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THE GRAYING OF NATIONS: PRODUCTIVE AGING AROUND THE WORLD

HEARING

BEFORE THE

SPECIAL COMMITTEE ON AGING UNITED STATES SENATE

ONE HUNDRED FIFTH CONGRESS

SECOND SESSION

WASHINGTON, DC

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THE GRAYING OF NATIONS III: PRODUCTIVE AGING AROUND THE WORLD

MONDAY, JUNE 8, 1998

UNITED STATES SENATE,
SPECIAL COMMITTEE ON AGING,
Washington, DC.

The committee met, pursuant to notice, at 1:00 p.m., in room SD–628, Dirksen Senate Office Building, Hon. Charles E. Grassley (chairman of the committee) presiding.

Present: Senators Grassley, Hagel, and Glenn.

OPENING STATEMENT OF SENATOR CHARLES GRASSLEY, CHAIRMAN

The CHAIRMAN. I would call the meeting to order. I welcome everybody who is with us for not only your presence but your interest in this very important issue, and most importantly, people who have come a long way to give us their information and particularly benefit us and the United States with their research on the issue of aging and quality of life. I am also very privileged to have Senator Glenn with us who has participated in two previous meetings of this committee on the subject of the "Graying of Nations" held in 1977 and 1985. Senator Breaux, the ranking Democrat and a very active member of this committee, cannot be with us because of previous obligations that he had at the time we set this meeting.

So let me say it is also for me an honor to be here today to have our Senate Special Committee on Aging hold this important hearing on the international trend of increased life expectancy, and to do so at the request of Senator Glenn I would like to thank him for making the request, because if my aging and the Senate Aging Committee had not looked into this issue beyond what was done in 1977 and 1985, we would not keep up the continuity of knowledge available to the public at large. So it was because of Senator Glenn's request that I bring this issue before the committee, and obviously he wants to keep it high in public awareness.

Also, Senator Glenn, of course, brings a depth of knowledge and interest to this hearing as well. We are honored to have such a distinguished group of witnesses here today, many who, as I said, traveled great distances. It is especially nice to see Dr. Forette, who testified at "The Graying of Nations II," and Drs. Butler and Svanborg, who testified at both "The Graying of Nations I and II," so let me remind you that means they were here in 1977 and 1985.

So I want to welcome all the witnesses here today and to thank you for taking time out of your busy schedules to appear before the committee. As many of you know, the United Nation's Year of the

Older Person begins this October. I hope today's hearing will contribute to public awareness about the opportunities that increased life expectancy creates. I am anxious to learn more about the programs, policies and research that the United States and other countries around the world have used to promote active aging. Providing opportunities for older persons to remain active participants in society will become increasingly important as life expectancy rises throughout history and in almost every part of our world.

In 1950, as an example, the average life expectancy was 47. It has risen now worldwide to 66. Obviously, in many countries of the world it is much, much higher than that. In addition to the increases in life expectancy around the world, many nations are also facing a dramatic demographic shift as a result of the aging of baby boomers and that is particularly true of this American society. Too often policymakers talk about the problems or challenges that the aging of the population creates. I am pleased to have an opportunity today to focus on the opportunities for both individuals and society as a whole this demographic shift presents to us.

Increases in longevity have outpaced disability rates. People are living longer because they are healthier. So it is essential that we encourage the participation of older people in community life. That is not only for the sake of their health and their quality of life, but because so many programs are dependent upon the Federal and national treasuries. This also has something to do with making sure that our programs make the best use of tax dollars. Today's hearing will examine the global implications of increased life expectancy. Witnesses will discuss the important paid and unpaid contributions that older persons make to family and civic life and highlight international programs, policies, and research that encourage and help define active roles for seniors.

We hope to gain more insight about these new approaches from the experts here today. As I have said to some of the witnesses privately, we have a lot to learn from other societies. Then, occasionally somebody from another country reminds me that they have something to learn from the United States. Together through working and discussing, we can, in fact, help older people of all societies to have a better quality life. So I am pleased to be here today, and I would now like to call on Senator Glenn for his opening comments.

STATEMENT OF SENATOR JOHN GLENN

Senator GLENN. Thank you very much, Mr. Chairman, for convening today's hearing of the Senate Special Committee on Aging for "The Graying of Nations III: Productive Aging Around the World." It is a privilege for me to be with you and to welcome our participants and our audience today.

The longevity revolution is occurring globally. We have many things going global these days—our economy and everything else—and all at once here we are faced with the fact that we are also looking at a world in which we are all getting older and the average age is going up, and we are seeing an increase in both the total number of older people and in the proportion of older persons in our societies. That makes it difficult when you get into such things

as Social Security, how many people are going to be supporting that system and so on.

Just to elaborate a little on that, here in the United States right now, we estimate there are 34 million Americans age 65 and older, and that is nearly 13 percent of our population. By the year 2030, with the retirement of the baby boom generation, the number of Americans 65 and older will more than double. There will be 70 million elderly Americans making up 20 percent of our population. Those numbers are due to triple by the year 2050. We are supposed to have 99.9 million people over 65 by the year 2050. So this is something that is growing almost exponentially.

Many nations in Europe as well as Japan are ahead of us in the percentage of their populations that are elderly. However, developing nations are seeing more rapid increases in their older populations than our more developed countries. To fully celebrate our increased life expectancy, we must give people the opportunity—to be healthy and productive—an opportunity to be healthy and productive in their later years. We want this to be the norm and not looked at as the exception. By making it possible for older people to live life to the fullest, we benefit each person as an individual and also our whole society.

The elderly are already contributing in many ways, and I believe they are willing and eager to do more for themselves and their families and their communities if the opportunities are just available for them and if they are in good health. By working together, we can improve the quality of life, not just the quantity. That is one of the objectives we want to talk about today. Not just the quantity of life, not just seeing how long you can live, but also the quality of life that should go along with it, and that is something we are concerned about for today's elderly and for future generations.

We have been involved in some of this, this quality of life area—I will be going up in space later this year. I did not come here to talk about that today, but just to give an illustration of the kinds of things that we are interested in—the younger astronauts up there now over a period of 3 to 5 days in space find about 50 different changes occur in their bodies. Now, just the process of aging right here on Earth, about ten of those same things occur as a natural process of aging. We have osteoporosis, cardiovascular changes, orthostatic tolerance, balance, muscle system changes, coordination, immune system changes. Sleep patterns change. Drug and nutrient absorption in the body change. All these are things that occur in the elderly normally right here on Earth as part of the process of aging, and they occur short-term for the younger astronauts up there, and they return to normal then when they come back to Earth.

Now these are things that Dr. Hodes, who will be one of our first panel members from the National Institute of Aging, has been working on for some time, interested in, and has set up projects to deal with some of these things, I will be dealing with a couple of those items, getting a toe in the door and a start in this new area of research this fall. This is fascinating because if we can get into these things and really take care of some of these problems, maybe we have a chance in the future to cut back on some of the frailties

of old age. Make it possible as the mother of one of my neighbors here in Washington says her objective in life is not to rust out, she wants to burn out. [Laughter.]

I thought that was pretty good. That is a pretty good way to look at old age. So the purpose of today's hearing is to explore ways that different nations can share information and work together to meet the challenges and the opportunities presented by our aging society. That is the second or third time that I have mentioned opportunities because I think it is exactly that. I look forward to hearing from our witnesses who include the heads of our Administration on Aging and the National Institute on Aging, and experts from the United Kingdom, from Japan, France, Sweden, and the UN. They will describe programs and policies that promote active aging and discuss the promise of biomedical and behavioral research in helping older persons enjoy independent and productive lives.

It is a particular pleasure for me to welcome back several people who participated in the Aging Committee's two previous "The Graying of Nations" hearings. As he has done for today's hearing, Dr. Robert Butler helped organize the 1977 hearing when he was founding director of the National Institute on Aging and the 1985 hearing when he was heading up the Department of Geriatrics and Adult Development at the Mount Sinai Medical School in New York City. I believe that was the first fully accredited department of geriatrics established at any medical school in this country. Also Dr. Alvar Svanborg participated in both of those hearings and Dr. Francoise Forette was a participant in 1985. So I thank you and all of our witnesses today for joining us and look forward to your testimony. Again, Mr. Chairman, thank you very much for holding this hearing of the Senate Special Committee on Aging.

I think as time goes on, we are going to have more of these international hearings. I will not be around after the end of this year. I am not running for reelection this time, but I am sure there are going to be more of these hearings, not fewer, in the future because it is a problem and an opportunity that we have to deal with. Thank you very much.

[The prepared statement of Senator Breaux and Hagel follows:]

PREPARED STATEMENT OF SENATOR JOHN BREAUX

"THE GRAYING OF NATIONS III: PRODUCTIVE AGING AROUND THE WORLD"

Aging is much more than just a national phenomenon—it is international. This hearing brings together some of our foremost experts on global aging to highlight why aging issues are truly international in scope. Our three panels will give perspectives on the role of the United States in international aging policy, international policies and programs which promote active aging, and the role of biomedical research in promoting active aging.

Today's hearing is the third one held by the Aging Committee on the topic of global aging issues. The first two were held in 1977 and 1985. This one in 1998 is the most crucial, since nations all over the world will soon be faced with challenges posed by increased life expectancy.

Each year in the United States, May marks the Nation's annual celebration of Older Americans Month. For over 30 years, the President has designated May as the official month for celebrating the extraordinary contributions of our older citizens. Today, older Americans number more than 34 million, and the number is far higher in many other nations.

The theme for this year's Older Americans Month was "Living Longer, Growing Stronger in America." Our hearing this afternoon highlights the fact that many of us all over the world are living longer, fuller, more satisfying lives. And we are

growing stronger in the process. It gives us an opportunity to learn from other countries.

There is a growing recognition throughout the world that the aging process can and should be a positive experience where people can take charge as they prepare for the future. All of us can point to examples of older citizens in our countries who have remained active long past the point of their retirement. International advances in the broad fields of medicine and health care and science and technology will continue to help older people make a real difference everywhere.

Here in the United States, we are truly at the beginning of a demographic revolution. When Older Americans Month was established in 1963, only 17 million people had reached their 65th birthday. Today, our Nation is growing older at an unprecedented rate. There are now over 33 million individuals age 65 or older living in the United States. By the year 2030, it is expected that this segment of the population will more than double to 70 million. Similar demographic trends are also driving reforms in other countries.

Whether we attribute our increasing longevity and aging population worldwide to reductions in infant mortality, decreases in fertility rates, fewer cases of diseases, or improvements in nutrition, education, and technology, the good news is that more and more people throughout the world are living longer, more productive lives. The graying of nations will impact virtually every segment of our global society—our economic systems, technology, health care systems, our workplaces, social services, and public policy.

I thank all of our witnesses for being here today to help us better understand international aging. And Sen. Glenn is to be commended for calling the session based on his experience with the previous two "Graying of Nations" hearings. This hearing and The "Living Longer, Growing Stronger" theme of this year's "Older Americans Month" will serve as good starting points for the International Year of Older Persons in 1999.

PREPARED STATEMENT OF SENATOR HAGEL

"THE GRAYING OF NATIONS III: PRODUCTIVE AGING AROUND THE WORLD"

Thank you, Mr. Chairman. I would like to thank you for calling this timely hearing of the Senate Special Committee on Aging.

This afternoon, we will focus on the global trend of increased life expectancy. This trend comes as a result of unprecedented economic prosperity and social progress, as well as improved nutrition, a commitment to public health, and medical advances.

In the 20th century alone, we in the industrialized world have added an average of over 25 years to our life spans. This gain nearly equals the increase in life expectancy attained during the preceding 5000 years of human history. In the year 2030, nearly 20 percent of the U.S. population will be over 65. This shift will occur even more rapidly in Japan. Europe is also graying at a fast pace.

As the G–8 economic summits have stressed, we must share information and solutions that help structurally reform and strengthen our pension, health, and long term care systems. We need to find ways to better utilize the facts at our disposal as we shape policy to adjust to this profound shift in the World's demographics. This must be an international effort. In the United States, this means rethinking our Social Security, Medicare and Medicaid programs to better meet the needs of retirees in the 21st century.

We must also find ways for our populations to age actively and productively. An older population presents a great opportunity for us to harness the wisdom and unique perspectives that come with advanced years. We need to take full advantage of these intellectual resources, especially through mentoring and volunteer programs.

Today's hearing is an important step in the right direction.

Thank you, Mr. Chairman.

The CHAIRMAN. Yes. Senator Glenn, did you want to introduce the members of the panel? The first panel needs no introduction. Obviously, Dr. Hodes, the director of the National Institute on Aging, would you come, please? Also Dr. Jeanette Takamura, Assistant Secretary for Aging, Department of Health and Human Services, and we should start with Dr. Takamura and Dr. Hodes.

But I was planning on you being able to introduce the people in panel two and panel three; is that right or wrong?

Senator GLENN. That will be fine. Maybe we could just wait until those panels are ready to come up.

The CHAIRMAN. Yes, yes.

Senator GLENN. Then people will have a little better idea of who they are at that time.

The CHAIRMAN. Yes, we will wait.

Senator GLENN. Good. Thank you.

The CHAIRMAN. We thank you for participating, and I think we should start with Dr. Takamura.

STATEMENT OF DR. JEANETTE TAKAMURA, ASSISTANT SECRETARY FOR AGING, DEPARTMENT OF HEALTH AND HUMAN SERVICES

Ms. TAKAMURA. Thank you. Chairman Grassley, Senator Glenn, Members of the Special Committee on Aging, I certainly appreciate the opportunity to testify before you today on "The Graying of Nations" and the international challenges this presents to policymakers around the world. Before I actually launch into my testimony, I would like to thank Senator Glenn in particular. He will make aging not just a global issue but a universal one. We look forward to that.

You really are both to be commended for calling for and convening this hearing. It brings much needed attention to the global phenomenon of longevity. It also sets the stage for 1999, which has been designated by the U.N. General Assembly as the International Year of Older Persons. Finally, it focuses on active aging. As you know, in this century alone, we have seen a more dramatic extension of longevity than humankind has witnessed in more than 4,000 years. This is quite a gift and it truly is a miracle. While others will speak about aging in various nations around the world, the differences relative to aging in third world countries as compared to more developed nations and why international aging issues are important, let me indicate how the Administration on Aging is helping to ensure that the United States is preparing for its own longevity so that we can share with other countries and some of the international efforts in which we are already involved.

As you know, May was Older Americans Month, and we along with your committee and others around the country saluted this year's theme, "Living Longer, Growing Stronger in America." This theme highlights the fact that many of us are living longer, fuller, more satisfying lives, and that we are growing stronger in many ways in the process. Indeed, there is a growing recognition that aging can and should be a positive experience and that we can take charge as we prepare for our own longevity regardless of our current age.

There are numerous examples of older Americans who have remained active long past retirement. Many of you will recall Milt Garland, one of America's oldest workers at 102, who was most concerned about the time he would be taking off from work when he actually had to come to Washington, DC, to receive an award. Advances in medicine, science and technology, as well as health promotion and disease prevention, employment, volunteer and con-

tinuing education opportunities will continue to enable older Americans to enjoy long life and as importantly to make a difference in communities across the nation.

Approximately 46 million Americans are age 60 and over, with persons 100 years of age and older the fastest growing segment in our country. Since 1900, the percentages of Americans 65 and older has more than tripled and the number has increased nearly 11 times. In less than 13 years, the vast majority of the 76 million baby boomers born between 1946 and 1964 will begin to join the ranks of our older Americans. I am proud to say that I will be in that cohort. According to the Census Bureau, one of every nine baby boomers will survive to at least 90 years of age. As a result, our programs and policies must be designed for a longer living community of older persons.

Through the Older Americans Act, a system and an infrastructure of home and community-based programs and services is in place to enable millions of older Americans to maintain their dignity, live as independently as possible, be free from fear of abuse, neglect and exploitation, avoid the pain of hunger, social isolation and loneliness, be assisted and cared for in their homes if they are vulnerable and frail, and have their families receive support as they provide care. The Act is the vehicle through which social, nutritional and other services to older people have been organized and delivered for the past 33 years.

Recognizing that longevity has become a way of life in America and that its ramifications will permeate and touch every aspect of our society from our workforce to our transportation systems to health care systems and our families, we are reorienting our work within the Administration on Aging to address the current and emergent needs of multigenerational cohorts of older Americans in the next century. We are focusing our efforts on health, long-term care, consumer protection, economic security, and on modernizing our core Older Americans Act programs to make the services and service delivery structure more relevant to emerging needs in the 21st century.

Our aging network, the Older Americans Act, our programs for older people and their families and our use of volunteers to assist in delivery of services have been of great and growing interest to other nations. Many of America's older citizens are not only living longer but they are remaining actively involved in their communities, offering us the opportunity to redefine what it means to be an older person. Many, many of our foreign visitors are particularly fascinated with the Older Americans Act. Last summer's International Forum of the Americas, held in Uruguay, organized by the Pan American Health Organization, actually brought forward an opportunity for the Administration on Aging to discuss the Older Americans Act and the basic elements of a comprehensive system of support for older adults.

In addition to the numerous, and I have to underscore numerous, requests for information that we receive from other governments and the many foreign visitors we receive, AoA has entered into several long term, mutually beneficial, bilateral relationships. For the past several years, AoA has been host to officials from the Japanese Ministry of Health and Welfare. Our current guest is spend-

ing a year with us learning about the Older Americans Act programs and long-term care policies. He is most interested in the Older Americans Act ombudsman program as a model to protect older persons.

One of my staff persons, I should like to share with you, will be embarking on a Washington-Tokyo Public Service Fellowship through the American-Japan Society of Tokyo and the Japan-America Society of Washington. She will be hosted by the Ministry of Health and Welfare in their division that oversees aging issues where she will be comparing Japan's Golden Plan and the Older Americans Act programs and service delivery system and learning how the ministry will be adapting its aging policies to the growing older population.

We are also working with the China National Committee on Aging to develop joint programs and activities. We have specifically assisted China's Deputy Director of the International Department to receive a Hubert Humphrey Fellowship to the United States. He is currently completing a professional affiliation with our agency to learn particularly about programs for older people, and these are programs which involve volunteers.

China, as you well know, has some unique aging problems. Currently one-fifth of the world's elderly population or about half of all older persons in Asia are Chinese and the percentage is growing rapidly. In the year 2020, over 230.6 million people will be over the age of 60 in China, and this is nearly 15.6 percent of their population. Because of their one-child family planning policy, which took effect in 1970, there will be fewer children available to support their parents in China despite the fact that the Chinese constitution specifically states that adult children have the responsibility to support their elderly parents. China also has a family support agreement most often used in rural areas which specifies exactly how children will look after their parents.

I would like to tell you very quickly that we also have a working relationship with the Mexican Ministry of Health as part of the Health Workgroup of the U.S.-Mexico Binational Commission, and together with our colleagues in the Mexican Ministry of Health, we have established an Aging Coregroup which is exploring opportunities to expand bilateral collaborative efforts to better address the special health needs of elders in both countries.

We are cognizant of the need to support technology transfer at the local service delivery level so that our front-line providers can learn firsthand how other nations are preparing for longevity. To spur this on, we have entered into an agreement with Sister Cities International to bring together the expertise of our aging network and Sister Cities International in developing binational programs. We have quite a number of projects that actually have been established since. I will point out to you, for example, the Rio Grande Area Agency on Aging in El Paso, TX, has been working closely with nursing homes and health centers in its sister city of Juarez, Mexico.

Another example of a sister city aging project is in Yamanashi Prefecture, Japan, which has been in a sister city state relationship with the state of Iowa for about 15 years. I would certainly like to spend the time telling you about many of the things that we

learned from Yamanashi Prefecture. However, because time is short I will simply tell you that we are preparing as well for the International Year of the Older Person in 1999, and we look at this opportunity in 1999 to begin to draw together our Federal agencies as well as our private sector to determine the policies and programs which we will need in the 21st century.

I can tell you that there are many exciting things occurring in the area of international aging. We know certainly one thing that should not be given short shrift is the Denver Summit of the Eight, which occurred in 1997 and recently reoccurred in 1998 in Birmingham, England. I am certainly honored to have the opportunity to appear before you today along with many of my distinguished colleagues. I will be most happy to answer your questions as we altogether prepare our nation and the world for longevity. Thank you very much.

