade Act of 1974 before the Section 301 Committee of the Office of the U.S. Trade Representative (filed June 14, 1985).

² Presidential Determination Under Section 301 of the Trade Act of 1974, 52 Fed. Reg. 13,419 (Apr. 22, 1987).

³ The CSPP, an affiliation of the chief executive officers of 12 U.S. computer companies, is designed to develop and advocate industry positions on trade and technology policy issues. CSPP's members are the CEOs of Apple, AT&T, Compaq, Control Data, Cray Research, Data General, Digital, Hewlett-Packard, IBM, Sun Microsystems, Tandem, and Unisys.

and Japan reached a new accord in which the government of Japan reaffirmed, this time publicly, in the body of the Agreement, its recognition of the expectation that foreign market share in Japan should reach at least 20 percent by the end of 1992. While the 1991 Agreement extended the market access provisions of the 1986 Agreement for five years, it set a 17 month period for reaching or exceeding the 20 percent objective, with steady progress to follow. While the Agreement's duration is five years, both governments will review and jointly decide after three years whether to terminate the Agreement before July 31, 1996.

Following early indications that the Japanese would not reach the 20 percent benchmark at the end of 1992, Congressional and Administration attention focused on the issue of compliance. Foreign share of the Japanese semiconductor market then reached 20.2 percent in the fourth quarter of 1992. The interim goal of the Agreement was therefore achieved.

However, foreign market share dropped in the first quarter of 1993 to 19.6 percent and early data indicates a further slip in market share during the second quarter of 1993. Nevertheless, the achievement of the interim goal demonstrates that foreign suppliers can supply the Japanese semiconductor market. Extraordinary efforts by both Japanese buyers and U.S. sellers have proved that with mutual efforts, and with intensive participation by governments to foster this process, success is possible. Foreign share of Japan's market can not only achieve a 20 percent benchmark level, but can continue to grow.

FURTHER PROGRESS IS NECESSARY

The question now is how further progress can be made. The 1991 Agreement specifies that there should be a "gradual and steady" increase in the foreign share of the Japanese semiconductor market beyond 20 percent—until the Agreement expires on July 31, 1996. In effect, the 20 percent target in the Agreement is a milestone toward the ultimate objective of a larger share in Japan based on the competitive merits of foreign products. In part because the U.S. share of all semiconductor markets in which the U.S. and Japan compete, outside of the Japanese market, is nearly twice the share of Japanese producers—53.5 percent U.S. to 24.5 percent Japanese—the 20 percent benchmark contained in the Agreement is rightly viewed as a reasonable threshold for obtaining full access to the Japanese market (see chart 3).

On March 19, 1993, Ambassador Michael Kantor stated that "gradual and steady growth means at least . . . an average of 20 percent foreign market share penetration of the semiconductor market in Japan over the next four quarters." Given that the average foreign share during 1992 was only 16.7 percent, the U.S. Government must make the Agreement a top priority of U.S. trade policy in order to ensure that the average foreign share during 1993 is at least 20 percent on average, and that foreign access continues to grow.

A gradual and steady increase in foreign market share beyond 20 percent will not occur without substantial additional purchasing efforts by Japanese consumers. Although the increased market share in Japan in 1992 is a significant accomplishment, this does not imply satisfaction that full access to the Japanese market has been achieved. It has not. Despite the progress made to date, a substantial gap remains. Semiconductor producers have a higher market share outside of Japan than they have in Japan for each and every type of semiconductor product. The "gap analysis" presented in the attached chart (see chart 4) demonstrates that further progress in obtaining greater market access in Japan is possible to a small degree for some products and to a very large degree for most others. The gap analysis is presented not as a political statement or as an indictment of Japan, but as an indicator that progress toward greater market access can be made across a broad spectrum of products. Foreign producers can and should satisfy more of Japan's semiconductor demand.