[The prepared statement of Ms. Takamura follows:]

DEPARTMENT OF HEALTH & HUMAN SERVICES

Washington, D.C. 20201

STATEMENT OF

JEANETTE C. TAKAMURA

ASSISTANT SECRETARY FOR AGING

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

BEFORE

THE SENATE SPECIAL COMMITTEE ON AGING

HEARING

"THE GRAYING OF NATIONS"

JUNE 8, 1998

Mr. Chairman, and Members of the Senate Special Committee on Aging, I appreciate the opportunity to testify before you today on "the Graying of Nations" and the international challenges that it presents to policymakers around the world. I would like to commend you for calling this hearing. It is especially important because it brings much needed attention to the world wide phenomenon of aging; it sets the stage for 1999, which has been designated by the UN General Assembly as the International Year of Older Persons; and it focuses on active aging.

As I mentioned, 1999 is the International Year of Older Persons, when longevity will be celebrated on a global scale. It will be an ideal time for all of us to reflect on these swiftly changing world demographics and to envision how differently our world will look in the next millennium. It will also be an opportunity for us to consider both the triumphs and challenges that lie before us.

In this century alone, we have seen a more dramatic extension of longevity than humankind has witnessed in more than 4,000 years. It is quite a gift and is quite a miracle. You will hear today from a number of speakers about the aging of the populations in various nations; how aging in third world countries differs from aging in more developed nations; and why focusing on the issues of international aging is important. I would like to share with the Committee how the Administration on Aging (AoA) at the US Department of Health and Human Services, the agency which I head, is helping to assure that the United States is prepared for its own longevity; what we can share with other countries, and discuss some of the international efforts in which we are already involved.

The demographics of longevity

America is among a growing number of nations blessed with the gift of longevity. As you know, May was Older Americans Month, and we, along with your Committee and others around the country saluted this year's theme, "Living Longer, Growing Stronger in America." This theme highlights the fact that many of us are living longer, fuller, more satisfying lives and that we are growing stronger in many ways in the process. Indeed, there is a growing recognition that aging can and should be a positive experience, and that we can take charge as we prepare for our own longevity, regardless of our age today. Certainly there are numerous examples of older Americans who have remained active long past their point of retirement. I know many of you will remember meeting or hearing about Milt Garland, America's oldest worker, who at 102 was concerned about the time it would take from his job to come get his award in Washington D.C. last March! No doubt advances in medicine, science and technology, as well as health promotion and disease prevention, employment, volunteer and continuing education opportunities will continue to enable older Americans to make a difference in communities across the nation.

Approximately 46 million Americans are age 60 and over, with persons 100 years of age and older the fastest growing segment in our country. Since 1900, the percentages of Americans 65 and over has more than tripled (4.1% in 1900 to 12.8% in 1996), and the number has increased nearly eleven times (from 3.1 million to 33.9 million). About 1 in 5 Americans will be over the age of 65 by 2030. That is approximately 70 million older persons, more than twice their numbers in 1996. The oldest old, 3.5 million persons in 1994, represented just over 1 percent of the population. By 2030, the size of the population age 85 and over is projected to reach 8.5 million. In less than 13 years, the vast majority of the 76 million baby boomers born

between 1946 and 1964 will begin to join the ranks of our older Americans. According to the Census Bureau, 1 of every 9 baby boomers will survive to at least 90 years of age. As a result, the programs we run and the policies we make must be designed for a longer living community of older persons.

The Administration on Aging and the Older Americans Act (the Act)

Through the Older Americans Act, a system is in place to enable millions of older Americans to maintain their dignity; live as independently as possible; to be free from fear of abuse, neglect and exploitation; to avoid the pain of hunger, social isolation, and loneliness; to be assisted and cared for in their own homes if they are vulnerable and frail; and to have their families receive support as they provide care. The Act is the vehicle through which social, nutritional, and other services to older people have been organized and delivered for the past 33 years. Its programs address the needs of older adults, as they are understood at the national level and based upon needs assessments conducted by state and area agencies and tribal organizations across the country. Since the Act was enacted, it has generated the national infrastructure for an entire network of home and community-based programs and activities which exist in every community across the nation.

Recognizing that longevity has become a way of life in America, and that its ramifications will permeate and touch every aspect of our society -- from its work force to its transportation systems, to our health care systems and our families -- we are reorienting our work within the Administration on Aging to address the current and emergent needs of multi-generational cohorts of older Americans in the next century. Our focus is on health, long-term

care, consumer protection, economic security, and on modernizing our core Older Americans Act programs to make the services and service delivery structure more relevant to emerging needs of the 21st century.

What we can learn from each other

Our aging network, the Older Americans Act, our programs for older people and their families, and our use of volunteers to assist in delivery of services have been of great interest to other nations. America's older citizens are not only living longer but they are remaining active. Their continued involvement in learning and in their communities offers us the opportunity to shift our thinking in what it means to be an older person. Our many foreign visitors are particularly interested in and impressed with the Older Americans Act. In fact, at last summer's International Forum of the Americas held in Uruguay, organized by the Pan American Health Organization, the Administration on Aging was asked to speak on the Older Americans Act and the "basic elements of a comprehensive system of support for older adults." In addition to the numerous requests for information we receive from other governments, and the many foreign visitors we receive, AoA has entered into several long term, bilateral relationships which we believe will be of benefit to both countries.

Japan

For the past few years, AoA has been hosting officials from the Japanese Ministry of Health and Welfare. Our current guest is spending a year with us, learning about the Older American Act programs and long-term care policies. He is most interested in the OAA

ombudsman program as a model to protect the rights of the elderly. One of my staff members will be embarking on a Washington-Tokyo Public Service Fellowship through the American-Japan Society of Tokyo and the Japan-America Society of Washington. She will be hosted by the Ministry of Health and Welfare in their division that oversees aging issues. Of particular interest will be comparing Japan's Golden Plan and the Older Americans Act programs and service delivery system, and how the Ministry will be adapting its aging policies to the growing older population.

China

AoA is working with the China National Committee on Aging to develop joint programs and activities. We have assisted China's Deputy Director of the International Department to gain a Hubert Humphrey Fellowship to the United States. He is currently completing a professional affiliation with the Administration on Aging to learn about our programs for older people. Our Chinese colleague is quite impressed by our volunteer programs.

China has some unique aging problems and unique solutions which we should look at closely. Currently, one-fifth of the world's elderly population is Chinese, or about half the elderly in Asia and the percentage is growing rapidly. In the year 2020, over 230.6 million people will be over the age of 60, or about 15.6% of the Chinese. Their "baby boomers" generation came in bunches, when the economy was good. At the end of the 1970's, the "one child" family planning policy began to take effect. While there will be fewer children available to support their parents, the Chinese constitution specifically states that "adult children have the

responsibility to support their elderly parents." China also has a "Family Support Agreement," most often used in rural areas, which specifies exactly how children will look after their parents.

Mexico

We are working with the Mexican Ministry of Health, as part of the Health Workgroup of the US-Mexico Binational Commission. The commission is a forum established by the two nations to allow for regular exchanges at the cabinet level on a range of issues critical to the United States and Mexico. Together with our colleagues in the Mexican Ministry of Health, we have established an Aging Coregroup. This group focuses on shared issues of our aging populations and exploring opportunities to expand bilateral, collaborative efforts to better address the special health needs of older Mexicans and Americans. We hope to work with the Mexican Ministry of Health in putting on a binational conference on aging in 1999, during the International Year.

Sister Cities Partnership

I wish we had a way of supporting the exchange of expertise at the local, service delivery level so our front line providers could learn first hand how other nations are preparing for longevity. We have a good start in the direction of "thinking globally, acting locally." In 1996, we entered into an agreement with Sister Cities International, to bring together the expertise of our aging network and the expertise of Sister Cities International in developing binational programs. We continue to look for ways to expand the number of pilot projects across the country that would join with their sister cities around the world. Our enthusiasm at the national

level has already been transferred into action in a number of cities. We have stimulated the development of aging projects in Las Cruces, New Mexico and have encouraged the newly formed Durban, South Africa and Chicago, Illinois sister cities to develop aging projects.

Our Rio Grande Area Agency on Aging in El Paso, Texas has been working closely with nursing homes and health centers in its Sister City of Juarez, Mexico, right across the border. I think the most important message to convey to you is how enormously enriching this experience is for both parties. If I may quote a statement made by an El Paso nursing home administrator participating in this project, "we thought we would be good helpers but they (the Mexican counterparts) reminded us of the true spirit of service." One of the school age American volunteers who worked in the Mexican nursing home remarked "I will never forget this for someday I will be old."

Another example of a sister city aging project is Yamanashi Prefecture, Japan, which has been in a sister state relationship with the State of Iowa for approximately 15 years. Recently they developed an Aging Consortium Committee to jointly study aging issues and to share knowledge about elder care and services in their respective communities. I had an opportunity to visit with several representatives of the Yamanashi Prefecture when I was in Des Moines recently, and most impressive to me is their technology which Yamanashi elders have available to assist in their care in the community.

The International Year of Older Persons - 1999

As we know, 1999 is the International Year of Older Persons when world wide attention will focus on aging. This will be a unique opportunity to celebrate the achievements and

contributions of older people, to bring attention to the needs of older persons around the world, and to prepare nations for longevity. We greatly value the support this Committee and its staff are giving to help us prepare for the International Year. The Administration on Aging is taking the lead in the federal government in planning for the International Year, which actually begins on October 1, the International Day of Older Persons. Our activities will focus on preparing departments and agencies government wide for population longevity. We have formed a federal committee. I must tell you that we have been pleasantly surprised and gratified by the very enthusiastic response from all those who are working together for the International Year. Our major goals will be, in part, to highlight for the world the U.S. government's leadership and commitment to addressing the needs of older people and to highlight the contributions of older adults themselves. We also want to use the opportunity provided by the International Year to move agency aging agendas forward, to embrace the reality of longevity in all federal agencies, and to prepare the country for our own dramatic aging.

Our work at the federal level will be reinforced by other efforts/activities which will take place across the country at the state and community level. One of our major activities for the International Year will be a large, federal-wide conference, which we hope to hold in Washington, D.C. during Older Americans Month in 1999. Once again, I am very pleased that the Senate Special Committee on Aging is actively participating in the preparations for the International Year, and for this conference in particular. We plan on inviting our colleagues in other nations to this conference.

But that is not all we are doing for the International Year. In January, we added an International web site to our Administration on Aging homepage. The International Year of

Older Persons is prominently featured and contains links to other International Year web sites, resource information and ides for celebrating the year. We continue to receive inquiries from all over the world about our plans for the International Year, and just last week were visited by a delegation from the Netherlands interested in our plans. Our international coordinator recently attended a multi-national meeting organized by the German Ministry for Family Affairs, Senior Citizens, Women and Youth to discuss plans for the International Year. She shared our plans with 18 participating countries.

The Denver Summit of the Eight

Last summer the Denver Summit of the Eight (consisting of the United States, Canada, France, Germany, Italy, Japan, Russia and the United Kingdom) for the first time addressed the issue of aging. Our Department, including the Administration on Aging, was heavily involved in preparing the communique issued by the leaders of the G-8 nations. This communique is of special importance because it begins to shift the focus from aging as a "dependent" stage of life to a new definition of "active aging" defined as the "desire and ability of many older people to continue work or other socially productive activities well into their later years and to dispel the stereotypes of older people as dependent." The Summit of Eight communique stressed the importance of learning "from one another how our policies and programs can promote active aging and advance structural reforms to preserve and strengthen our pension, health and long term care systems. Governments pledged to work together, within the OECD and with other international organizations, to promote active aging through information exchanges and cross-national research." The theme of active aging was reiterated in the 1998 Summit of the Eight,

held last month in Birmingham, England. I look forward to our continued participation in this valuable effort.

In conclusion, I am very proud of what we in the Administration on Aging have been able to accomplish in terms of international efforts. I am honored to have the opportunity to appear before you today and with such distinguished colleagues. As Assistant Secretary for Aging, I am deeply committed to helping prepare our nation for longevity and to working with our partners around the globe to prepare for the world's longevity. I believe that our cross-national exchange will provide us with the information that will help in the development of responsive policy and program innovation not only for the United States but for our partners around the world. I am happy to respond to any questions or comments you might have.

The CHAIRMAN. Thank you, Dr. Takamura. Dr. Hodes.

STATEMENT OF RICHARD HODES, M.D., DIRECTOR, NATIONAL INSTITUTE ON AGING

Dr. HODES. Senator Grassley, Senator Glenn, thank you very much for sponsoring this most important occasion for us to gather and discuss the sharing of experiences in the area of aging. I particularly welcome this opportunity to discuss the ways in which biomedical, behavioral, and social research can contribute, through the identification of means to prevent and treat chronic disease and disability, to ensuring that all older Americans will have happy and active lives. In fact, active aging is an issue of national and of global importance as reflected in some of the events that you've already heard mentioned, events such as the Summit Meeting of Eight held in 1997 in Denver and reinforced this year by the summit held in Birmingham, reflected as well in numerous bilateral and multilateral international events and those sponsored by international organizations such as the WHO.

This common interest reflects what has also been referred to by Senator Grassley, Senator Glenn and Jeanette Takamura. That is the unprecedented demographic changes which have occurred in the American and world population, populations which are truly changing in a way that is without precedent in the history of the Human species. There are many ways in which these changes can be represented, and I wanted to share with you some of them. The first poster demonstrates the past and projected changes for what are termed the oldest old of American citizens, those age 85 and older. At the turn of the last century, reaching the age of 85 was, in fact, a relatively rare event with fewer than 100,000 Americans at that point reaching that age. The curve shows through the current 1990 and 2000 an increase to three and four million Americans aged 85 and older with a projection that by the year 2050 in the range of 19 million people that age and older will inhabit this country, and similar changes are projected through the rest of the world's population as well.

The next graphic is another means of indicating the dramatic shifts that will occur in the age profile of the world population. This was generated by the United Nations Population Division and reflects in two lines the percentage of the global population either less than 5 years of age or age 65 and over. You can see as recently as the 1960's and 1970's before those curves begin to change their shape, there are substantially more people worldwide in the category age five and under than age 65 and over.

You can see the changes that have occurred in recent years and even more dramatically still those projected out through subsequent decades, constitute an unprecedented reversal in the number of older citizens of the world versus those younger, with enormous implications for social and other structures of our world population.

Fortunately, this challenge is occurring at a time when national and international forces are collaborating to carry out research aimed at addressing these many problems. An illustration of the kind of implications which follow from a change in the profile of the aged cohorts in the world is indicated with this graphic which illustrates for one terrible of affliction of individuals, namely Alz-

heimer's disease, the dramatic way in which disease burden is related to age. In this one study carried out by Dennis Evans and colleagues in East Boston, you can see the enormous age dependence of Alzheimer's disease so that in the age group 65 to 74, approximately three percent of individuals in that study were afflicted with Alzheimer's disease. By the age range 75 to 84 that increases to 19 percent, and shockingly by age 85 and over, 47 percent or nearly half of Americans in that population study were afflicted with Alzheimer's disease.

The toll of this disease which causes nerve degeneration and at present irreversible changes in memory and cognitive function is staggering, both in terms of human suffering and burden on society at the level of the afflicted individual, loved one, family and society as a whole. Fortunately, again, over past years, we are at an accelerating pace coming to understand more about Alzheimer's disease understanding, for example, risk factors at a level not previously appreciated. Until recently it was really only age that was understood to be a risk factor for Alzheimer's disease. Over the past 8 years, studies of the basic biology and genetics of that disease have elucidated the presence of at least four genes, those encoding ApoE4, beta-amyloid, Presenilin 1 and Presenilin 2, changes in which appear to predispose to the disease providing for the first time an opportunity through understanding of basic mechanisms to intervene.

Importantly, as well, possible protective factors have emerged and provide now a hope for a new series and new generation of interventions designed to slow the arrest and even prevent the onset of disease. These include antioxidants, which are the subject of current and ongoing clinical trials. In addition, as reflected in the next poster, data acquired over this past year, from studies of the Baltimore Longitudinal Study on Aging carried out by the National Institute on Aging, show the association in the first panel of the use of non-steroidal anti-inflammatory drugs, drugs such as ibuprofen, with a 50 percent reduction in the likelihood of risk of having Alzheimer's disease.

In a related study in that same population, it was found that the use of post-menopausal estrogen was associated with a greater than 50 percent reduction in the likelihood of having Alzheimer's disease. It should be emphasized that these are important studies but are based on association and epidemiology and remain to be studied at the level of actual intervention and clinical trials which will indeed be supported by the National Institute on Aging and the National Institutes of Health over the next years in response to the imperative imposed by the demographic changes that we have examined.

These efforts are international as well. The identification of genetic risk factors, for example, has been elucidated by the study of populations in different nations of the world, comparing, for example, African Americans of Nigerian descent with Africans living in Nigeria, and by comparing populations in China, in Japan, and of Chinese and Japanese Americans in various parts of the United States.

An important question which all of us ask is whether increase in disability as a function of age is inevitable or whether effective

interventions can be produced? This graphic illustrates the results of a report released by Ken Manton and his collaborators in NIH supported research studies which examine the proportion of individuals with disabilities in the part of the population that is age 65 and older.

What you can see plotted here are two lines. The upper in blue is the plot of the number of Americans with disabilities which would have been predicted by the change in the American population if the rate of disability had not changed since 1982. The lower line in red is a series of observations made in successive years which, in fact, reflects the fact that fewer Americans age 65 and older have disabilities than would have been predicted by the rates which were prominent in 1982, indicating that there indeed has been a substantial decrease in the rates of disability over this time corresponding to a decrease of approximately 1.4 million fewer Americans disabled than would have been predicted had there been no decrease in disability rates.

The important challenge which these findings now create is that of disaggregating these findings to identify what the causes of decreased disability have been, and to assure the continued and even accelerated course of decreased disability. I would like finally to share with you some of the examples of research findings supported by NIA and the National Institutes of Health which attempt to identify and intervene in the area of these causes of disability.

Illustrated here is the result of a study carried out collaboratively by the National Heart, Lung and Blood Institute with the National Institute on Aging, which looked at populations with isolated systolic hypertension, and looked at interventions that consisted of low cost, low toxicity diuretics to determine whether populations treated with these drugs would, as a result, have decreased consequences of systolic hypertension. Some of the earliest results, which were reported in 1991, indicated a gratifying decrease in the rate of strokes which occurred. Over the past year even more dramatic findings have occurred in long-term follow-up of these same individuals, showing that those who were treated with antidiuretics had a decrease of heart failure in the range of 50 percent, and even more strikingly, if one looks at those individuals with a prior history of myocardial infarction, who are at a highest risk for the development of heart failure, there was, in fact, an 80 percent reduction in congestive heart failure in that population.

Another cause of chronic disability and institutionalization in older Americans and older people around the world is falls, and the study reported here from collaborators at Yale is a result of an effort to identify the multiple causes of falls in individuals and then to tailor or individualize interventions to address the risk factors in specific individuals. The result of that study illustrated here was an achieved 44 percent reduction in the risk of falls, and for the category of most serious falls requiring medical attention, often leading to long-term institutionalization, a 32 percent risk was achieved.

Interestingly, in a follow-up to this study, an assessment of the financial outcomes of this treatment indicated a dramatic cost reduction in the overall health care for those individuals exposed to this intervention, even after the cost of the intervention itself was

figured into the equation. These then are the grounds for a growing optimism that it is possible through wisely engineered research to identify the causes of disability in chronic disease and most importantly to intervene to prevent their progression and ideally to prevent their onset.

We look forward to continued efforts in the United States and through multiple international collaborations to this same end, and I again thank and applaud this committee for the opportunity to address these important issues.

[The prepared statement of Dr. Hodes follows:]

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DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

Statement of

Richard J. Hodes, M.D.

Director, National Institute on Aging

Before

United States Senate

Special Committee on Aging

June 8, 1998

Mr. Chairman and members of the Committee, I am pleased to appear before you today to discuss the ways that biomedical research--by developing treatments and preventive strategies for chronic and disabling diseases -- can play a critical role in enabling older persons to remain healthy and active. "Active aging" is a critical issue not only in the United States, but internationally as well. NIA and many international colleagues are committed to developing preventive strategies to delay the onset of chronic and disabling age-associated diseases, as emphasized last year in the G7 Denver Summit communique and reinforced last month at the Birmingham Summit of the Eight. I appreciate this opportunity to discuss current NIA research efforts aimed at the prevention of disability and current and future international collaborative efforts to promote active aging through cross-national research.