To make further progress in increasing foreign market share, foreign products must be accepted to a greater degree in Japan. Foreign semiconductors must be designed into the heart of Japanese electronic systems in more cases. Such "big ticket" design wins lead to interdependence of suppliers and customers. Mutual dependence is the natural result of an open international trading system and it is the necessary goal of an open international trade policy.

As continued progress in market access is achieved, the two industries have been moving from confrontation to cooperation. The two industries can increasingly engage in joint efforts to work together on activities that result in creating new applications for semiconductors and new markets so that both industries will benefit simultaneously. Cooperation on environmental issues would also be beneficial.

Semiconductors have been a bellwether in U.S.-Japan relations. Further success in this sector would indicate that broader success is possible in the world's most important—and troubled—trading relationship.

WHY THE SEMICONDUCTOR AGREEMENT WORKS

The 20 percent market share benchmark in 1992 was achieved for a number of reasons. U.S. government support for the Agreements, U.S. semiconductor industry efforts to increase their competitiveness, and the industry's continued investment to serving the Japanese market were all critical elements for achieving the 20 percent figure.

First, strong U.S. government support for the Agreement and a willingness to take action have been indispensable. One example is the trade sanctions imposed by the Reagan Administration in 1987 because little progress was being made in opening Japan's market. Once sanctions were imposed, Japan realized that the U.S. government was committed to seeing the accord enforced. As a consequence, efforts by chip users in Japan increased significantly. Congressional interest has also been vital. In April 1992, the Senate Finance Committee requested that the Bush Administration review Japan's compliance with the 1991 Agreement. In August 1992, after a two-month U.S. interagency review, the U.S. government concluded that "since the Agreement came into effect in August 1991, efforts by the Japanese government and Japanese industry to improve market access for foreign semiconductor suppliers have not, to date, resulted in sufficient progress.⁴ Shortly thereafter, by the fourth quarter of 1992, foreign semiconductor sales to Japan increased significantly.

Second, the U.S. semiconductor industry took vigorous and effective steps to boost its own competitiveness in Japan and elsewhere. U.S. firms improved quality and service, and undertook initiatives to boost the performance of microelectronics educational programs in American universities through the Semiconductor Research Corporation (SRC). The U.S. industry also continues to provide \$100 million annually to the SEMATECH R&D government-industry consortium in order to improve the competitive position of American semiconductor manufacturing technology.

Third, the U.S. semiconductor industry continues to invest extensive resources in meeting the rigorous demands of Japan's market. From 1986 to 1989, American chip makers opened more than one new facility in Japan each month to serve the Japanese market. The number of U.S. company personnel during the same period increased nearly 32 percent, and capital expenditures by U.S. companies in Japan rose a remarkable 169 percent. The U.S. semiconductor industry has launched numerous other initiatives to expand sales in Japan. For example, since 1986, the SIA Board of Directors has held one of its quarterly meetings in Tokyo every year. SIA is not aware of any other U.S. trade association that annually meets outside the United States with the objective of increasing exports to a single foreign market. In 1988, SIA opened an office in Tokyo, with initial support from the U.S. Department of Commerce, to coordinate inter-industry contacts, technical tours, trade seminars, and literature exchanges. The office also provides an industry level perspective to supplement individual U.S. company communications to the Japanese government, media, and industry. SIA also has expanded the extensive inter-industry market access program that it developed with the Electronics Industry Association of Japan (EIAJ) under the 1986 Agreement.

In short, the semiconductor pact has worked because the semiconductor industry had a legitimate grievance concerning lack of access to Japan's market; was the market share leader in all world markets outside of Japan; had strong U.S. government support enforcing the Agreement and enforcing measurable progress under the Agreement; continued its efforts to improve competitiveness; won the cooperation of Japanese industry and government; and benefited from an enforced objective benchmark for measuring success. All of these factors have been instrumental in doubling the foreign market share in Japan since 1986.