When the National Institutes of Health (NIH) was established in 1887, the public health focus was on infectious diseases. The great killers of 1887--cholera, tetanus, typhoid, diphtheria, tuberculosis, pneumonia--are now susceptible to effective albeit imperfect strategies for treatment and prevention, and life expectancy has soared. Today's great killers--heart disease, cancer and stroke-- are diseases that can stay with the patient for many years and resist attempts at a cure. Chronic and disabling conditions such as dementia, arthritis, impairment of sight and hearing, and physical frailty may cause years of pain, suffering, and loss of function.

Fueling the rapidly changing demographics of our population are increasing life expectancy and the aging of the babyboomers. With increasing life expectancy comes increasing opportunities for people to fall prey to the "epidemic" of the modern age--chronic and disabling diseases and conditions. The 75 million babyboomers who will turn 65 in the next century are at risk for many years of chronic disability.

The good news is that we are accumulating the tools to treat, delay, or prevent the conditions that interfere with active aging and constitute a terrible burden of pain and suffering. We have built a solid foundation of knowledge about the basic processes underlying disease. Modern approaches to scientific investigation are now revolutionizing our ability to understand how the human body functions at the most fundamental level of the cell and the molecule. We are rapidly expanding our knowledge about the biological, behavioral, and social changes that occur with advancing age. By capitalizing on these new opportunities, we can work to substantially decrease the burden of disease and implement strategies that can maintain physical and cognitive abilities throughout the aging process.

Basic research is providing significant insights into the aging process and associated chronic conditions. For example, major new advances have been made in understanding the role of telomeres (DNA segments on the ends of chromosomes) and telomerase (an enzyme which acts to extend the length of telomeres) in aging and

cancer. Most normal cells have little telomerase activity, and these cells lose a portion of their telomeres each time that they divide. When the telomeres have shortened sufficiently, cells stop dividing. Research is now being directed toward understanding whether this limited capacity for cell division is related to the diseases or disability that can accompany aging. In contrast to the behavior of normal cells, most human tumor cells have high levels of telomerase activity–these cells maintain their telomere length and divide endlessly. Many scientists view telomerase inhibition as a potential new approach to cancer therapy.

The excitement of new scientific advances is illustrated in research relevant to several chronic disabling diseases– Alzheimer's disease, cardiovascular disease, prostate cancer, osteoporosis and osteoarthritis.

Alzheimer's disease. The National Institute on Aging (NIA) leads an intensive effort to conquer Alzheimer's disease, a progressive brain disorder marked by an irreversible decline in intellectual abilities and by changes in behavior and personality. The long clinical course of Alzheimer's disease strikes as many as four million Americans, with devastating effects to patients, their families, caregivers, and society. Because the prevalence of Alzheimer's disease doubles every five years beyond age 65, the rapid growth of the oldest old population (ages 85 and over) is expected to place a significantly greater number of people at risk for the disease. Some scientists have projected a tripling of individuals with Alzheimer's disease to 14 million by the year 2050 if means to delay or prevent its onset are not discovered. While not long ago the symptoms of Alzheimer's disease were referred to as "senility" and assumed to be an usual feature of growing old, research has since shown that these symptoms are not a part of normal aging. In the absence of disease, the human brain functions well throughout life.

Using data from epidemiological studies, we have recently identified three new candidates for interventions – antioxidants, non-steroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen, and estrogen replacement therapy. Based on the suggestive data of epidemiologic studies, the NIA plans to initiate clinical trials to test the effectiveness of ibuprofen and of estrogen in treatment or prevention of Alzheimer's disease. A recently completed clinical trial showed that the antioxidants selegiline and vitamin E may slow development of functional signs and symptoms of AD by several months, although they did not affect cognitive measures. Research continues on the etiology and prevention of this devastating disease.

Cardiovascular disease. The NIA and the National Heart, Lung and Blood Institute supported a controlled clinical trial, Systolic Hypertension in the Elderly Program (SHEP), to test the effectiveness of low doses of the diuretic chlorthalidone to treat isolated systolic hypertension in older people. Systolic hypertension is a chief risk factor for heart failure, a serious and disabling cardiovascular disease now increasing in

prevalence in the U.S. Older people who were treated in the trial had 50% less heart failure than those not treated. For those who had previously had a heart attack, treatment reduced the chance of developing heart failure even more dramatically. Treatment with this relatively inexpensive medication could contribute significantly to preventing disability.

Prostate cancer. Using data from the Baltimore Longitudinal Study of Aging, NIA scientists and colleagues have produced several important advances about the role of prostate specific antigen (PSA) in identifying prostate cancer. In the blood, some PSA binds to proteins, and some PSA remains free, or unbound. Examining the ratio of free and bound PSA in the blood not only improves identification of likely cancer, but also may predict whether the cancer will be fast or slow-growing. This can help the physician decide whether to aggressively treat or to monitor the cancer. Avoiding unneeded treatment, such as radiation or surgery, may reduce unfortunate complications, including impotence and incontinence.

Osteoporosis and Osteoarthitis. Loss of bone mass due to osteoporosis reportedly contributes to 1.5 million fractures each year in the U.S. Because hip fractures are so prevalent, identifying risks and interventions can make an enormous impact on preventing disability, particularly in older women who increasingly outnumber men as they age. Some prominent and modifiable factors that have been found to increase the risk of hip fracture are the following: poor visual acuity; more than two cups of coffee a day; no walking for exercise; being on one's feet less than four hours a day; and the dose of some medications such as long-acting benzodiazepines and anticonvulsant drugs. There is strong evidence that nutrition and physical activity interventions can prevent fractures even in older individuals. A clinical trial now confirms that increasing the intake of calcium and vitamin D can improve bone strength among older subjects and therefore can be an important life-long strategy to reduce disability.

Osteoarthritis, a painful degenerative joint disease, also affects millions of older Americans. A controlled trial conducted at an NIA Older Americans Independence Center demonstrated that walking and resistance exercises can safely improve function and reduce pain in patients with knee osteoarthritis, suggesting that exercise should be considered as part of the treatment for these individuals.

Multifaceted approaches to preventing disability

Chronic disability is sometimes caused by a single injury or disease process, but for many individuals, particularly older persons, disability is the result of multiple, complex, and interacting factors. Teamed with research to prevent and treat specific diseases, new behavioral and clinical strategies are making critical contributions to disability prevention.

Well-documented benefits for health and longevity come as a result of adopting healthy lifestyle practices, such as increased physical activity, improved diet and smoking cessation. Higher levels of physical activity have been associated with decreased risks of coronary heart disease, cerebrovascular disease, hypertension, non-insulin-dependent diabetes mellitus, colon and, possibly, breast cancer. There is a wealth of knowledge about the benefits of good nutrition. Now NIA research is helping to define optimal needs regarding exercise, diet and diet supplements in older persons.

We know that the benefits of terminating smoking accrue at all ages, even to the very old. A large NIA research portfolio is dedicated to finding ways to overcome the impediments that can prevent people from initiating and maintaining behaviors that can extend the healthy years of life.

Complementing NIA's research on health-enhancing behavior are studies of strategies to prevent events that can have devastating effects on older persons. One NIA-supported study found that experiencing a fall, even a single, non-injurious fall, was linked to an almost five times greater risk of subsequent admission to a nursing facility. As the investigators noted, in addition to being a sign of frailty or disease, falls and the loss of confidence they may instill could precipitate the decision to pursue placement in a nursing home.

An NIA-supported controlled intervention trial showed that falls could be reduced by about 40% among older persons living in the community by preventive strategies, such as adjustments in medications and exercise regimens. These approaches could readily be incorporated into the care of older persons.

Research not only indicates which behaviors, strategies and medications are effective in preventing disease and disability. It also indicates which are not. This becomes particularly important when claims about the efficacy of such things as "anti-aging" regimens and products are widely spread. There is a need to assess the clinical utility of supplements of hormones and hormone-like molecules such as melatonin, DHEA, testosterone, and growth hormones, that tend to decline, on average, with age.

As research leads to interventions to reduce the impact of chronic disease, investigators are monitoring the nation's disability rates. Demographic research has shown that at least 1.4 million fewer older persons in the U.S. are disabled than would have been if the disability rates of the elderly had not improved since 1982. We do not fully understand the forces that have contributed to the decline in disability rates or whether these will continue. Internationally, studies in Canada and France also report improvements in the prevalence of disabilities, and survey data from the United Kingdom are currently being analyzed. Further studies will explore the specific underlying causes contributing to the decline and its implications for national policies for the elderly. Recent findings from the National Long Term Care Survey, the Global

Burden of Disease report, and additional data sets provide new opportunities for developing internationally comparable data for use in interpreting trends in chronic disability and mortality.

International Collaboration

This is an exciting time for aging research. International efforts are critical to giving a comprehensive picture of the needs of the elderly population world-wide and to providing clues on how we can best address those needs. International exchange of information and personnel allow for cross-national comparisons of data, unique perspectives, and pooling of resources.

Cross-national research on aging is aided by coordination within the Department of Health and Human Services (DHHS). For example, the DHHS Office of the Assistant Secretary for Planning and Evaluation collaborates with the NIA in planning international aging research. NIA also works with other agencies. The U.S. Bureau of the Census has joined the NIA in supporting the development of an International Database on Aging that is the basis for a cross-national research and publication program on aging populations. Publications supported by this effort include Aging World, Aging in the Third World, Aging World II (a new edition is planned for 1999), Older Workers, Retirement and Pensions: A Comparative International Chartbook, and wallcharts on global aging.

The NIA intramural program supports the Honolulu Aging Study, which since 1991 has compared American rates and patterns of cognitive impairment, Alzheimer's disease and vascular dementia with similar data from collaborating population-based studies in Hiroshima, Taiwan, and Seattle. The study provides a special opportunity to examine the impacts of Japanese cultural and genetic factors on etiology of dementia, and to utilize a wealth of prospectively collected information in a search for risk factors.

Similarly, NIA has supported research that investigated the contribution of genetic and life style factors of age-related dementia through cross-national comparisons. One such study is comparing cognitive functions and risk factors in a population of African Americans of Nigerian descent with a population of Nigerians living in Nigeria.

Foreign scientists are encouraged to participate in intramural research conducted at the NIA Gerontology Research Center. Staff of the Fogarty International Center (Fogarty) help make possible these visits, which result in substantial contributions to the Institute's research and provide a dynamic link to labs in other countries. Fogarty is assisting the NIA to develop a program to provide training of aging researchers in developing countries.

Fogarty works with the NIA to encourage international cooperation on the health needs of aging populations. Fogarty staff also serve as policy advisers on most matters of foreign interaction. They are available to broker agreements and to serve as intermediaries with multinational organizations such as the World Health Organization, as well as represent NIH interests to the U.S. State Department.

Directions for Future International Collaboration

Continued collaborative basic and applied biomedical and behavioral research will likely contribute to a better understanding of the aging process, disability trends, more effective prevention strategies and ways to foster less disability at older ages. Cross-national research could also shed light on which life styles and public policies contribute most significantly to healthy aging.

At the 1997 Denver Summit of the Eight, leaders of the eight largest industrial nations endorsed collaborative efforts among their governments. The Summit's Final Communique' states "Our governments will work together, within the OECD and with other international organizations, to promote active aging through information exchanges and cross-national research. We encourage collaborative biomedical and behavioral research to improve active life expectancy and reduce disability, and have directed our officials to identify gaps in our knowledge and explore developing comparable data in our nations to improve our capacity to address the challenges of population aging into the 21st Century."

Thank you for this opportunity to discuss some of the achievements, the challenges, and the promises of aging research. I would be pleased to answer any question you may have.

The CHAIRMAN. We have been joined by Senator Hagel. I think 5 minute rounds of questioning. Is that OK? So I will turn the light on so we do not abuse the time because you surely have not abused your time in testifying. Dr. Hodes, taking off on your statement "we do not fully understand the forces that have contributed to the decline in disability rates or whether these will continue," so for policymakers knowing what is the cause of the decline is very important. We need to know obviously so our scarce resources can be invested in the right way, hopefully to accelerate the development. The research community believes that investment in research of various kinds will have a good result.

But as I understand it, increasing education levels, increased wealth, and improved nutrition could just as well be causing this development and policymakers should be making investments in those areas. So let me ask two questions. First, in light of the uncertainty about what is causing the decline in the incidence of disability, we would certainly appreciate some reassurance that it is possible to associate investment in research with declines in disability. Could you comment on that? Then I will follow with another question?

Dr. HODES. Yes, you certainly raise an extremely important point. The findings as reported do show that, in fact, disability can be decreased. The causes that contribute to overall disability have been assessed and include a number of conditions such as arthritis and heart disease. Approaches such as the one that I described for prevention of heart disease can contribute to an overall decrease in disability. Similarly, other causes of disability can be analyzed, addressed, and treated to allow still further prevention and reductions in disability.

In the cases that I presented it, in fact, has been possible to intervene and decrease in these clinical studies the morbidity and disability which might result from coronary vascular disease, congestive heart failure, and systolic hypertension, on the one hand; and from falls and fractures in the other. This approach to assuring that research investments are targeted appropriately is widespread. It identifies risk factors that are based on health habits, on education, on nutrition, on public health measures, and then quickly informs the public. To ensure the strictest scientific test of whether these risk factors are the true causes of disease and disability, it's efforts are focused to translate the findings into direct clinical studies to determine whether manipulating the variables causes the described outcomes.

I should comment here that this is a case in which international efforts, international collaboration, is going to prove to be extremely important. The difference is in health care policies, for example, in a variety of nations need to be examined to see whether they will have consequences in terms of disability. If there have been practices of some nations not followed precisely by others, we need to turn to these national and international experiments as well in deriving the maximum information for tailoring our policies.

The CHAIRMAN. You have covered my follow-up question as well so I will go on to Dr. Takamura. Hopefully before this Congress adjourns, we will have reauthorization of the Older Americans Act, and I suppose you hope so, too, obviously.

Ms. TAKAMURA. I think millions of Americans would like that, yes.

The CHAIRMAN. Yes. Every time I visit a senior center, I get asked that question. You mentioned Japan's Gold Plan in comparison to our Older Americans Act. I would like to have you talk about some of the similarities and differences between the two programs.

Ms. TAKAMURA. I think there are some real similarities. I think you know that the Gold Plan was initially, I believe, proposed in 1989, and it essentially acknowledged the fact that Japan's population is aging at a very rapid rate, even more rapidly than our population here in the United States. As a result of that, the Japanese government determined that they really needed to have an infrastructure in place, and they specifically identified nursing homes, adult day care, in-home care, and the recruitment as well as the preparation of a workforce to actually serve its older adult population. In the sense that we certainly in the United States have that similar continuum of care, I think there are some real similarities.

I think you know that the Older Americans Act of 1965 really gave rise to the infrastructure and the system which is really the foundation for our home and community-based care system in the United States. I think there are many similarities in terms of needs, but I will tell you it really takes a visit to Japan to see how they play out as differences. For example, in Yamanashi Prefecture, which has a sister state relationship with Iowa State, we learned that many of the elders in Yamanashi are driven to the public baths where they can actually remain in their wheelchair fully clothed, they get on to a platform, the sides of the platform come up to form a tub. They can then undress themselves, water flows in, they can take a bath in complete privacy but also receive hydrotherapy, which means that they do not have to suffer from bedsores quite at the same rate that we might in the United States.

So I think there are similarities in terms of some of the elements of the long-term care system, but I think that each of our countries has a very unique way of addressing its own population needs.

The CHAIRMAN. Senator Glenn.

Senator GLENN. Thank you, Mr. Chairman. Let me just follow up on some of that a little bit, too. What types of programs and activities are you helping with China National Committee on Aging? Let me just preface that a little bit. I appreciate your remarks in this area. It has been customary in China that parents were taken care of by children and so on, and the family unit was much more cohesive. Is that breaking down? We have a different problem here, it seems to me, and I am not sure we can relate back and forth to what they are doing and say we could incorporate some of the same things here. Maybe some of the things we can.

In this country, I do not know. What is our number of births now? Is it about one-third born to single unwed mothers—is that it? A third in this country? In some parts of our population, it is above 50 percent. The family cohesion that used to be there where families took care of families back in the old days just is not there anymore in this country. So I am not sure it is similar, but could

you comment on the China plan and what you are doing with them and what we are learning from that, if anything?

Ms. TAKAMURA. Let me first of all say that urbanization is certainly a trend that is sweeping across the globe, and with urbanization comes some impacts upon the family structure, as you well know, and the household structure. However, and maybe what I should also say is that we really need to even get more further down at some of the more peculiarities that relate to different nations and their populations because there are also differences by region. That is whether a place is urban or rural.

But with respect to China, we are very pleased to have Mr. Xiao with us as a visitor, and he is just winding up his visit. He is specifically interested in programs that pertain to volunteers, and I think you know that in the United States we use older adults as volunteers in a variety of ways, certainly to fight, for example, fraud and abuse, but also to assist us with insurance counseling. Many of our elders are involved in literacy efforts so we really range the spectrum.

I would say that in some regards, you are probably going to be our most famous volunteer because you will be going into space, but they are here—Mr. Xiao is here specifically interested in finding out about how our volunteer programs work and how the Older Americans Act works as well.

Senator GLENN. Thank you. Dr. Hodes, you mentioned in particular Alzheimer's disease. Do we have any idea what causes Alzheimer's yet. Do we know the basic cause? Have we ever tracked that back to genetics? Is it genetics or is it because it was something earlier that people were exposed to? Do we know yet?

Dr. HODES. I think the short answer is certainly no, that we do not have a complete understanding of the cause of Alzheimer's disease by any means. The identification of specific mutations in individual genes which appear capable of causing the disease goes a long way toward understanding those processes, but translating that knowledge into what happens in the course of a disease that undoubtedly occurs over many decades in its development still remains a challenge. Research in Alzheimer's has been hindered in part by the very long-term nature of the disease and by the fact that it is relatively unique to humans without effective animal models. One of the significant accomplishments over recent years has been the introduction of identified Alzheimer's predisposing genes into experimental animals, mice in particular, which show promise of providing for the first time an animal model. One really cannot overestimate how important it could be towards understanding the disease process and designing potential interventions to be able to work in a model other than the long-term development of human disease.

Senator GLENN. Do we find any differences from one nationality to another or do we have any differences in diet that might contribute to this? Anything like that?

Dr. HODES. Yes. That's an extremely interesting question which has been the subject of international studies. For example, there have been surveys that have compared populations of Japanese Americans living in Hawaii with related populations still living in Japan, and the outcome has been to indicate that there are likely

environmental influences as well as genetic influences which determine the risk of Alzheimer's disease, although neither of those has been precisely identified.

Recently, even within our own country, we've seen revealing evidence in a population living in the New York area but divided into those of Caucasian, Hispanic and African American descent, indicating that the propensity of specific genetic polymorphisms, genetic factors, to act as risk factors for the disease actually varies from one population to another. Thus, even some of the basics we are learning about the role of individual genes are undoubtedly going to be modified in different populations of different ethnic origins within this country and one can certainly predict internationally as well.

Senator GLENN. You have a number of areas. You have Alzheimer's, you have cardiovascular disease, prostate cancer, osteoporosis, osteoarthritis, that are particularly debilitating and so on. How do you stand on your research money in that area? I know you could always use more money, but are we really spending far less than other nations around the world to look into these things or are we doing a pretty good job on funding? Are there some areas that just cry out for research that we are not funding adequately? Could you give any advice in those areas?

Dr. HODES. Well, I think your summary statement was quite true. There certainly is an unprecedented set of scientific opportunities which could use well and wisely increases in funding, even beyond the very generous allocations that have come from congressional and administrative action in the past years.

By comparison to other nations, another part of the question you asked, the United States actually does relatively well in terms of investment in biomedical and behavioral research, which is a far cry from saying that an optimal amount is being invested.

Senator GLENN. Thank you, Mr. Chairman. Just one other comment. I think we ought to be pouring more money into really basic research in some of these areas. I was talking to Dr. Butler earlier about the work of Sir Alexander Fleming which gives us fits on the floor of the United States Senate. Why? Because of our problems with Social Security. The age has gone up. We cannot fund this. He was curious about what? Basic research. He was curious about the mold patterns on garbage and did not know quite why the rings were the way they were and was curious about this, and everybody thought he was goofy to be curious about this. Yet he went ahead and proceeded and that led to the whole antibiotics society—almost you could call it that. Antibiotics are probably more responsible than any other single thing for upping life expectancy here and around the world, more than any other one single thing. It is because one man was curious about something as basic as mold on garbage. I just think we ought to be doing more.

I am not talking about going out and making studies of garbage all over the world, but I am talking about being curious and letting people exercise their curiosity and research that sometimes quite often just changes the whole course of the world. My time is more than up. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator.

Dr. HODES. Senator, if I could respond to that.

The CHAIRMAN. Sure.

Dr. HODES. I could not agree more. As you know, the real strength of the international research effort is the genius and imagination and innovation of individual investigators. Even in some of the examples that I provided here, those genes which have been associated with risk of Alzheimer's disease, it's very instructive, that the identification of the ApoE gene was achieved by people not studying Alzheimer's at all but rather studying the metabolism of lipids; and that Presenilin 1 and Presenilin 2 are genes that were first studied for their behavior in roundworms as molecular transport systems. Recurrently wisdom is in recognizing opportunities, perhaps coming from directions one had not initially identified and foreseen and applying them then to problems of import to the nation and the world.

The CHAIRMAN. Senator Hagel.

Senator HAGEL. Mr. Chairman, thank you. I would like to express my thanks to you, Mr. Chairman, and Senator Glenn, for your efforts in putting this hearing together especially with Senator Glenn's emphasis on celestial aging. We are all most appreciative of that. I would like to ask each of you how do your organizations and institutions work with the VA's gerontology programs? If so, do you and how often and maybe you could walk us through that. Dr. Hodes, start with you.

Dr. HODES. We indeed work very closely with the VA. This happens at a variety of levels. Perhaps the most basic is at the level of the individual investigator. A good many of the investigators supported by NIH and by NIA in particular are individuals with appointments in VA who often have funding so comingled in the most constructive sense to support areas of common interest that it is hard to identify areas that are unique to one agency and not a point of collaboration.

In a more organized fashion, we are at present involved in active discussions with the VA to formulate requests for applications on the part of investigators addressed to some of the most important geriatric problems, clinical problems, and, in fact, a cosponsored announcement will soon be released by the VA and the National Institute on Aging which will invite investigators, geriatricians, researchers around the country to make their proposals for clinically oriented research which will then be reviewed jointly and with funding decisions that will be made in close concert between our two agencies. We regard this as an important partnership in pursuit of aging research.

Senator HAGEL. Thank you. Doctor.

Ms. TAKAMURA. Yes. As you know, the Administration on aging has a network that it delivers services through, and our network at the state level and the local level is very involved in working with the VA system. That is because quite frankly in order to be sure that our veterans receive services, oftentimes there is a need for collaboration and for coordination. In addition to that, what I should also like to assure you is that on major initiatives that pertain to aging, the Veterans Administration is involved. For example, in the year 1999 commemoration of the International Year of the Older Person, they are involved in that as well.

Senator HAGEL. Thank you. Dr. Takamura, if I could continue with you on a specific issue that you mentioned in your testimony regarding the Chicago, Illinois pairing with I believe it is the sister city of Durban, South Africa, and you mentioned El Paso pairing with Juarez, and I think your point was to help develop cross-national aging projects. What have we learned so far from those pairings?

Ms. TAKAMURA. I think we learn a whole subset of things, if you will. First of all why we may speak about the same values, how we actually implement them in the field in daily life tends to be a little bit different. We also see that there are different requirements with respect to workforce preparation. We also realize that depending on the nation, there are different preferences about the kinds of services and programs that are really applicable. I think it is a very enriching opportunity. It gives us another perspective on the work that we do. I think we not only share but we certainly learn a lot from them.

Senator HAGEL. Dr. Hodes, would you wish to add anything to that?

Dr. HODES. I tried to emphasize a number of cases in which international comparisons were important to the research, and I could emphasize again that this ranges from the most molecular and genetic of studies where it appears that there is a lot to be learned about polymorphisms in populations, through the behavioral and social extremes where the study of mechanisms for health care delivery and the policies with respect to retirement are being examined by international comparisons as a global kind of experiment for study in trying to learn what the best components might be of the systems of multiple nations.

Senator HAGEL. Dr. Hodes, you mentioned in your testimony that—I am quoting from your testimony—that 1.4 million fewer older people in the United States are disabled than otherwise would have been if elderly disability rates had not improved markedly since 1982. You note that the cause of this decrease I believe you said was unknown. Are we any closer to understanding that or do you think the trend will continue in the direction since 1982?

Dr. HODES. Well, to deal first with the question of whether the trend will continue, of course, it is not possible to know that with certainty. However, if one examines what has been happening to the trend since 1982 through the present, there is indication that it has not only been sustaining itself, but if anything accelerating. So to the degree that this past trajectory predicts what may happen next, there is reason to believe that this trend will continue.

We certainly are making progress in understanding components of the overall disability in older Americans, and we are making progress in identifying interventions which are effective in reducing the disabilities consequent to each of those. This, in fact, is likely to be the successful course of the future. It is not going to be a success which consists of an identification en bloc of all of the causes of disability and the means to address them all. We are through the most successful research going to identify one by one an increasing number of the causes and independently identify ways to address each, and the evidence is from recent past experience and the trajectory of these research discoveries that we are going to

continue to be successful and, in fact, will be more successful in future years in identifying a greater proportion of the causes of disability.

Senator HAGEL. Thank you, Mr. Chairman.

The CHAIRMAN. Dr. Takamura, I have one question and then I will end my questioning. We often think about people being productive only if they have paid employment. We obviously are looking to baby boomers to live a much longer period of time and how to maintain a quality of life for those, and in part also as Social Security and pension benefits are going to be under stress because of the number of younger workers relative to those retired will decline so much, so as a matter of national policy we should be making it possible for older workers to continue to work if they want to and should be trying to eliminate obstacles to their continued employment. But is it not also the case that older people can contribute in many ways other than paid employment and also that older people, and all of us really, should be open to breaking down the limited stereotypes about what older people should and can be doing in their sunset years?

Ms. TAKAMURA. I think you are absolutely right. For one thing, I do believe that the baby boom population does not expect itself to retire at age 65. I think you are going to see more and more baby boomers assuming that they are going to work until 75 or 80, but I think in addition to that, there is nothing that keeps a person healthier than if they are involved both physically and mentally in activity, rigorous activity. So anything we can do to keep our population either working or engaged as a volunteer would be more than helpful. The point that you made about the ratio of workers to younger people being much more dramatic, I think, points to the fact that we are going to need volunteers engaged in just about every segment of our society, whether it is as a person helping out in a literacy program to a person who is a long-term care ombudsman volunteer going into nursing homes to see that people's rights are protected.

The CHAIRMAN. Thank you, Secretary Takamura. Senator Glenn.

Senator GLENN. Well, very briefly, you could almost summarize our activities here today, I guess, by saying we are interested in how you promote wellness in the elderly instead of just always responding to illness of frailty. Is there any answer to that other than exercise and eat right and nutrition? I guess that is about it; is that it? Either one of you or both?

Dr. HODES. I think you have certainly named some of the most important as well as the oft-quoted wisdom of selecting one's parents carefully in reflection of genetic interests. But I think we have also learned that it is important to base the kinds of interventions that will prevent disability on more than intuitions. I would point out that not very long ago, it was felt by those with the most sincere interest in the welfare of older people that it was frankly dangerous to consider vigorous physical activity, that older people were frail and therefore one had to be very careful about the kind of physical activity in which they were to participate. It was really only through the courage of investigators and of individuals willing to participate in studies that it could be shown that counter, to that initial intuition, exercise can improve strength and cardio-

vascular conditioning in older people and can do so without a prohibitive level of risk.

Now we face with respect to diets and nutritional supplements some very real questions, and we have to be careful once again not to allow intuitions and suspicions, unfounded by fact, to be translated into practice. There is an important area of research currently being supported to investigate each of these areas to determine what the cost and risk benefit is of potential health interventions. There is certainly a great deal to be learned in both the biological and behavioral aspects of these studies, and we look forward with support from Congress and the administration to doing our best to identify the safest and most effective interventions.

Ms. TAKAMURA. I think your question has to do with taking the research though and applying it. You know, one of the things that we are committed to doing within the Administration on Aging is really looking at that full body of research outcomes and knowledge and findings that already exist and beginning to apply them and actually interweave them into the fabric of our programs. That is essential because quite frankly you know as well as I do that many of us know what we need to do. The question is how do we get people to do that?

The CHAIRMAN. OK. We are done asking you questions. Let me make an announcement for you as well as everybody else that I forgot—kind of an administrative thing. Sometimes members who cannot come to these hearings and even sometimes those of us who are here have to submit questions for answer in writing. So if you would do that, we would keep the record open for three weeks for that purpose. Thank you all very much.

I am going to call on Senator Glenn now to introduce Dr. Butler. Then in turn Dr. Butler will introduce other people. Senator Glenn.

Senator GLENN. Thank you, Mr. Chairman. This second panel will highlight specific programs and policies used internationally that make it possible for older persons to maintain meaningful roles in society and the witnesses will highlight the important paid and unpaid contributions older persons make to family and to civic life. Dr. Robert Butler is going to be on our second panel and has been responsible for setting up the membership of this panel. Dr. Butler, as I mentioned before, was the founding director of the National Institute of Aging. He went from there, after a number of years of establishing NIA, to Mount Sinai in New York to establish the first department of geriatrics in any major medical school in the country. He and I worked years together on the "Graying of Nations I and II" and got to know each other very well at that time. I have stayed in touch ever since then. Dr. Butler is now president and CEO of the International Longevity Center. He will discuss the global implications of increased life expectancy and highlight the work of the International Longevity Center, and I would ask him to introduce the other members of the panel. Bob.

STATEMENT OF ROBERT N. BUTLER, M.D., PRESIDENT AND CEO, INTERNATIONAL LONGEVITY CENTER

Dr. BUTLER. Thank you. Perhaps I should first thank you and Senator Grassley and Senator Hagel, for this opportunity to have the third of "The Graying of Nations" hearings. You have all heard how dramatic the century has been in terms of the growing numbers and proportions of older persons. So let me go directly to some of the challenges, and I consider them opportunities, not just problems, that I have heard in my travels, both in my official capacity and unofficially.

First, can we afford older persons? Second, will costly medical and financial dependency take away resources from the young, creating international conflicts? Third, will the overall aging of the population, its burdens and costs, cause the stagnation of our economies? Fourth, will there be an excessive concentration of power in the hands of older persons? However daunting the challenge of population aging appears, we must not be swayed by gloom and doom. The odds are in favor of the growth of an active, experienced, engaged, and useful older population. We can already point to positive developments such as increased productivity, due to the reduction of disruptive illness and premature death, and the emergence for the first time of a multigenerational family.

Moreover, the new longevity has led people to plan seriously for the future and to generate new savings through pensions, one primary source of capital formation today. The growing numbers of older persons have been the catalyst for basic research and clinical investigations into aging. There have been notable drops in disability rates and an improved quality of life, and I see that Dr. Hodes and I came up with more or less essentially the same chart, showing that we have well over 1.4 million fewer disabled people today as a result of a variety of causes, as properly pointed out by Dr. Hodes. We are not altogether sure exactly what those are.

However, I would point out that there has been verification from Dr. Hiroshi Shabata in Japan and from Dr. Alvar Svanborg, who is here today, and from Dr. Francoise Forette, who is here today, of comparable findings of declines in disability rates in other countries. I think we can view these findings as very hopeful signs.

Now, the revolution in aging is also contributing to a transformation of our health care and service delivery systems by requiring a more comprehensive and integrated approach to patient care by the development of new technology, such as Jeanette Takamura pointed out, to deal more effectively than we presently do with the frail and bedridden, and by advancing long-term care programs for all ages and conditions. Increasing longevity is also forcing us to think through end-of-life decisions. It has stimulated consideration of the moral, ethical and philosophical aspects of aging, dying and death, and the equitable allocation of resources among the generations.

The adaptive responses required by the new longevity are admittedly incomplete as we approach the 21st century. We are living in a world so very different from the one in which this revolution began a scant 100 years ago. Just as we are seeing the globalization of the economy, we are also seeing the globalization of science and culture and of population aging. Longevity has truly

presented us with a new and vital stage of life. Each of life's stages has its own characteristics and goals, and only now have we begun to make an effort to understand the spirit and purpose of this stage. Of course, there always have been individuals who attained great age in the past, but with the mass production of old age and technological advances, the roles and status of older persons have changed dramatically. The sheer numbers of older persons in society today have served to contradict stereotypes and undermine conventional wisdom. Society must find new ways to utilize the skills and experience of older persons.

As we reformulate the very concept of growing old and approach this stage of life with a fresh eye and an awareness of its potential, we must look at the small towns and great cities of America and see in how many ways older persons are already contributing. Estimates by the Council of Foundations is that the equivalent of billions of dollars in voluntary service already occurs in our communities. I would mention briefly an enterprise we established through the International Longevity Center and Mount Sinai Medical Center in New York in East Harlem in which we were able to secure funds from Housing and Urban Development for shared housing for older persons, linking it with an after-school enrichment program for latch-key children. These are the children who wander unsupervised in the streets between 3 and 5 or 6 o'clock, and we provide them with a remarkable opportunity for mentoring and for learning adaptive means of growing older. In fact, something like one out of every eight, or some four million older Americans are providing direct care for their own grandchildren.

It seems to me that today's testimony particularly concerns the productive utilization of older persons in both paid and voluntary segments. Of necessity, this topic encompasses the preservation and extension of the physical and mental capabilities of the aging population. It also encompasses major policy implications, including the level of investment that we make in medical research to solve the problems of dementia and frailty and the reconstruction of Medicare, not simply its financing, as important as that is, but also how we can effect a change in the health care and service delivery system to older persons through the involvement of geriatrics and managed care, making it both clinically effective and cost effective.

The field of geriatrics must become fully developed in the United States. Medicare's Graduate Medical Education funds, totaling nearly $7 billion, is the obvious source of funding for a very modest and inexpensive goal. I would like to comment, too, on the vital connection between health, productivity and Social Security reform. In 1982 I was asked by Alan Greenspan, then the chair of the President's Commission on Social Security Reform: Since people are living longer, should they not work longer? This equation is still very much in the air today, with the thought of moving up the Social Security eligibility age to 68 or 70. It must be coordinated with an increasingly healthy and active life expectancy. Eligibility cannot simply be tied to chronological age. It seems clear that we need to coordinate the efforts of the important commissions on Social Security and the Bipartisan Commission on the Future of Medicare and link those efforts with the National Institute on Aging and the National Institutes of Health. We must also aim to

protect older workers by enforcing the Age Discrimination in Employment Act.

Humanity is confronted with the dawn of a new era, which is one of the reasons why we founded the International Longevity Center in 1990, and many of my colleagues are here who represent centers abroad. A generous benefactor, anonymously, has provided the International Longevity Center with a wonderful new home in New York and funds with which to recruit outstanding people in public health, medicine, economics and ethics. The ILC is not only concerned with older persons per se but with the effects of population aging on the human family as a whole, including the equitable distribution of resources among the generations, societal productivity, health care and social problems and protections.

The ILC has autonomous centers in Japan with whom we founded this entity, in addition to the United States, France, the United Kingdom and the Dominican Republic. We are especially concerned that, because of disease, the developing world does not enjoy the same life expectancy as the developed world. Nonetheless, because of their large populations, 60 percent of all persons over 60 now do live in the developing world, and as we approach the mid-portion of the 21st century, that percentage will grow to 80 percent. The impact upon our country in terms of marketing, in terms of health, the potential transmission of disease, is enormous.

I just returned from Paris, where we held a major congress on the worldwide impact of population aging, but while there I also met with American officials at the Organization for Economic Cooperation and Development. I was given a summary of a document I would like to submit, which was just approved at the ministerial level by the American minister, Japanese ministers and others, entitled "Maintaining Prosperity in an Aging Society." It emphasizes three points I would like to mention because they are so compatible with today's hearings.

First, incentives for early retirement should be eliminated. Second, medical research and technology should focus on the reduction of dependence arising from conditions that particularly affect older persons. Third, that we must have international comparisons through a sharing of data between the 29 richest nations that comprise the OECD.

As I mentioned, this is the third occasion of Senate hearings on "The Graying of Nations." The first, in 1977, led to enduring relationships among research centers of various nations. Just one example of this is the National Institute on Aging and the Tokyo Metropolitan Institute of Gerontology. The second in 1985 which you, Senator Glenn, chaired, furthered discussions about both geriatrics and aging research, and I feel certain that today's hearings will serve to initiate even more efforts toward active aging and promote biomedical research that will keep people healthier and productive longer.

I would also like to submit an addendum, which I have entitled "Counting Widgets." It illustrates how important it is to conceptualize and measure things we compare across nations in the same way or we can misinterpret and then lose out on possible policy implications. So I shall submit that and also submit the document from OECD.

[The documents "Maintaining Prosperity in an Aging Society" and "Counting Widgets" follow:]

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Council at Ministerial Level, 27-28 April 1998

MAINTAINING PROSPERITY IN AN AGEING SOCIETY: SUMMARY

(Note by the Secretary-General)

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Demographics could threaten future prosperity

1. Population ageing in OECD countries over the coming decades could threaten future growth in prosperity. Governments should take action now across a broad range of economic, financial and social policies to ensure the foundations for maintaining prosperity in an ageing society. While reforms are already underway, much deeper reforms will be needed to meet the challenges of population ageing.

2. In the past 25 years, the number of people of pensionable age (65 and over) in OECD countries[1] rose by 45 million, but the population of working age rose by 120 million. As a result, population ageing has so far posed no major economic or social problems for our societies. This will change dramatically in the next 25 years when the number of persons of pensionable age will rise by a further 70 million, while the working-age population will rise by only five million.

3. Critical policy issues for the future stand out as a result of the inevitable ageing of our societies:

- will it continue to be possible to share societies' resources between the working generation and its dependent non-working members in ways that do not give rise to unacceptable societal and inter-generational conflicts?
- how can the contribution of older people to society and economic prosperity be enhanced?
- how should pension, health and long-term care best be reformed?
- which changes in the financial infrastructure are needed to support the development of funded pension systems?
- to what extent will ageing OECD countries be able to improve their well-being through growing trade in goods and services and assets, in particular with younger, faster-growing non-OECD countries?

Spending on public pensions, health and long-term care must be contained ...

4. In most OECD countries, sharing societies' resources between working people and retirees importantly involves public pension systems, which are usually financed by payroll taxes. Even though many Member countries have already taken steps to reform their public pension systems, these are insufficient to cope with demands on them in future. The public pension accounts in most Member countries will start to go into sustained deficit in about ten years time. Public provision of health and long-term care for retirees will add to the burden.

5. Countries could finance future social spending obligations by raising payroll taxes to whatever level was necessary, but these would be so high as to discourage work effort and would cut deeply into working people's living standards. These considerations point to the overriding importance of curbing the growth of spending on public pensions, health and long-term care.

1. Excluding Mexico and Turkey.

... by reforming the structure of retirement income

6. The provision of income in older age should take account of all the resources available to older people including public and private pensions, earnings and assets. Existing public pension systems which enable older people to maintain adequate standards of living are likely to remain the major source of old-age income for many retirees for some time to come. However, other sources may have to play a growing role, with the objective of spreading the burden across generations and enabling individuals to diversify risks across the different sources of retirement income. Such reforms are likely to mean that middle and high-income earners will want to supplement their public pensions. Hence, it will be important to establish a sound regulatory framework for private pension funds, including occupational pension schemes.

7. Reforms along these lines would change the current "implicit contract" between many governments and future retirees, and must therefore be implemented with enough warning to allow people time to adjust to the new "contract", i.e. now to begin to anticipate problems only likely to arise two or three decades down the road. In addition, there are limits on the speed that a country can move to a funded-based scheme because of inter-generational equity considerations: current workers will be "paying twice", into their own pension fund and for the pensions of the current retired.

... and by improving the effectiveness of health and long-term care spending

8. People are living longer and healthier lives. Nevertheless, population ageing means that health and long-term care costs are likely to rise, although perhaps by less than was once feared. The central challenge is to ensure that these expenditures are cost-effective and meet the most pressing requirements -- reducing time spent in dependence and time in chronic care. This means that medical research and technology should be focused on the reduction of dependence arising from conditions which particularly afflict older people, such as senile dementia or arthritis.

9. Care-giving for frail older people is now often fragmented and unnecessarily costly. As demographic trends point to a particularly large growth in the numbers of people in the oldest age groups, it will be important now to develop explicit policies and financial arrangements for care-giving that deliver quality and cost-effective services.

Incentives for early retirement should be eliminated ...