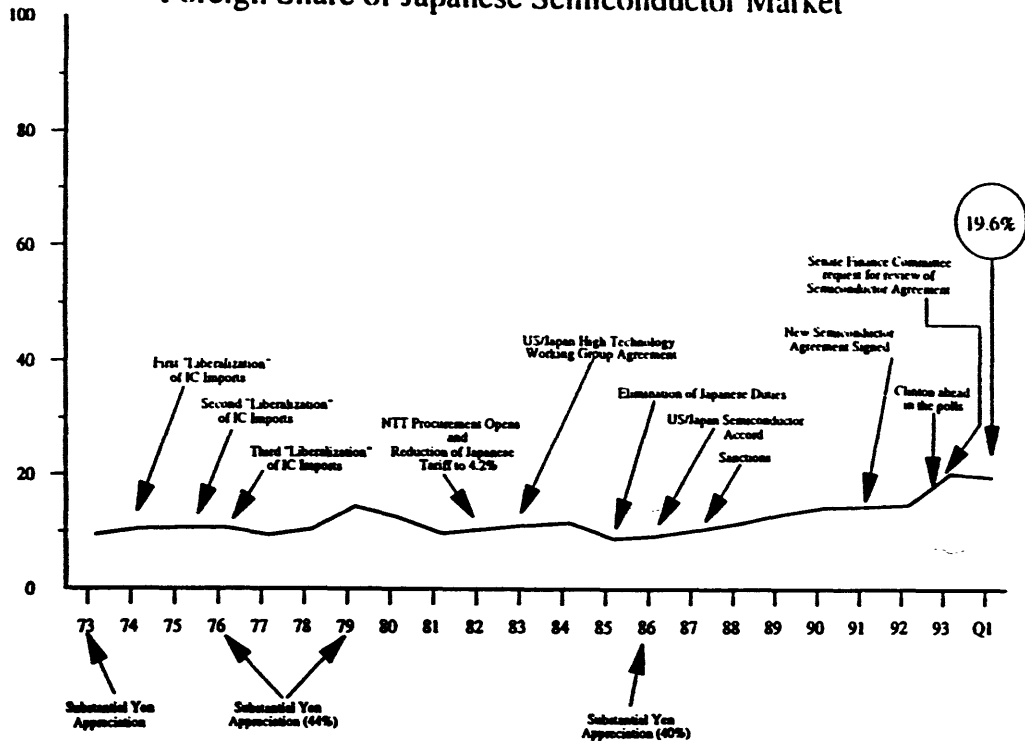
CONCLUSION

SIA supports the Clinton Administration's approach to trade with Japan. If the Semiconductor Agreement is used as a model for trade policy, the lesson to draw is that a complex combination of factors brings success, but success is possible. Both industry and government support for the arrangement and an objective measure, used as a clear benchmark, commensurate with competitiveness, are essential. U.S. trade policy must demand results. It is the hope of SIA that the U.S. government, including this subcommittee, will continue to support the 1991 Semiconductor

⁴ USTR, "Review Reveals Insufficient Progress on U.S.-Japan Semiconductor Arrangement," Press Release, August 4, 1992.