10. Material standards of living, and hence the tax base, would also be higher if people worked longer. It is not a question of "forcing" older people to work longer. The current trend to early retirement is, in part, a reflection of a rising demand for leisure as societies become more prosperous as well as a response to high and persistent unemployment. But current public pension systems, tax systems and social programmes interact to provide a strong disincentive for workers to remain in the labour force after a certain age. Removing these disincentives, perhaps even providing positive incentives to work longer, coupled with effective steps to enhance the employability of older workers, could make an important contribution to sustaining the growth of living standards.

11. But an increased willingness on the part of older workers to work longer will have to be matched by a sufficient number of job opportunities for them if higher unemployment is to be avoided. This, in turn will require a major change in the attitudes of firms towards hiring and retraining older workers.

Since these changes will have to be reflected in wage and labour cost structures, the co-operation of the social partners could play a very useful role in this process.

... and "active ageing" should be encouraged

12. A more flexible work-retirement transition is one example of "active ageing" -- the capacity of people, as they grow older, to lead productive lives in the society and economy. Active ageing implies a high degree of flexibility in how individuals and families choose to spend their time over life -- in work, in learning, in leisure and in care-giving. Public policy can foster "active ageing" by removing existing constraints on life-course flexibility. It can also provide support that widens the range of options available to individuals via effective life-long learning or by medical interventions that help people maintain autonomy as they grow older. Indeed, the available evidence shows that the more active older people are, the better the quality of life they enjoy.

Significant financial market reforms are also necessary

13. Ageing will change saving and investment patterns nationally, including through the build up and subsequent unwinding of private pension assets by the retiring baby-boom generation. Differences in ageing patterns across countries - particularly between the OECD and the non-OECD regions - will give rise to shifts in patterns of savings, investment and international capital flows. A more efficient global allocation of savings and risks could raise productivity, and therefore the goods and services available to consumers in OECD countries as the baby-boom generation retires. The consequences of these global economic linkages for living standards in OECD countries are likely to be positive, but perhaps not very large.

14. These considerations call for:

- strengthening of financial market infrastructure through improved legislation and codes of conduct and the introduction of rigorous rules of transparency, fiduciary responsibility and disclosure;
- improved supervision, an upgrade and modernisation of pension asset investment rules, and better domestic co-ordination among the different regulatory and supervisory agencies involved in the provision of retirement income;
- structural reforms in emerging market economies to ensure efficient allocation of savings into the most productive investment opportunities in the mutual interest of OECD and younger, faster growing non-OECD economies.

Higher economic growth would alleviate pressures

15. Higher economic growth will alleviate pressures arising from population ageing. Taxes to support the retired are easier to bear, in a context of rising prosperity. Encouraging people to work longer would raise economic growth, increase the tax base, and reduce the numbers of dependent older persons, a triple gain. The higher national saving, if used productively, will result in higher capital stock and thus more output over the long term.

16. Although higher productivity is central to increasing living standards of the whole population, it does not directly address all of the economic, financial and social policy aspects of ageing populations discussed above. Nevertheless, while an increasing proportion of national output will need to be transferred to retirees, the higher economic growth is, the easier it will be to ensure that making one group better off does not entail making another group worse off.

Principles for achieving reform

17. The agenda for policy reform for maintaining prosperity in an ageing society requires a policy response cutting across traditional boundaries of economic, financial and social disciplines, and across traditional areas of responsibility of government administrations. Strategic frameworks, including implementation structures and timetables, should be put in place at the national level now in order to implement these reforms in a coherent way over time.

18. The central objective of reforms is to ensure that the way societies transfer resources to a rapidly growing number of retired people creates neither major economic nor social strains. This points to the desirability of speeding up the growth of output, reducing the numbers of dependants, by encouraging people to work longer, and ensuring that the transfer mechanisms operate efficiently. Since the main demographic pressures will start to emerge in about 10 years' time, our societies have a very limited window of opportunity to put reforms in place. Seven principles have been identified to guide these reforms:

1. Public pension systems, taxation systems and social transfer programmes should be reformed to remove financial incentives to early retirement, and financial disincentives to later retirement.

2. A variety of reforms will be needed to ensure that more job opportunities are available for older workers and that they are equipped with the necessary skill and competence to take them.

3. Fiscal consolidation should be pursued, and public debt burdens should be reduced. This could involve phased reductions in public pension benefits and anticipatory hikes in contribution rates.

4. Retirement income should be provided by a mix of tax-and-transfer systems, advance-funded systems, private savings and earnings. The objective is risk diversification, a better balance of burden-sharing between generations, and to give individuals more flexibility over their retirement decision.

5. In health and long-term care, there should be a greater focus on cost-effectiveness. Medical expenditure and research should be increasingly directed to ways of reducing physical dependence, and explicit policies for providing care to frail older people should be developed.

6. The development of advance-funded pension systems should go hand-in-hand with that of the financial market infrastructure, including the establishment of a modern and effective regulatory framework.

7. Strategic frameworks should be put in place at the national level now in order to harmonise these ageing reforms over time, and to ensure adequate attention to implementation and the build-up of public understanding and support.

Role of international co-operation

19. Action at the international level can supplement national action. While specific reforms must be tailored to meet the circumstances of each country, there are many common directions and much that can be gained by international co-operation during the reform process. Areas for international co-operation include:

- collection and sharing of new statistical data on an internationally comparable basis and exploitation of existing information;
- monitoring of reforms and sharing of lessons in a multilateral setting; and
- assisting emerging market economies to implement successful structural reforms and sound macroeconomic policies in order to facilitate the mutually beneficial flow of trade in goods, services and assets between OECD and non-OECD economies.

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MAINTAINING PROSPERITY IN AN AGEING SOCIETY

Preliminary Edition
April 1998

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MAINTAINING PROSPERITY IN AN AGEING SOCIETY: BACKGROUND REPORT

(Note by the Secretary-General)

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Or. Eng.

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MAINTAINING PROSPERITY IN AN AGEING SOCIETY: BACKGROUND REPORT

I. THE DEMOGRAPHIC CHALLENGE AND THE POLICY RESPONSE

Summary

The implications of ageing for OECD societies are deep and pervasive. The effects have been positive in recent decades. However ageing trends are likely to result in a smaller proportion of the population being in employment in the years after 2010. That poses major challenges. There is likely to be reduced growth in material living standards. Fewer workers to support more retirees raises fiscal issues and issues of inter-generational fairness. Growing periods of life being spent out of contact with the labour market in retirement raises fundamental issues about the allocation of work and leisure over life.

Responding to these challenges requires action on many fronts. Spending on public pensions, health and long-term care must be contained. The structure of retirement income must be reformed and incentives to early retirement eliminated. There must be more support for people, as they grow older, to play a productive life in the labour market and society. Financial market reforms are required in response to the huge growth in pension funds. Reforms that result in higher economic growth would alleviate the pressures of ageing.

Strategic frameworks need to be in place at the national level in order harmonise and sustain ageing reforms and to build-up public understanding and support. A set of seven policy principles has been developed to guide these reforms, which are applicable with different degrees of urgency in different countries (Box I.1). International co-operation will facilitate the success of the reform process. Because many of the reforms require advance notice and gradual implementation, the time for action is now. Demography provides only a narrow window of opportunity before reform will become much more painful (Box I.2).

1. The first part of this chapter describes the demographic challenge and the nature of the policy responses that are required. The second part describes the principles for reform and the kind of practical action that will be needed to address them.

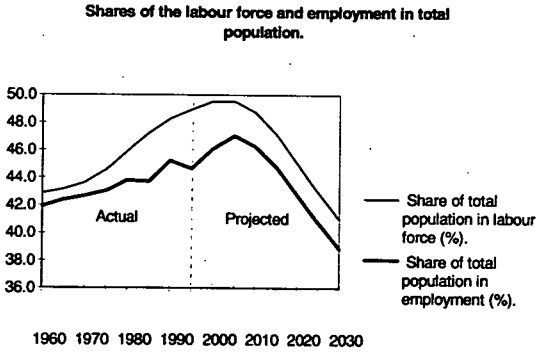
Ageing trends are likely to result in a smaller proportion of the population being employed

2. In 1960, the older population aged 65 and over accounted for 15 per cent of the working-age population. By 2030, this could jump to 35 per cent, with particularly strong growth after 2010. In the past 25 years, the number of people of pensionable age (65 and over) in OECD countries[1] rose by 45 million, but the population of working age rose by 120 million. As a result, population ageing has so far posed no major economic or social problems for our societies. However, the effects of declining fertility and the ageing of the baby-boom generation will have particularly large implications for policy-makers in future. In the next 25 years, the number of persons of pensionable age will rise by a further 70 million, while the working-age population will rise by only five million.

3. Not only are there more people in "retirement age" groups, but also people are retiring earlier and living much longer. For example, men in 1960 could expect to live some 68 years with 50 of those years spent in employment. Today men can expect to live 76 years, with only half of those years -- 38 years -- spent in employment.

4. The combined effects of all the ageing phenomena -- population ageing due to fertility declines, individual ageing resulting from increasing longevity, and changing labour force participation within age groups -- is that the percentage of the population who are employed has been growing, and will continue to grow until about 2010 and then will start to fall (Figure I.1). A reversal of trends towards early retirement would be the only major way to keep the employment ratio from falling[2].

Figure I.1. Employment will fall as a share of the total population after 2010



1. Excluding Mexico and Turkey.

2. In some countries, increased participation by working-age women or by international migration could play a supporting role, but the effects would be small compared with working longer. See Annex I for a fuller treatment of the effects of demography.

A smaller percentage of the population at work has large social and economic consequences...

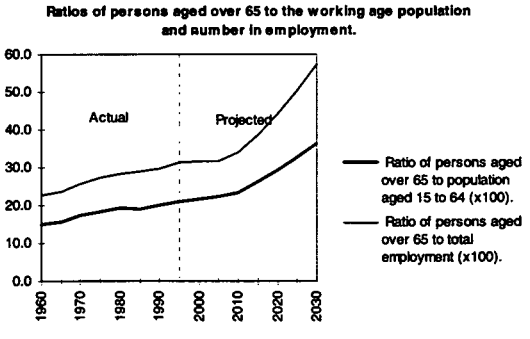
... including reduced growth in material living standards,

5. The goods and services produced by an economy mainly determine the material living standards of a society. The amount of goods and services produced depend mainly on the number of people working and their productivity. If productivity continues at its post-1973 average growth rate of 1.5 per cent annually, the decline in the proportion employed would mean that the growth in material living standards will be cut in half in the decades after 2010.

... a different allocation of income across generations

6. Once the baby-boom generation starts to pass into retirement in about 10 years time, the goods and service produced by a relatively smaller number of workers will be consumed by themselves and by a relatively larger number of people not at work. If the balance of living standards between workers and retirees is to be maintained, more will have to be put aside during working years -- either through individual savings or pay-as-you-go taxes and contributions -- in order to support longer periods of time in retirement. Figure I.2 shows that in 1960, for every older person there were over 4 employees to provide support. Currently, there are about 3 employees for each older person and that will continue for another decade. After 2010, the trend changes sharply. By 2030, the size of the older population will grow to 50 per cent. That is, there will be only two employees for every older person

Figure I.2 The ratio of older people to employees will grow rapidly after 2010



... people living longer and healthier lives but retiring earlier and earlier

7. There is no economic or biological basis for retirement when people are in their 50's or 60's, yet the length of leisure in retirement is increasing rapidly. The implications for the continuing evolution of the institution of retirement is discussed in Chapter IV, while broader life-course implications -- effects on health, employability, social participation and care-giving for frail elderly people -- are discussed in Chapter VI.

Policy must respond on several fronts ...

8. Critical policy issues for the future stand out as a result of the inevitable ageing of our societies:

- will it continue to be possible to share societies' resources between the working generation and its dependent non-working members in ways that do not give rise to unacceptable societal and inter-generational conflicts?
- how can the contribution of older people to society and economic prosperity be enhanced?
- how should pension, health and long-term care best be reformed?
- which changes in the financial infrastructure are needed to support the development of advance-funded pension systems?
- to what extent will ageing OECD countries be able to improve their well-being through growing trade in goods and services and assets, in particular with younger, faster-growing non-OECD countries?

... spending on public pensions, health and long-term care must be contained,

9. In most OECD countries, sharing societies' resources between working people and retirees importantly involves public pension systems, which are usually financed by payroll taxes. Even though many Member countries have already taken steps to reform their public pension systems, these are insufficient to cope with demands on them in future. The public pension accounts in most Member countries will start to go into sustained deficit in about ten years time. Public provision of health and long-term care for retirees will add to the burden.

10. Countries could finance future social spending obligations by raising payroll taxes to whatever level was necessary, but these would be so high as to discourage work effort and would cut deeply into working people's living standards. These considerations point to the overriding importance of curbing the growth of spending on public pensions, health and long-term care.

... and the structure of retirement income must be reformed.

11. The provision of income in older age should take account of all the resources available to older people including public and private pensions, earnings and assets. Existing public pension systems which enable older people to maintain adequate standards of living are likely to remain the major source of old-age income for many retirees for some time to come. However, other sources may have to play a growing

role, with the objective of spreading the burden across generations and enabling individuals to diversify risks across the different sources of retirement income. Such reforms are likely to mean that middle and high-income earners will want to supplement their public pensions. Hence, it will be important to establish a sound regulatory framework for private pension funds, including occupational pension schemes.

12. Reforms along these lines would change the current "implicit contract" between many governments and future retirees, and must therefore be implemented with enough warning to allow people time to adjust to the new "contract", i.e. how to begin to anticipate problems only likely to arise two or three decades down the road. In addition, there are limits on the speed that a country can move to an advance-funded scheme because of inter-generational equity considerations: current workers will be "paying twice", into their own pension fund and for the pensions of the current retired.

Population ageing will put a premium on more effective health and long-term care spending.

13. People are living longer and healthier lives. Nevertheless, population ageing means that health and long-term care costs are likely to rise, although perhaps by less than was once feared. The central challenge is to ensure that these expenditures are cost-effective and meet the most pressing requirements -- reducing time spent in dependence and time in chronic care. This means that medical research and technology should be focused on the reduction of dependence arising from conditions which particularly afflict older people, such as senile dementia or arthritis.

14. Care-giving for frail older people is now often fragmented and unnecessarily costly. As demographic trends point to a particularly large growth in the numbers of people in the oldest age groups, it will be important now to develop explicit policies and financial arrangements for care-giving that deliver quality and cost-effective services.

Incentives for early retirement should be eliminated ...

15. Material standards of living, and hence the tax base, would also be higher if people worked longer. It is not a question of "forcing" older people to work longer. The current trend to early retirement is, in part, a reflection of a rising demand for leisure as societies become more prosperous as well as a response to high and persistent unemployment. But current public pension systems, tax systems and social programmes interact to provide a *strong* disincentive for workers to remain in the labour force after a certain age. Removing these disincentives, perhaps even providing positive incentives to work longer, coupled with effective steps to enhance the employability of older workers, could make an important contribution to sustaining the growth of living standards.

16. But an increased willingness on the part of older workers to work longer will have to be matched by a sufficient number of job opportunities for them if higher unemployment is to be avoided. This, in turn will require a major change in the attitudes of firms towards hiring and retraining older workers. Since these changes will have to be reflected in wage and labour cost structures, the co-operation of the social partners could play a very useful role in this process.

... and "active ageing" should be encouraged

17. A more flexible work-retirement transition is one example of "active ageing" -- the capacity of people, as they grow older, to lead productive lives in the society and economy. Active ageing implies a high degree of flexibility in how individuals and families choose to spend their time over life-in work, in learning, in leisure and in care-giving. Public policy can foster "active ageing" by removing existing constraints on life-course flexibility. It can also provide support that widens the range of options available to individuals via effective life-long learning or by medical interventions that help people maintain autonomy as they grow older. Indeed, the available evidence shows that the more active older people are, the better the quality of life they enjoy.

Significant financial market reforms are also necessary.

18. Ageing will change saving and investment patterns nationally, including through the build up and subsequent unwinding of private pension assets by the retiring baby-boom generation. Differences in ageing patterns across countries -- particularly between the OECD and the non-OECD regions -- will give rise to shifts in patterns of savings, investment and international capital flows. A more efficient global allocation of savings and risks could raise productivity, and therefore the goods and services available to consumers in OECD countries as the baby-boom generation retires. The consequences of these global economic linkages for living standards in OECD countries are likely to be positive, but perhaps not very large.

19. These considerations call for:

- strengthening of financial market infrastructure through improved legislation and codes of conduct and the introduction of rigorous rules of transparency, fiduciary responsibility and disclosure;
- improved supervision, an upgrade and modernisation of pension asset investment rules, and better domestic co-ordination among the different regulatory and supervisory agencies involved in the provision of retirement income;
- structural reforms in emerging market economies to ensure efficient allocation of savings into the most productive investment opportunities in the mutual interest of OECD and younger, faster growing non-OECD economies.

Higher economic growth would alleviate pressures.

20. Higher economic growth will alleviate pressures arising from population ageing. Taxes to support the retired will be easier to bear when the working-age population can look forward to rising prosperity. Encouraging people to work longer would raise economic growth, increase the tax base, and reduce the numbers of dependent older persons, a triple gain. The higher national saving, if used productively, will result in higher capital stock and thus more output over the long term.

21. Although higher productivity is central to increasing living standards of the whole population, it does not directly address all of the economic, financial and social policy aspects of ageing populations discussed above. Nevertheless, while an increasing proportion of national output will need to be

transferred to retirees, the higher economic growth is, the easier it will be to ensure that making one group better off does not entail making another group worse off.

Ageing in a global context

22. Populations of OECD countries are on average the oldest in the world (Mexico and Turkey are exceptions). However, ageing is taking place in all countries. Indeed, the relative importance of the world's older population has been growing for centuries. What is new is the rapid pace of change. In the non-OECD world, the rate of growth in the number of older people is much faster than in OECD countries. Nevertheless, the percentage of older people is still relatively small compared with the OECD, especially in Africa and southern Asia, because fertility rates began to decline only after child mortality rates fell. China, however, will soon become an older country.

23. The ageing of populations, and policy reactions to it, will have direct and indirect implications for current balances and international flows of goods, services and capital, both within the OECD area and between OECD and non-OECD countries. The consequences of these flows for living standards in OECD countries are likely to be positive, although perhaps not large.

Box I.1. Diversity and simplicity

For the sake of simplicity and manageability, this account of ageing and its policy implications abstracts from details particular to any individual OECD country. All parts of the analysis and conclusions are relevant to most Member countries, but to different degrees. National reform strategies will, of course, need take account of the diversity that actually exists. Most countries are already in the process of reform* in many of the areas described. The starting points for a practical ageing reform strategy are quite different.

There is diversity in the basic demography. Not all countries had a marked "baby boom" after the second world war. The duration and extent of this phenomenon differed between countries, as did the timing and extent of the subsequent fall in birth rates, although the latter demographic development has been a general one. Life expectancy differs significantly between OECD countries, but it has been rising in all of them (and in the majority of non-Member countries). Thus all OECD countries are ageing, but at different rates and with different timing. Ageing will likely be quicker and sooner in Japan and Italy. Mexico and Ireland will age appreciably more slowly and later.

OECD countries also differ, and will continue to differ, in the structure and evolution of their labour forces. Male participation rates in the 55-64 year old age group are close to 90 per cent in Japan and Iceland, and below 40 per cent in Belgium and Luxembourg. There are very wide variations in female participation rates across countries: in the low 40 per cent range in Greece, Italy and Mexico, and in the 70-80 per cent range in the United States and Scandinavian countries. Demographic projections indicate that the population of working age will start to fall in absolute terms in several countries (for example Japan and Italy), but will likely continue to grow slowly in the United States.

Similarly, no two OECD countries have identical pension systems, nor do they face identical fiscal pressures. But in almost all of them, reforms have already had to be introduced to prevent expenditure on public pensions from running ahead of receipts, and in most of them, it is estimated that further significant reforms will need to be implemented in future. Income positions of retired households vary widely within and across countries, in ways that cannot be captured by summary "replacement rate" measures. Although real incomes of retired households have grown faster than the average for all households, there remain pockets of poverty. Those with patchy employment histories or health handicaps are particularly affected, as are the growing numbers of older women living alone, especially after the death of a spouse.

Besides having different participation patterns in the labour market, men and women have different health patterns. Women live longer and provide far more family-giving.