JAPANESE MARKET

Foreign Share of Japanese Semiconductor Market

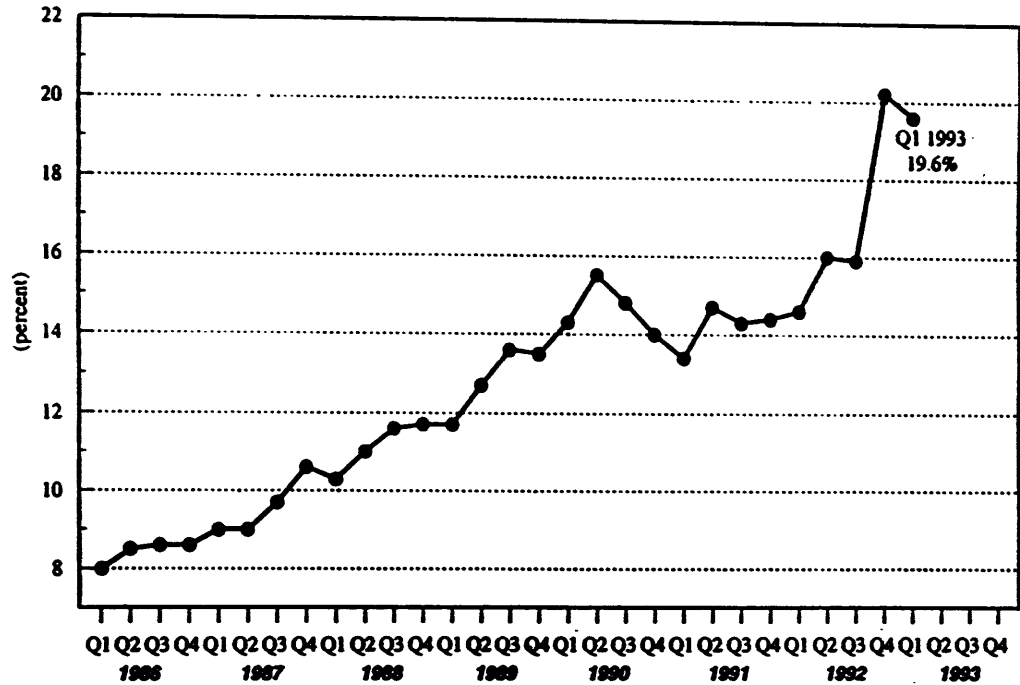


Source: Semiconductor Industry Association, 1993
chart.drvjnd

Chart 1

Agreement and help ensure continued success. Continued steady progress in market share, moving beyond a minimum 20 percent foreign market share average in 1993 will be critical.

Foreign Share in Japan

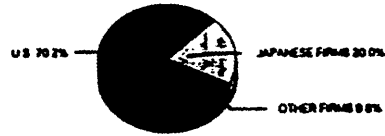


Source: 1986-Q2, 1991: SIA estimates consistent
 Q3 1991 to present: U.S.T.R.

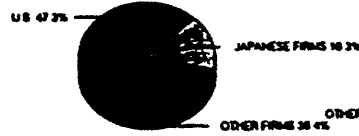
(Data in Percent)

Chart 2

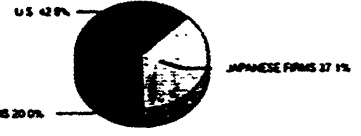
U.S. OUTCOMPETES JAPAN IN EVERY OPEN MARKET



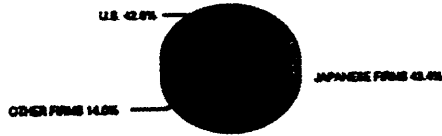
U.S. MARKET = \$18.4 BILLION



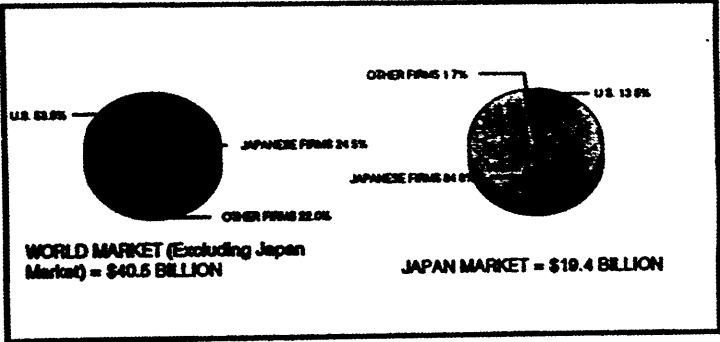
EUROPEAN MARKET = \$11.5 BILLION



REST OF WORLD (Excluding Japan, Europe & the U.S.) = \$10.6 BILLION



WORLD MARKET (Including Japan Market) = \$59.9 BILLION



WORLD MARKET (Excluding Japan Market) = \$40.5 BILLION

JAPAN MARKET = \$19.4 BILLION

As Japanese Demand in Individual Products Grows Over the Next Three Years, U.S. and Other Foreign Producers Should Have Many Opportunities to Increase Their Sales to Japanese Users.