It is also the case that treating all employees as homogeneous disregards important factors influencing willingness and ability to remain in the labour force. Employees whose working life has been confined to manual labour since their mid-teens on relatively low wages may have an understandable desire to retire sooner than those with less physically demanding occupations.

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* *A detailed description and analysis of recent reforms can be found in OECD, "The Caring World: National Achievements" and "The Caring World: Analysis" (forthcoming)*

Box I.2. A window of opportunity

The main demographic changes start to come about in 10 to 15 years' time. This gives our societies a limited window of opportunity in which to introduce reforms in areas such as pensions and other social programmes, financial markets, health and long-term care. Advance action is desirable on several counts.

Some reforms will affect future retirees, who have few means of adjusting once they are retired, and advance announcement of reforms, together with clear timetables for phasing them in, gives them time to adjust in an optimal manner while they are still of working age. Those adjustments in themselves will likely reduce eventual fiscal and social strains.

Second, if reforms are delayed until the demographic pressures dictate them, they will have to be all the more severe, and risk either distorting labour markets to an unacceptable degree, or sparking off a renewed period of climbing public sector deficits and debt, thus undoing all the hard-won gains of the recent past. It would, for example be much easier to manage the new fiscal pressures from a position of fiscal surpluses.

Further, clear goals and timetables would help build support for sustained reform. The need for reform is understood in general terms. For example, many younger people do not now believe that decent public pensions will still be available when they retire. However there is less understanding of the solutions, such as working later, that will be needed.

Principles for achieving reform

24. The agenda for policy reform for maintaining prosperity in an ageing society requires a policy response cutting across traditional boundaries of economic, financial and social disciplines, and across traditional areas of responsibility of government administrations. *Strategic frameworks*, including implementation structures and timetables, should be put in place at the national level *now* in order to implement these reforms in a coherent way over time.

25. The central objective of reforms is to ensure that the way societies transfer resources to a rapidly growing number of retired people creates neither major economic nor social strains. This points to the desirability of speeding up the growth of output, reducing the numbers of dependants, by encouraging people to work longer, and ensuring that the transfer mechanisms operate efficiently. Since the main demographic pressures will start to emerge in about 10 years' time, our societies have a very limited window of opportunity to put reforms in place. Seven principles have been identified to guide these reforms:

1. Public pension systems, taxation systems and social transfer programmes should be reformed to remove financial incentives to early retirement, and financial disincentives to later retirement.

2. A variety of reforms will be needed to ensure that more job opportunities are available for older workers and that they are equipped with the necessary skill and competence to take them.

3. Fiscal consolidation should be pursued, and public debt burdens should be reduced. This could involve phased reductions in public pension benefits and anticipatory hikes in contribution rates.

4. Retirement income should be provided by a mix of tax-and-transfer systems, funded systems, private savings and earnings. The objective is risk diversification, a better balance of burden-sharing between generations, and to give individuals more flexibility over their retirement decision.

5. In health and long-term care, there should be a greater focus on cost-effectiveness. Medical expenditure and research should be increasingly directed to ways of reducing physical dependence, and explicit policies for providing care to frail older people should be developed.

6. The development of advance-funded pension systems should go hand-in-hand with that of a strengthening of the financial market infrastructure, including the establishment of a modern and effective regulatory framework.

7. Strategic frameworks should be put in place at the national level now in order to harmonise these ageing reforms over time, and to ensure adequate attention to implementation and the build-up of public understanding and support.

26. Following are examples of how the policy principles could be applied in practice in national reform strategies. Not all the reform directions described here will apply in all countries, but most of them should apply in most countries.

Retirement incentives and disincentives

First, public pension systems, taxation systems and social transfer programmes should be reformed to remove financial incentives to early retirement, and financial disincentives to later retirement.

27. Chapter III analyses the incentives to early retirement that are now common. In the longer-term, the central pension reform must be to increase the average age of full public pension entitlement. This increases the length of time in which contributions can be made and reduces expenditures. It would slow or reverse trends towards ever-longer periods of healthy life being spent in retirement.

28. However, public pensions systems interact with other social transfer programmes and multiple reforms are needed to accomplish the basis objective of providing an incentive structure that will increase the time spent at work and slow or reverse the trends towards ever-longer retirement. Reforms include:

- increasing length of the contribution period for full benefit and generally linking life-time benefits and contributions. At a minimum, benefits should continue to accrue with every year that is worked;

- removing pension earnings rules and other penalties for working later;

- increasing the average age of entitlement to full pension as a one-time policy change or by formulae that automatically tie pensions to longevity. Increasing the lower age limit for early retirement;

- moving strongly in the direction of actuarial neutrality of pension benefits for people who retire earlier or later than the standard age;

- aligning more closely early retirement ages in occupational pensions and public old-age pension systems where the private and social costs and benefits associated with earlier retirement differ.

- phasing out programmes that encourage early retirement for labour market reasons;

- phasing out preferential treatment for older people in disability, unemployment insurance and other social programmes, i.e., ending their role as quasi-early retirement programmes.

Jobs for older workers

Second, a variety of reforms will be needed to ensure that more job opportunities are available for older workers and that they are equipped with the necessary skill and competence to take them.

29. Measures which will result in an increased supply of older workers will need to be accompanied by policies to increase their employability. Chapter VI assesses the policy responses that are required. There are two issues: the overall demand for labour and special factors that would hurt the employment opportunities of older workers. As well, there is a need to provide retirees with the means to play a more active role in the society and economy. General directions for reform include:

- increasing the priority to lifelong learning for all -- the operational means of investing in human capital. A key challenge will be to gain a stronger empirical understanding of the linkages among learning, skills, productivity and wages as workers grow older;

- increasing labour market information, including that related to means of achieving employability for longer working lives;

- providing comparable information to support retirees in playing a more active role in the economy and society, including care-giving roles;

- developing effective Active Labour Market Programming to help older workers find new jobs;

- removing discrimination against hiring older workers;

- maintaining and increasing action in response to OECD Job Strategy recommendations, which will contribute to the overall health of the labour market, including that for older workers.

Fiscal consolidation

Third, fiscal consolidation should be pursued, and public debt burdens should be reduced. This could involve phased reductions in public pension benefits and anticipatory raises in contribution rates.

30. The broader fiscal and international macroeconomic dimensions to ageing are discussed in Chapter III. Especially in countries with large public pay-as-you-go pensions with high replacement rates,

and in countries with high levels of health care expenditure, medium-term programmes of fiscal consolidation designed to reduce debt-to-GDP ratios should be pursued.

- action on pensions, in particular, is needed well before the main effects of population ageing take hold after 2010. The full effect of those reforms will not be felt for some time. Delays will make the problem much more difficult to solve, while early action will provide those still in work with time to adjust.

- agendas to contain health care costs and improve effectiveness must be a continued priority and the growth of public pensions expenditures reduced, significantly so in most Member Countries. In financing health care or additional long-term care costs, incomes from all sources (including pension income and the scope for recourse to private health insurance) should be taken into account;

Retirement income reform

Fourth, retirement income should be provided by a mix of tax-and-transfer systems, advance-funded systems, private savings and earnings. The objective is risk diversification, a better balance of burden-sharing between generations, and to give individuals more flexibility over their retirement decision.

31. The analysis of Chapter IV shows that there can be no "one-size-fits-all" pension reform solution. Countries have chosen quite different routes, in large part because the starting-points of their reforms differ. Moving in the following directions will not only ease fiscal pressures, they will also play an important part in increasing living standards and quality of life:

- increasing the size of advance-funded elements in countries where pay-as-you-go systems now dominate. This can be done by increasing advance-funded elements within public plans, by encouraging advance-funded occupational schemes, by introducing mandatory individual accounts, by reducing benefit levels in pay-as-you-go public plans in order to make room for other sources of retirement income, or some combination thereof;

- reducing the size of public pension benefits where these are now unnecessarily high. Once poverty alleviation goals have been met, the total amount of an individual's retirement income should not be a goal of public pensions in isolation but reflect individual choice based on *all* resources available on retirement including earnings, private savings or the use of assets such as reverse-mortgages for housing.

- adjusting earnings-related pensions so that there is a direct link between life-time benefits and contributions in those countries where this is not yet the case. This could involve reforms in the formula for calculating benefits or shifting to defined-contribution accounts within pay-as-you-go systems, or in encouraging greater use of advance-funded accounts by individuals and private sector employers;

- providing significant voluntary and mandatory elements in earnings-related pensions;

- funding pensions aimed at anti-poverty objectives out of general revenues (in countries where there are separate public anti-poverty and income-replacement programmes);

- as a long-run target, separating out the anti-poverty and income-replacement elements of public pensions into different programmes, each with its own objectives and characteristics;

- targeting in the anti-poverty programme, especially if done through means such as refundable tax credits that operate unobtrusively and at low cost. However, a low basic minimum to all also has merit, including fewer work disincentives;

- abolishing pension benefit arrangements that are obsolete or not consistent with stated policy objectives. This could include subjecting pensions to income tax in countries where this is not the case, phasing out or targeting subsidised privileges for seniors such as discounts on public services, and consideration of reducing excessive preferential tax treatment for occupational pensions and individual retirement savings plans;

- maintaining the confidence of both beneficiaries and the public at large in private pension schemes by upgrading the regulatory framework. This would safeguard the right of both beneficiaries, particularly in respect of non-discriminatory access to pension schemes, the protection of vesting rights, and the transferability of pension rights.

Health and long-term care

Fifth, in health and long-term care, there should be greater focus on cost effectiveness, on medical expenditure and research that are focused on reducing dependence, and on explicit policies for providing care to frail elderly people.

32. Older people require more health care than younger people. With ageing populations, health costs will rise, although perhaps by less than was once thought. The central challenge is ensure that these expenditures are effective and aimed at the most pressing problems. Chapter VI examines the issues. Policy responses require:

- continuing and strengthening health cost-containment and financing reforms, which are well developed in most OECD countries;

- providing analytic frameworks that will lead to: consistent measurement of the cost-effectiveness of interventions, including multiple interventions, and to the dissemination of this information; improved measures of health status; and international co-operation in data provision such that the experience of other countries can used as benchmarks;

- increasing the incentives to foster the use of the most cost-effective interventions, for example through payment systems to health-care providers and the use of primary-care physicians as gate-keepers;

- focusing medical research and technology on the elimination or reduction of dependence associated with conditions such as senile dementia, migraines or arthritis;

- a rebalancing of priorities that results in less growth in spending on remedial interventions and more on preventive measures.

33. A stage of frailty in very old age should be treated as a normal part of the ageing process, subject to explicit policies and financial arrangements. While, again, there is no single best solution, reforms should result in:

- treating long-term care as a normal risk of life with the burden of financing shared by the working-age and older populations;
- providing coverage against catastrophic costs, while insuring a balanced access to home help and institutions;
- encouraging a multiple-pillar system of delivery – with more emphasis on supporting people in their own home or in similar home-like settings and less in publicly-subsidised nursing homes. Provision of long-term care in hospitals should be avoided;
- harmonising long-term care policy with health reforms in order to support the best mix of health and care-giving elements.

Financial markets

Sixth, the development of advance-funded pension systems should go hand-in-hand with a strengthening of the financial market infrastructure, including the establishment of a modern and effective regulatory framework.

34. Chapter V shows that a productive, safe investment of retirement savings requires well-functioning capital markets. The needed infrastructure to support this involves legislation and codes of conduct, internationally acceptable accounting standards and disclosure rules, proper pension asset investment rules and co-ordination among the different regulatory and supervisory agencies involved in the provision of retirement income. A competitive mutual funds and asset management industry is needed to minimise the costs of managing retirement assets. All of these need to reflect the challenges and opportunities of the new financial landscape. In particular, public policy attention should be focused on :

- developing effective regulatory and supervisory frameworks for pension schemes. This involves: upgrading of regulation (e.g. licensing, technical provisions, funding rules, valuation of assets and liabilities); more effective oversight of the financial situation of pension funds; and proper design of limited government guarantees (if any) and privately-run insurance insolvency schemes for pension systems;
- designing adequate investment rules for pension funds. This involves agreement on proper and consistent investment regulations for pension funds and other institutions involved in the provision of retirement income products. In countries with a modern financial infrastructure, consideration should be given to the introduction of the prudent person principle and to the liberalisation or relaxation of investment restrictions (domestic and international). Since this involves an increased reliance on modern and effective risk management, industry-wide risk management standards for pension funds, and other institutions involved providing retirement income, need to be promoted. Supervisors involved in retirement income systems need to be encouraged to agree on modern risk management standards that reflect current challenges in financial markets;

- supporting the development new financial instruments and new markets such as index-linked markets and the improved functioning of retirement annuity markets;

- better monitoring of the financial market behaviour of pension funds and other financial institutions involved in the provision and management of retirement assets. This involves: improved statistics on financial assets of pension funds and other institutions that are part of the retirement income system; better understanding of the investment and trading strategies of pension funds and other institutions and their impact on the functioning of financial markets; monitoring of the adequacy of regulatory and supervisory developments;

- ensuring consistency of policies at national and international levels -- including the consistency of tax and other regulatory regimes (e.g. the tax treatment of surpluses of defined-benefit plans), or agreeing to use internationally acceptable risk management standards (such as the "prudent person" principle) across various jurisdictions;

- monitoring the corporate governance role and governance capacity of pension funds. This includes: the role of statutory or voluntary guidelines for governance activities; the impact of shareholder activism by pension funds on corporate behaviour; and the governance of pension funds themselves and the role of trustees;

- emerging market economies should implement radical structural reforms -- including financial market reforms -- so as to make investing OECD retirement funds in non-OECD countries more attractive.

Strategic frameworks for reform

Seventh, strategic frameworks should be put in place at the national level now in order to harmonise these ageing reforms over time, and to ensure adequate attention to implementation and the build-up of public understanding and support.

35. Taken one at a time, the reform directions described above would be desirable quite apart from ageing considerations. By and large they are prudent policies that need to be pursued more forcefully and over a prolonged period. Taken collectively, however, they represent a considerable new challenge for government policy-making -- a challenge that resides in the policy-making process as much as in the specific content of each reform.

36. Chapter VII explores a number of the dimensions of achieving practical reform given this complexity and inter-relatedness. Part of the challenge involves adopting and sustaining policy-making perspectives that are much longer-term than is customary. Common information gaps exist that should be filled on a co-ordinated basis, particularly as they relate to active ageing perspectives. The long time-frames involved, and the complexity of the issues, also result in a challenge for building public understanding, engagement and viable political support. These considerations suggest:

- developing national frameworks or reform strategies now that will provide co-ordination among the various separately-managed reforms and that will sustain them over time. The scope of these strategic frameworks should be broad -- identifying priorities for action, roles and responsibilities.

- using the development of the strategy to provide a means of building public understanding and support for reform directions. This includes using the strategy as a means of developing proposals for collecting and disseminating statistics and other information that is needed by reform process itself.

Role of international co-operation

37. Action at the international level can supplement national action. While specific reforms must be tailored to meet the circumstances of each country, there are many common directions and much that can be gained by international co-operation during the reform process. Areas for international co-operation include:

- collection and sharing of new statistical data on an internationally comparable basis and exploitation of existing information;

- monitoring of reforms and sharing of lessons in a multilateral setting; and

- assisting emerging market economies to implement successful structural reforms and sound macroeconomic policies in order to facilitate the mutually beneficial flow of trade in goods, services and financial assets between OECD and non-OECD economies.

II. DOMESTIC AND INTERNATIONAL MACROECONOMIC ISSUES

Summary

The proportion of OECD populations eligible for public pensions will start to rise more quickly in about ten years time, but the proportion that contains the main contributors will shrink. If neither contribution rates are raised nor individual benefit entitlements lowered, public finances will deteriorate severely and for a prolonged period. The size of the potential shortfall in many Member countries is such that continuing major reforms to public pension systems will be required, but these might not be sufficient in themselves to ensure desired living standards for retirees without unacceptable rises in contribution rates. Other reforms are desirable. Public expenditure on health care for retirees may also rise rapidly, compounding the fiscal problem.

Ageing is likely to influence the evolution of private and national saving rates. The passage of the large baby-boom cohorts through the high-saving stages of the life cycle will tend to boost the private saving rate, but it may subsequently drop as older people draw down accumulated assets. Increases in government saving through medium term budget consolidation could play an important role in sustaining national saving rates. Increased use of advance funded pensions could help to contain the drop in national saving, although there is considerable uncertainty as to what extent such pension arrangements increase private saving.

Ageing in OECD countries will very likely induce changes in desired savings and investment balances, to different extents and with different timing. Model-based analysis suggests that the net effect will first be to lower OECD investment by more than saving, but then saving rates will fall faster. At the international level, this implies that the OECD area will at first build up assets in non-OECD countries, then run them down, helping to offset a part of the negative impact of ageing on material living standards. At the same time, private pension schemes are growing in importance, and institutional investors in OECD countries are diversifying the geographical spread of their portfolios to include non-OECD countries where returns may be higher than in OECD countries. The resulting changes in gross flows could add to the endogenous saving/investment mechanism, but various considerations make it unlikely that the OECD could entirely "beat demography" by this means.

38. Ageing is likely to change patterns of private and public saving and investment, as will policy reactions to it. The first part of this chapter examines the impact on public finances of the likely evolution of public expenditures on pensions and health, in the absence of further reforms[3]. The second analyses how ageing might affect private and national saving rates, and the third assesses the current account

3. Some of the studies discussed below do not fully take into account pension reforms already under way. Hence they tend to exaggerate the extent to which pension expenditures might rise, or gaps between expenditures and contributions widen. Against this, it is also the case that various projections made in the past decade have tended to become more pessimistic except in countries where very strong reforms have been made.

implications of changes in the demographic structure and changes in foreign asset positions in response to efforts by OECD (and non-OECD) savers to diversify their financial assets geographically.

Domestic fiscal issues

39. OECD countries have experienced public-sector deficits and rising ratios of debt to GNP since the 1970s. In particular, public debt levels remain very high by peace-time standards in many countries and have probably not yet peaked in some (Table II.1, Figure II.1). Prolonged consolidation efforts, and a pick-up in growth, have reduced deficit levels in most Member countries and the near-term outlook is for relatively low deficits and rises in primary surpluses (Table II.2). It is accepted that continued high public sector deficits and rising debt levels depress growth through their impact on interest rates, and contribute to raising inflationary pressures. Hence OECD countries are committed to keeping deficits low as a pillar of their medium-term fiscal strategies, for example in the framework of the European Union's Stability and Growth Pact.

Table II.1. **General government gross financial liabilities**
As a percentage of nominal GDP

	1965	1970	1975	1980	1985	1990	1995	1999
United States	48.7	41.5	39.9	37.0	49.5	55.5	63.1	59.7
Japan	..	10.9	20.7	49.6	65.3	62.6	77.8	99.5
Canada	59.5	52.8	43.3	44.0	64.1	72.5	97.6	84.2
Germany	17.3	18.1	23.8	31.1	42.8	45.5	62.2	64.2
France	..	..	..	30.9	38.6	40.2	60.1	66.4
Italy	35.4	38.1	57.6	58.1	82.3	104.5	124.3	116.1
United Kingdom	..	77.1	61.6	54.0	58.9	39.3	59.7	57.5
Belgium	..	62.9	57.7	77.3	120.7	128.2	131.2	115.4
Netherlands	..	51.5	41.8	46.9	71.5	78.8	78.5	68.9
Sweden	..	30.5	29.5	44.3	66.7	44.3	79.8	71.4
	..	..	..	..	..	..	..	..
European Union	..	40.1	42.6	40.8	57.2	59.5	69.8	75.0
Total OECD	..	35.6	37.0	40.2	54.5	56.8	70.0	70.5

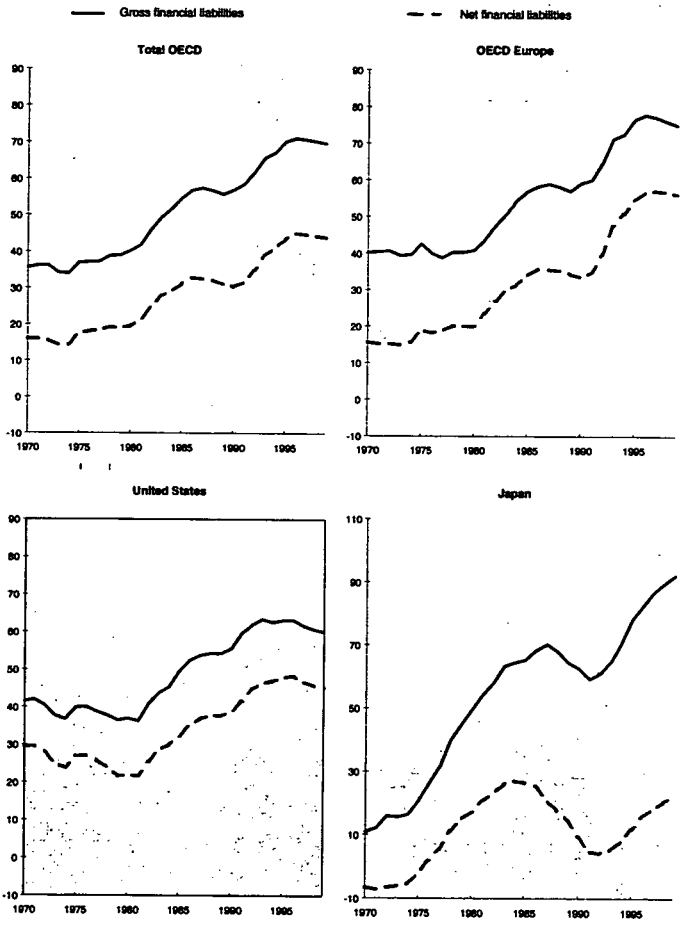
Source: OECD

Table II.2. **General government primary balances**
As a percentage of nominal GDP

	1965	1970	1975	1980	1985	1990	1995	1999
United States	1.3	0.1	-3.0	-0.3	-1.2	-0.7	0.2	1.8
Japan	0.1	1.4	-2.9	-3.2	1.0	3.7	-3.1	-1.6
Canada	2.1	2.3	-1.3	-0.9	-3.3	0.7	1.3	6.5
Germany	-1.9	-1.1	-6.3	-1.6	1.1	-0.1	-0.1	1.0
France	..	1.3	-1.9	0.8	-0.8	0.8	-1.4	0.5
Italy	-3.9	-3.5	-10.3	-4.4	-5.8	-2.9	2.4	3.8
United Kingdom	..	5.2	-2.5	-0.3	0.5	1.2	-2.6	2.3
Belgium	..	0.5	-2.1	-3.4	0.6	4.0	4.5	5.5
Netherlands	..	0.4	-0.3	-1.9	1.0	-0.7	1.2	2.5
Sweden	..	3.8	1.6	-4.4	-0.8	4.3	-4.4	3.0
	..	..	..	..	..	..	..	..
European Union	..	0.6	-4.1	-1.4	-1.2	0.1	-0.3	1.5
Total OECD	0.3	0.6	-3.2	-1.1	-0.8	0.5	-0.3	1.5

Source: OECD

Figure II.1. Gross and net debt
As percentage of nominal GDP



Source: OECD

Mounting pressure on public finances in coming decades, ...

40. In the absence of further strong public pension reform efforts, fiscal stability will likely come under strain in the next century. The oldest members of the baby-boom generation are now in their early 50s, and will start to retire in about ten years' time. Expenditure on public pensions will rise strongly for several years as this large cohort passes into retirement. But they leave behind them a smaller number of younger employees, whose payroll taxes finance public pay-as-you-go pensions. Health-care costs are also likely to rise, as expenditure on older citizens is higher than on younger ones, and there will be many more older citizens. There may be some easing of expenditure on education, but there is also a strong trend towards increasing time spent in full-time education.

41. Assessing the fiscal impact is not straightforward. Although estimates of the numbers reaching the standard retirement age can be made reasonably accurately, assumptions also have to be made about average longevity, the numbers retiring before the standard retirement age, real and nominal wage trends, and tax receipts. No two countries have exactly identical pension systems. In all countries, pension systems are complex, and some countries have reformed their pension arrangements in important ways in recent years. Projections also have to be made for several decades into the future. Uncertainties about the economic and demographic environment increase as the time horizon lengthens. Uncertainty as to the nature of the relationship between age and health expenditure further complicates the task of forecasting the fiscal impact of ageing.

42. For these reasons, it is desirable to approach the issue in several ways and to see how robust the results are to different sets of simplifying assumptions. In fact, the analyses carried out by national administrations, the IMF[4], and the European Commission[5] (see Box II.1) and the OECD[6] itself all point in the same direction: with unchanged policies, projected pension benefit levels will greatly exceed projected pension contributions in the majority of Member countries, resulting in large increases in deficits in the pension accounts, and in public finances in general.

43. The OECD has visited the issue several times in the past decade. A comprehensive set of calculations for 20 OECD countries was published in 1995[7]. They were based on common assumptions about unemployment and productivity growth rates, and they showed that under "no-policy change" assumptions, pension expenditures would rise by up to 8 percentage points of GDP over the next half-century in one country, Finland, but could even fall in the United Kingdom and Ireland, reflecting very strong reforms introduced earlier. The effects of alternative policies were explored, including raising the retirement age, targeting public pensions on the poorest households, and tying global pension benefits to trends in nominal GDP. All of these greatly reduce the growth in public expenditures (especially the targeting option), but they also reduce the individual generosity of public pensions.

44. Other calculations relating to the same countries concentrated on the impact on fiscal positions of the growth of health as well as pension expenditures, if payroll taxes are not increased to compensate[8]. Figure II.2 summarises the main results for public sector primary balances, and Figure II.3 the

4. Chand and Jaeger, 1996.

5. European Commission, 1996.

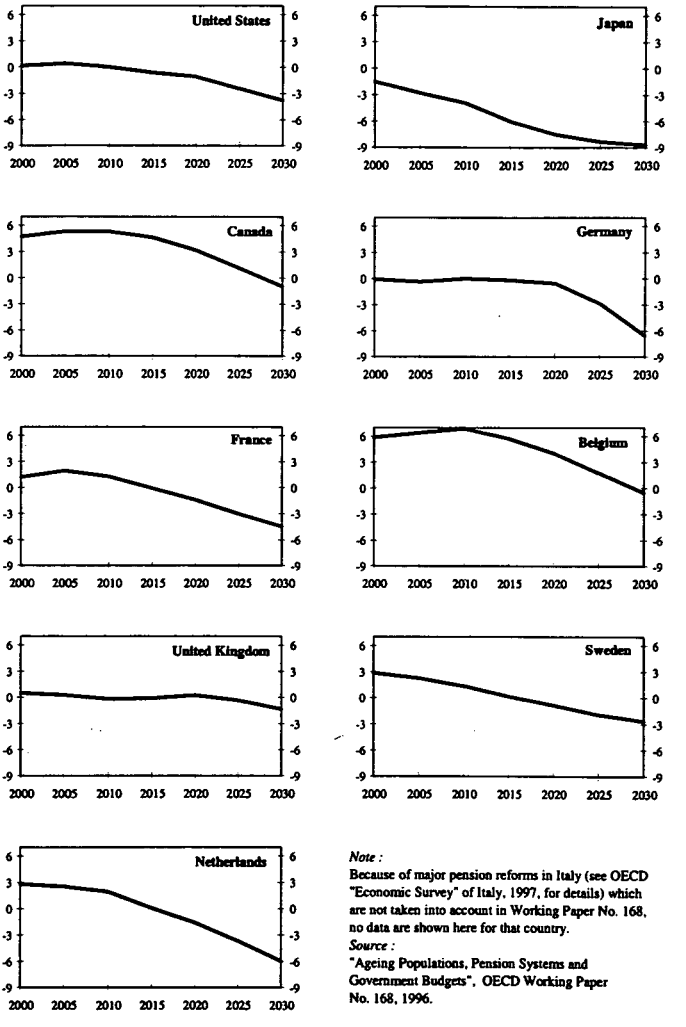
6. Turner *et al.*, 1998.

7. Leibfritz *et al.* (1995). See also OECD, 1996*a*.

8. Roseveare *et al.*, 1996.

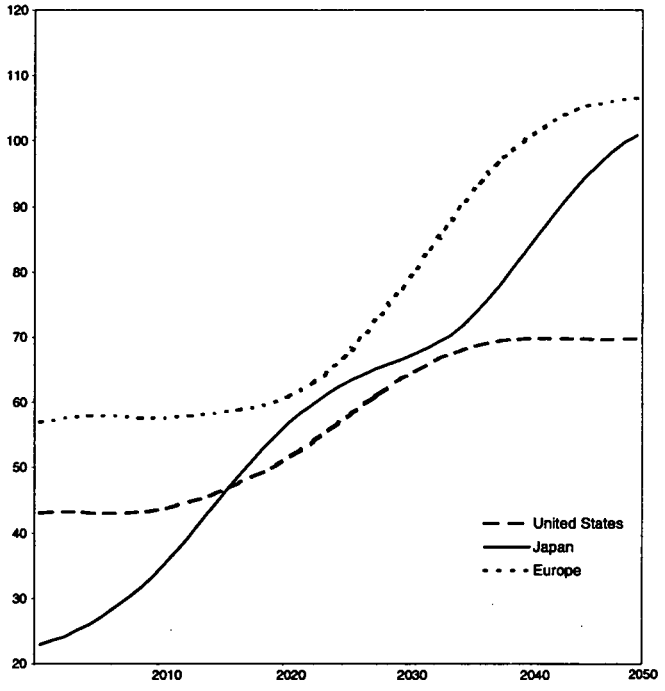
implications for public debt. For most countries (the United Kingdom and Ireland are again exceptions), primary balances deteriorate by about 5 percentage points of GDP over the next 30 years, and the ratios of net public debt to GDP deteriorate in most countries, generally by 100 per cent or more of GDP. Not all of these simulations incorporated recent reforms designed to reduce benefits and to raise contribution rates.

Figure II.2 **General government primary balances**
Surplus(+) or deficit(-) as a percentage of GDP



Note :
Because of major pension reforms in Italy (see OECD "Economic Survey" of Italy, 1997, for details) which are not taken into account in Working Paper No. 168, no data are shown here for that country.
Source :
"Ageing Populations, Pension Systems and Government Budgets", OECD Working Paper No. 168, 1996.

Figure II. 3 Public debt
(as a percentage of GDP)



Box II.1. European Commission and the IMF: Pension projections

Pension projections by the European Commission and the IMF point to major pressure on public finances in coming decades.

The European Commission calculations were based on national projections, which have the advantage that they can take into account the complexities and institutional particularities typical of individual country systems. They incorporated the estimated effects of very recent reforms. However, it was not possible to impose common demographic and economic assumptions, and relatively favourable hypotheses were adopted. For the majority of countries examined, only minor pressures arise in the next few years, but expenditures begin to mount rapidly in the second decade of the next century.. In most European Union countries, the rate of payroll tax required to stabilise the pension accounts also nearly doubles, even in countries where such rates are currently relatively high .

The IMF exercise examined trends in selected OECD countries and found that in order to keep public pension accounts in balance, contribution rates (including transfers from central government budgets) would have to rise relative to 1992 by the equivalent of as much as 20 percentage points of the wage-bill in major continental European countries, by six percentage points or so in the case of the United States, Canada and Japan, but could remain stable in Sweden and the United Kingdom.

45. More recent work by the Secretariat extends its earlier analyses[9]. A global model-based approach provides insight into the interaction of public and private saving and investment in a world in which countries are ageing at different rates, and where resulting changes in international capital flows affect exchange and interest rates -- and hence real incomes. This work finds that the fiscal impact of ageing, assuming no change in contribution rates or other public expenditures beyond those already programmed, is broadly similar to that calculated in the earlier work: as previously, fiscal balances deteriorate by about 3 per cent of GDP in the United States by the year 2030, by 6 per cent in Japan, and by 3 per cent in Europe (Europe is treated as one area in these calculations). The new analysis pushes the projection period out further, showing that deterioration of public finances continues until the middle of the next century. When the impact of ageing on expenditures on health and education is factored into the model, public net debt levels would rise by about 80 per cent of GDP in the case of Japan, by some 30 per cent for the United States and by 40 per cent for the European Union by mid-21st century. For the United States and Europe, the deterioration in public finances does not accelerate until the second decade of the next century: for Japan, the deterioration starts very soon.

.... requiring major reform of public pension systems

46. Although none of the various analyses can capture the full complexity of individual country pension systems, the fact that all the various approaches give very similar results implies that it is very likely that, despite recent reforms in many countries, there will be important strains building up on public finances in 10-15 years' time. The seriousness of the problem varies from country to country depending on the timing and size of the demographic transition, and the details of the public pay-as-you-go pension systems (e.g. retirement age, programmed changes in contribution rates, whether benefits are earnings-related, partially or fully indexed to prices and wages etc.).

9. Turner *et al.*, 1998

47. Increased spending on transfers to the retired could in principle be financed by reducing public expenditure in other areas. Increased deficits in pay-as-you-go systems would in this case be financed within the budget. However, such a policy could seriously compromise economic efficiency and dynamism if cuts were to be concentrated in areas such as education, research and development, and infrastructure. Financing increased spending on public pensions by reducing social transfers to the younger generation would also raise serious equity concerns. And financing retirement income by reducing spending on health would not seem to be feasible, given that health spending will also grow as a consequence of ageing.

48. There would thus seem to be no alternative to keeping public pension accounts in balance in face of ageing populations. This could be achieved in various ways:

- increasing contribution rates,
- lowering individual generosity of benefits, and/or
- increasing the effective retirement age, thus modifying the rise in the number of pensioners relative to the number of contributors.

49. While it is of no direct consequence for fiscal balances what levers are used to bring contributions in line with spending, the overall efficiency and equity implications differ significantly from one measure to another. Raising contribution rates can have adverse effects on employment in general, and may impose excessive burden on the successors of the baby boom cohort.[10] Lowering individual generosity of benefits could raise concern about income adequacy in retirement, while it might reduce disincentives to work after the pensionable age. And while raising the effective retirement age would increase economic efficiency and enhance incomes of older people, it might be resisted by a population that has come to regard a long time in retirement as a normal reward for productive working life. Chapter IV evaluates some of the possible pension reforms which would alleviate the pressure on public finances in future, and at the same time meet concerns about equity and efficiency.

The impact on savings

The national saving rate could fall and lower living standards, ...

50. Ageing could in itself depress private and national savings rates in the longer term, thereby lowering future economic growth and the level of *per capita* consumption. It is often argued that the private saving rate of a country benefits for a while from the passage of the larger cohorts (born in a baby-boom) through the high-saving stages of the life cycle. Subsequently, surges in the proportion of older people in the population reduce the private saving rate as older people draw down accumulated assets. Unless this age-induced decline in the private saving rate is offset by higher public savings, the national savings rate will fall. However, as discussed earlier, ageing will also adversely affect government balances. The combined influences of ageing and unchanged public policies would thus imply a fall in both private and government saving in the future.

10. The successors would have to finance the high cost of pensions for the baby-boom generation, while not getting high pensions themselves.

51. Increases in government saving through medium-term budget consolidation could play an important role in sustaining national saving rates, provided that this was achieved in ways that do not undermine incentives for private saving. The extent to which national saving rates could fall in different countries will depend on interaction between private saving ratios and the rate at which their populations are ageing and their success in pursuing fiscal consolidation. Hence the timing and size of *ex ante* movements in national saving rates might be very different across OECD countries and especially between them and demographically younger countries outside the OECD.

... but increased use of advance funding of pensions could help to contain the drop.

52. The evolution of national saving rates may also depend on how national retirement systems will change in coming decades. It is often argued that pay-as-you-go systems discourage private savings: individuals knowing that they will be entitled to pensions in their old age will not save, or will save less, for their retirement; whereas advance funded systems by definition encourage individuals to save for their retirement. Available evidence[11] suggests that advance funding can boost national savings under certain circumstances, notably when traditionally low-savers are required to enter into advance-funded schemes and when tax privileges related to such schemes are not excessive. The experience of some Latin American countries which have increased the use of advance funding confirms that the impact on savings is positive but unlikely to be very large[12].

53. Exploratory analysis by the Secretariat[13] suggests that moving towards advance-funded arrangements will increase national saving only modestly. Even if public pensions are gradually abolished altogether, the combined effects of induced voluntary increases in private saving and constant public saving would not suffice to offset the negative impact on saving of ageing itself. If the transition to a funded system were to be financed via public debt (corresponding to the unfunded liabilities of previous schemes), the impact on national saving would be negligible. However, other studies[14] indicate that the private saving response to the introduction of advance-funded pensions may be higher than allowed for in this analysis, permitting a rise in national saving despite the ageing of the population. But even if there is considerable uncertainty about the magnitude of the saving response, it would at least under most circumstances help to contain some of the age-induced drop in national saving.

The international implications of ageing

Protracted current-account imbalances may emerge ...

54. Changes in current-account balances could also attenuate the negative direct impact of ageing on material living standards. Current account balances, and the associated change in net foreign asset positions, result from domestic saving (public as well as private) and investment decisions. As ageing is likely to depress the national saving rate, there will be concomitant changes in current account balances in individual countries, unless investment moves in tandem with saving, and in the global pattern of net foreign asset positions and the flow of investment income.

11. Bailliu and Reisen, 1997.

12. Holzmann, 1996.

13. Hviding *et al.*, forthcoming.

14. See e.g. Feldstein and Samwick, 1997.

55. With relatively fewer workers due to ageing, capital requirements would rise less quickly than in the past, or even fall in some countries, thus reducing gross domestic investment needs. It is not easy to predict whether ageing would cause domestic investment to fall more than national saving. It may be that domestic investment would react more quickly than national saving initially, since savings habits tend to be persistent, but the fall in saving may eventually outweigh that in investment. National saving-domestic investment balances of individual countries, and hence their current account balances, are therefore likely to evolve in complex ways as populations age.

56. Furthermore, even if the impact of ageing on national saving is greater than that on domestic investment for an individual country, this cannot be true simultaneously for all countries in the world, even though the populations of virtually all countries are ageing to some extent. This is because at the global level, changes in individual country current balances must net out to zero. Hence, it is not the absolute fact of ageing that is of importance in assessing the effects on current balances, but rather the speed at which a given country is ageing relative to others. The pressures on saving-investment balances in a given country will thus be attenuated or amplified by demographic developments in all other countries, with these pressures modulating, and being modulated by, exchange rates, terms of trade, and interest rates. Hence the impact of ageing on the current account positions of OECD countries, and the impact of their current account positions on their living standards, are not a straightforward matter to analyse or predict.

57. Work in this field is still in its early stages, and only tentative conclusions can be drawn. The recent model-based exercise by the OECD[15] implies that, in the absence of further pension reforms or further fiscal consolidation, and assuming that private saving rates fall with age, the OECD area would nevertheless experience significant current-account surpluses for the next couple of decades. This is partly because the demographic pressures will not emerge in full in the industrialised countries for another decade or so, and partly because the faster-growing non-OECD countries are expected to be net capital importers. However, well before the middle of the next century, OECD countries would be running significant current-account deficits, and would have run down most of the stock of net foreign assets. Investment income from abroad would boost living standards only for the first two to three decades of the next century. It would modestly offset the negative direct impact of ageing on material living standards during the period when that direct impact is likely to be most intense. However, under this no-policy-change scenario, ratios of public debt to GDP would start to soar in 10 years' time in Europe and the United States, and straight away in Japan.

58. This analysis also explores the effects of early implementation of different policy options, such as strong medium-term fiscal consolidation, raising retirement ages, and pursuing labour market reforms, that could be used to ameliorate the impact of ageing on public finances and output. All of these policies tend to raise national saving rates, and thus greatly extend the period during which the OECD would experience current-account surpluses and Member countries on average would thus accumulate larger stocks of net foreign assets. Investment income from abroad would therefore also be larger, and longer lasting. Even if the higher national saving rates would drive down interest rates and exchange rates, worsening the terms of trade, the positive impact on living standards is greater than in the no-policy-change case[16].

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15. Turner *et al.*, 1998.

16. Another scenario examines the impact of higher investment demand in developing countries. Although the inflows of interest and profits on foreign investment are of course higher, these are partly offset by the consequent reduction in investment in G10 countries, which has a negative impact on labour productivity and the tax base.

... and this should not be resisted by policy makers.

59. The implications for policy are that, abstracting from other influences, ageing will very likely result in prolonged swings in current-account positions of OECD countries *vis-à-vis* each other and *vis-à-vis* the rest of the world, that could cumulate to large changes in net foreign asset positions. While there is considerable uncertainty surrounding such estimates, the weight of evidence is that current accounts of most OECD countries will move towards surplus during the next decade or so, and even more decisively towards smaller surplus, or deficit, thereafter. These swings would reflect fundamental changes in domestic saving/investment balances, and not changes in relative competitiveness nor relative cyclical position, and there would be no reason to resist them. However, other countries -- mostly in the non-OECD area -- would have to accept sustained current-account deficits.