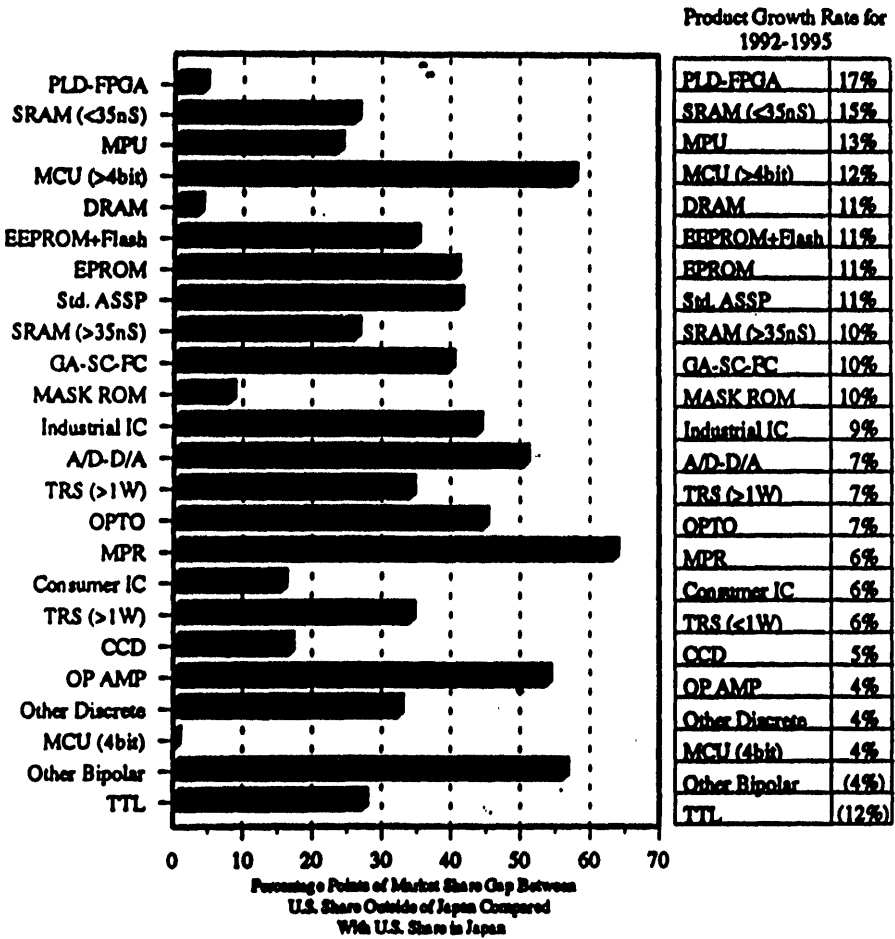


Chart 4

The Semiconductor Industry Association

Since 1977, the Semiconductor Industry Association (SIA) has represented U.S.-based semiconductor manufacturers – an industry whose worldwide sales exceeded \$21 billion in 1991. SIA member companies comprise 85 percent of U.S. semiconductor production and employ more than 200,000 Americans. The association's primary focus is on international trade, specifically unfair trade practices and increased access for U.S. products in world markets.

SIA activities also include a broad range of industry concerns including: technology policy, occupational safety and health, environmental issues, industry statistics, government semiconductor procurement, and related issues affecting U.S. semiconductor competitiveness.

SIA Member Companies

SIA Regular Members

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 Sileo Corporation
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 Technicon Analytical
 TSMC, USA
 Wacker Silicon Corporation
 WaterScale Integration
 Ware and Frensdorff

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