Gross capital flows to the non-OECD area are likely to increase ...

60. The growth of global capital markets and especially the growth of OECD pension fund assets might independently lead to a higher level of *gross* flows of capital from OECD to non-OECD countries. OECD investors will be seeking higher rates of return than they can expect to get in the capital-rich home countries and greater stability in rates of return on their overall portfolios (see Chapter V). By reducing risk and increasing investors' protection, the build-up of a modern financial infrastructure in the non-OECD area would further increase its attractiveness as a destination for investment funds from the industrialised countries. However, unless this (or other factors) independently led to a change in domestic saving/investment balances in non-OECD countries, the net flows to them would not change. Investment by them in OECD countries would rise by as much as OECD investment in them.

... but this is unlikely to allow the OECD countries to "beat demography".

61. It has been suggested that investing in younger capital-poor non-OECD economies could permit the older capital-rich OECD economies to "beat demography". However, the changes in gross asset positions would have to be very large to generate significant benefits for the OECD countries, unless returns on non-OECD assets are persistently very much higher than those which can be obtained on OECD assets[17]. Also, if portfolio diversification were to take place on a large scale, then returns to capital would rise in the OECD area and fall elsewhere, tending to reduce the net benefits to OECD countries. And finally, gross flows from the non-OECD countries are likely to increase in the future as these high-saving countries will seek to diversify their asset portfolios and prepare for the ageing of their own populations, thus reducing the net investment income for the OECD countries from the area.

17. Very approximately, if returns on foreign assets are as much as 5 percentage points (500 basis points) higher than on domestic assets, gross foreign assets would have to rise by the equivalent of 10 per cent of GDP each year to offset entirely the depressive effects of ageing on living standards (assuming no change in net foreign assets relative to GDP).

III. AGEING POPULATIONS, LABOUR MARKETS AND THE RETIREMENT DECISION

Summary

Workers in almost all OECD countries have tended to withdraw permanently from the labour force at earlier and earlier ages. In part, this represents an increased demand for leisure as incomes increase. However, changes in the design of most public pension systems in recent decades have tended to encourage employees to retire early: the standard age of entitlement to pension has fallen, the generosity of pensions has increased, the pension accrual rate has declined and the opportunity of older workers to obtain old-age pensions prior to the standard age has increased. Moreover, changes in entitlement conditions for unemployment-related and disability benefits have made it possible to use such benefits to finance early retirement in some countries, and special early-retirement schemes have been created in a few countries.

Reforms to public pension systems and other social transfer programmes that would ensure actuarial neutrality in the work-to-retirement transition would be a major step forward, and would help ease the fiscal burden as well as reducing barriers to working longer in life and supporting a better allocation of societies' resources. While the raising of the standard age of entitlement to old age pensions is likely to reduce disincentives to work at older ages, it may not be very effective as long as other features of current pension systems remain intact. Disability and unemployment-related benefits need to be carefully scrutinised to ensure that they do not distort the choice between continuing employment and retirement in favour of the latter. Financial disincentives to working after the standard retirement age also require scrutiny.

62. The age at which workers retire is of critical importance to both future material living standards, and to fiscal pressures. The longer people work, the output that can be shared among the population will be greater, the tax base will be larger, and there will be fewer dependent older persons receiving pensions.

63. This chapter first discusses whether the trend towards earlier retirement in most OECD countries reflects individual preferences for leisure or whether it can be ascribed to incentives that attract workers out of the labour force. The second part examines the incentives to retire embedded in the old-age pensions; the third looks at how other public income-support systems have influenced the decision to retire; and the fourth assesses how policies should be changed to remove barriers to working longer in life.

Falling retirement ages: consequences and causes

64. At the beginning of the 20th century, workers who managed to survive into old age and retirement often lived in comparative poverty and ill-health for the few remaining years of their lives. At the end of the century, most adults expect to spend an appreciable fraction of their life in retirement, enjoying relatively good health and a relatively comfortable material standard of living. More strikingly, at the beginning of the century, those workers who survived into their early 60s were still working in their

late 60s. By its end, very few people are still working after the age of 65, and in some OECD countries, the average age at retirement has fallen below 60 years. Hence longer life and better health has not been accompanied by longer working lives -- on the contrary, citizens of OECD countries are retiring earlier and earlier.

65. If the trend towards earlier retirement continues, the adverse impact on future material living standards could be as great as the purely demographic impacts[18] and the fiscal cost of ageing would be compounded. This is because increased participation rates of women will probably be insufficient to offset the drop in participation rates of older workers. However, if the average retirement age for males gradually returned to something close to that ruling in the early 1960s (when today's state pension systems were being crafted), and female participation rates continued their upward trend, a considerable proportion of the expected slowdown in material living standards would be avoided[19] (it would be necessary, though, to raise the effective age of retirement to as high as 70 to offset completely the adverse implications of ageing on fiscal balances). It is therefore important to understand why participation rates of older workers have fallen and to assess the scope for policy to stabilise or reverse the trend to earlier retirement.

66. The fact that retirement ages have fallen everywhere as real incomes have risen might only imply that leisure in later life is a luxury good which individuals "consume" more of as they become richer, trading off increased leisure against lower material living standards. Surveys of older workers and younger retirees suggest that a large proportion of older workers (55-64 years-old) who leave their last job and become inactive do so voluntarily, even allowing for pressure from employers, younger colleagues and the existence of publicly-subsidised early retirement schemes for individual companies or sectors[20]. If strong preference for leisure later in life has been dominating in the retirement decision in the past, there would be little prospect of a reversal of the trend towards earlier retirement.

67. However, it is becoming increasingly evident that public and private income-support programmes designed for, or used by, older people have made work at later ages less financially attractive, and that public policies distort the retirement decision in other ways as well:

- in many countries, public pension schemes discourage workers (especially, but not only, the low-paid and low-skilled) to remain in the workforce until the standard retirement age or beyond[21]. The rate at which pension benefits accumulate with extra years of work may drop to zero well before the standard retirement age, and because of pension floors and collateral benefits for dependent spouses, the effective replacement rate even for early retirement is

18. Earlier retirement has a greater impact on the ratio of those retired to those still working than does increased longevity, because it both increases the number of retired people and reduces the number of productive workers.

19. Very approximately, if employees retire one year earlier, GDP falls by about 2 per cent, and the pension contributions made by those still working to pay-as-you-go systems have to rise by about 7 per cent.

20. The US Health and Retirement Study found that about one-third of retirees felt they had been forced by circumstances to retire earlier than they wanted, often through part-time work. Canadian data show that about 25 per cent of retirees left the labour force involuntarily, although older workers are mixing paid work and retirement with greater frequency than in the past. In the countries of the European Union, some 58 per cent of retirees said they did not want to continue working. Over half of the two-fifths who did want to work longer said they wanted part-time work. (HHS, 1997: Commission of European Communities, 1993).

21. Blöndal and Scarpetta, forthcoming. (Also on Internet as AWP 1.3. See Annex 2).

relatively high. Pension incomes on early retirement are higher than they would be on an actuarially neutral basis;

- in some countries, the authorities have actively or tacitly encouraged early retirement as an unemployment reduction mechanism, relaxing entitlement conditions for the receipt of disability or unemployment-related benefits for this purpose;

- some funded or quasi-funded[22] private pension schemes of the defined-benefit type[23] allow retirement earlier than the "standard" age, with little or no additional private pension benefits accruing after this age. If the public systems are not actuarially neutral (the usual case), then the public systems in effect subsidise early retirement on private benefits;

- when income is taxed progressively, the difference in the size of the tax wedge on earned and retirement income distorts the income/leisure trade-off in favour of more leisure even when pension systems are actuarially fair for individuals;

- in all countries, self-employed workers (who have more flexibility in choosing when to retire, and are often entitled to lower public pensions than employees) retire at significantly later ages than dependent employees.

68. Thus, one conclusion that could be drawn is that employees' desire to retire earlier than the standard retirement age (60-65 years in most OECD countries) has to some extent been transformed into reality at possibly high cost to society as a whole by developments that are in principle susceptible to policy. To the extent that social and private interests diverge, and existing policies -- public and private -- have encouraged the latter at the expense of the former, there is a clear case for policy changes.

The old-age pension system: Impact on retirement decisions

69. Studies by the OECD[24] and others[25] show that old-age pension systems discourage work at older ages in virtually all Member countries. Expected pension wealth - the discounted value of pension benefits less the cost of obtaining them -- usually falls with continued work after a certain age rather than being independent of it, as would be the case for an actuarially neutral system. The disincentives depend on the standard and minimum ages of entitlements to pensions, benefit levels and pension accrual rates at older ages.

The standard eligibility age has only modest effect on the actual retirement age, ...

70. For males, the "standard" age at which male workers qualify for a full state pension is 65 years in more than half of the OECD countries, and tends to be lower for females. There are differences

22. Systems in which the managers of the pension accounts aim to break even, taking one year with another, but not necessarily each year, and which may intentionally accumulate surpluses for a few years when it is known that a large number of employees will be soon reaching retirement age.

23. Defined-contribution schemes are in principle actuarially fair, with benefits linked to contributions, for a given rate of return on the fund's assets.

24. Blöndal and Scarpetta, forthcoming.

25. See e.g. Gruber and Wise, 1997.

between sectors, with public-sector employees typically retiring earlier[26]. Only a few countries have lowered the standard retirement age since the 1960s, and a few countries have already started to increase the standard age.

71. Although there are good reasons to believe that raising the standard retirement age will raise participation rates of older workers, it is unlikely that the actual age at retirement will rise by as much as any increase in the standard age. There is a strong desire to take advantage of any mechanism permitting early retirement, but not vice versa, as shown by the fact that actual retirement ages have fallen during the period when the standard age has remained stable. And in fact, the majority of workers have left the labour force well before the standard age of retirement in most countries[27].

72. The standard age of entitlement may, however, act as an effective barrier to continued work for those few who remain in employment up to this age. This is because the opportunity cost of continuing in employment is typically very high: foregone pensions and paid contributions while in work, with little or no increases in eventual pensions after retirement. The extent to which pensions are affected by continued work after the pensionable age differs from country to country. Some countries have a statutory ban on combining work with the receipt of old-age pension, while the combination of means-testing of pensions and low permitted earnings in others implies that the bulk of pensions would be lost at earnings close to the average level.. Even in the few countries where pensions and earnings can be combined in principle, the start of pension payments is often conditional on quitting the current job. Although they are free to take up employment elsewhere, it is generally difficult for older workers to find alternative employment, especially in Europe.

..., while the minimum eligibility age may have strong effects.

73. Several countries allow pensions to be accessed prior to the standard age under certain conditions. Many European countries have introduced seniority pensions for those who have a long contribution history and who have reached a certain age. The minimum age for such seniority pensions differs from country to country, and is well below 60 for males in some of them. Other countries permit older citizens to obtain their pension prior to the standard age, subject to permanent actuarial reduction of benefits. Again, the minimum age varies across countries, but is typically around 60 for males.

74. The opportunity cost of working beyond the minimum age is generally high. The reasons are the same as for work after the standard retirement age: foregone pensions and continued contributions while working with little or no gains in eventual pensions (even where an early access to pensions results in some actuarial reductions). Moreover, the receipt of early pensions is often conditional on withdrawal from the labour market. Raising the minimum age for pension receipt would close an important route into early retirement, and could have a powerful effect on actual retirement ages provided that other early-retirement options were foreclosed. The same might apply if early-retirement pensions were subject to an actuarially neutral adjustment.

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26. See Table 4.1 in OECD, 1995*a*.

27. Blöndal and Scarpetta, forthcoming.

The level of pensions is unlikely to have major effects ...

75. The higher the pension relative to wages of older workers, the greater the incentive to withdraw from the labour force once pensions can be obtained. Hence, lowering the individual generosity of public pensions for future retirees should encourage workers to carry on working for longer. Although replacement rates have tended to rise in OECD countries over the past three decades, and average age at retirement to fall, there is no clear relationship between the evolution of the replacement rate and that of the retirement age. At one extreme is Japan, where the replacement rate has risen strongly, but participation rates of older workers remain very high, and at the other extreme is France, where replacement rates have increased only modestly, but retirement ages have fallen steeply. Hence it cannot be stated with any confidence that pension reforms that reduce the size of benefits for future retirees will indeed induce them to remain significantly longer in the workforce. Recent OECD analysis[28] confirms this: a 20 per cent reduction in benefits in Germany and Italy is estimated to encourage males to remain in the labour force for only a few months.

... but pension accrual rates at older ages are important.

76. The rate at which pension rights accrue has a significant impact on the retirement decision. These rates differ greatly between countries. At one extreme is Australia, where the basic pension age is unrelated to employment or contributions. In Germany and the Netherlands, rights accrue steadily in line with contributions throughout working life. In most countries, though, rights accrue at a steady rate (though vesting periods differ) only until the individual attains a maximum number of years -- commonly 35-40 years -- of contributions, after which there is no further increase in eventual pension rights. This implies that 55 year-old workers who started to work at 20 will not increase the size of their public pensions by working a further 10 years, thus increasing the incentive to retire earlier (contributions normally continue to be obligatory even after additional rights disappear).

77. It was not always thus. A 55 year-old worker in Belgium in the late 1960s could increase his or her eventual pension by as much as a third by working a further 10 years, and by more than a fifth in France and Canada. This reflected in part the introduction of contribution-related pensions in the early days of pay-as-you-go systems, which meant that continuing work at older ages raised pensions considerably. And in France until the 1980s, the replacement rate for older workers rose by 4 percentage points per year for workers over 60, providing a powerful incentive to remain in employment. These kinds of incentives are much rarer today. Incentives have even been reversed in some special early retirement schemes, which continue to pay pension contributions on behalf of the retired worker, while recipients of disability benefits typically do not suffer any reduction in their pension rights during their non-employment status.

Private occupational pension schemes also tend to discourage work at older ages.

78. In most Member countries, private occupational pension schemes are widespread, and are indeed legally obligatory in France, Switzerland and Greece. They typically specify a retirement age that is the same as that for the public pension system, or lower. In some cases, occupational pensions can be drawn (at a reduced rate) before the "normal" retirement age. Neither the replacement rates nor the penalty for early retirement are generally actuarially neutral, and in this sense their sensitivity to demographic developments is similar to that of public pay-as-you-go systems. As with public schemes, working

28. Blöndal and Scarpetta, forthcoming.

beyond the pension age adds little to eventual benefits, but it is open to the employee to change jobs and accrue rights elsewhere. This is what appears to occur in the United Kingdom, especially for employees whose pension schemes often specify a retirement age lower than that of the public scheme. However, where schemes are of the defined-benefit type and specify retirement at an earlier age than the public scheme, and especially where they permit early payment of pensions, the incentives to retire early are strengthened. It would seem important to regulate occupational schemes to remove such incentives, or at least greatly weaken them, and not to impose large burdens on younger workers.

Other public income-support systems

79. There are a number of public transfer programmes which in practice permit older workers to withdraw from the labour force before the standard and early retirement age, and provide them with income support until then, even if this is not their purpose in theory. They are currently of three main types: disability pension schemes, unemployment-related schemes and special early-retirement schemes. Their importance varies very widely across countries. In the United States and the United Kingdom, for example, only 20 per cent of those in the 55-64 age group receive public non-employment benefits of one kind or another[29]. More than half that age group receive such benefits in Finland and Austria.

Disability programmes have been used in several countries to facilitate early retirement, ...

80. It is to be expected that older people figure disproportionately in the disability statistics. However, the very large differences between countries and over time (and over the business cycle) make it evident that to some extent at least, disability benefits have been used to aid early withdrawal from the labour force as much as to support those who are incapacitated for health reasons. The proportion of older citizens of working age drawing disability benefits has risen in most OECD countries despite steady improvements in health status. It is hard to believe that a third or more of those aged 55-64 in Austria and some northern European countries are incapable of working, when a far smaller proportion is so designated in other countries. Income from disability pension schemes also varies very widely, with replacement rates around 70 per cent for the older people in Austria, Sweden, Spain and Portugal, but below 30 per cent in the United Kingdom and New Zealand (Table III.1).

29. Of course not all of them would have been in the labour force previously, and some of them may well be receiving more than one kind of benefit. Hence the figures overstate the proportion of the labour force in receipt of such benefits.

Table III.1. Non-employment benefit schemes: summary generosity indicators for older workers, 1995
Per cent

	Disability schemes	Unemployment schemes	Special ER schemes
Australia	0.273	0.275	0
Austria	0.681	0.489	0.681
Belgium	0.292	0.200	0
Canada	0.331	0.179	0
Czech Republic	0.224	0.056	0
Denmark	0.388	0.715	0
Finland	0.600	0.641	0
France	0.250	0.230	0.325
Germany	0.441	0.394	0
Hungary	0.279	0.186	0
Iceland	0.390	0.419	0
Ireland	0.322	0.240	0
Italy	0.360	0.500	0.700
Japan	0.251	0.030	0
Luxembourg	0.529	0.776	0.240
Netherlands	0.700	0.525	0.400
Norway	0.570	0.172	0
New Zealand	0.252	0.240	0
Poland	0.469	0.162	0
Portugal	0.717	0.616	0
Spain	0.715	0.371	0
Sweden	0.696	0.144	0
Switzerland	0.434	0.107	0
United Kingdom	0.275	0.169	0
United States	0.448	0.064	0

Source: Blöndal and Scarpetta, forthcoming.

81. In some countries, eligibility to receive disability benefits is explicitly based on labour market criteria as well as purely medical criteria. Access to the benefits is more readily granted when unemployment is high or rising or when there are particular local difficulties in labour markets. This is so in Germany, Italy and Finland, and has been the case in the Netherlands (until 1987) and Sweden (until 1991). While there is no particular reason to assume that older workers would disproportionately benefit (for a given level of genuine disability) from such policies, in practice there seems to be a tacit acceptance that conditionality is made easier for older workers who are close to the standard retirement age,

especially if they have worked for enough years to qualify for a full public pension[30]. Even in countries where there is no labour market criterion, examination of the inflow into disability schemes shows that it tends to be higher in times of labour-market strains.

82. The wisdom of using disability pension schemes to "solve" labour market problems is very doubtful, however. They reduce the official unemployment rate to the extent that exiting older workers are replaced by previously unemployed younger workers, but, at best, the level of employment does not change. Realisation of this has led some OECD countries to tighten conditionality for entry into these schemes, and/or to reduce effective replacement rates (Germany, Italy, Sweden, Netherlands, Australia). However, experience (e.g. in the case of Sweden) indicates that even when labour-market criteria are eliminated, actual inflows to disability schemes remain sensitive to labour market conditions.

... and unemployment-related benefit programmes support early retirees in many countries.

83. In more than half of OECD countries, it is possible in principle to draw unemployment benefit from the age of 55 to the standard retirement age, either because there is no limit in time for such benefits, or because special arrangements exist for older workers. Typically, job-search requirements are applied less stringently to older workers, or not at all, either tacitly or as official policy (Belgium, France, Germany, the United Kingdom, Australia, Denmark, New Zealand and the Netherlands). In some countries, the long-term unemployed can also access old-age pensions at an early age and exit the labour force. Where relaxed entitlement conditions go hand in hand with generous benefit levels, exit into retirement via spell of unemployment becomes financially attractive. Indeed, empirical analysis[31] confirms that generous unemployment-related benefits (both in terms of the level of benefits and the length of benefit periods) do tend to depress labour-force participation of older workers.

Special early retirement schemes remain important in a few countries.

84. A few countries have operated special early-retirement schemes designed specifically to facilitate early withdrawal from the labour market. They were originally intended to help reduce unemployment or to ease the social cost of major structural changes in the economy. Benefit levels tended to be relatively generous. Such schemes have fallen very substantially in importance over the last decade and currently help finance a significant number of early withdrawals only in the Netherlands (where they are being phased out) and in Luxembourg (and possibly Norway in the near future).

Policy requirements

85. The analysis reported in this chapter shows that the retirement decision is strongly influenced by policy, and that reforms could play an important role in reducing barriers to working longer in life. However, it will not be enough simply to raise the standard retirement age at which people qualify for old-age pensions. It will require major changes in various features of old-age pension systems, and an overhaul of entitlement conditions in other social programmes. It will also require flanking policies to ensure that older workers remain employable. Chapter VI examines the steps that can be taken to prepare for longer careers in the labour market.

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30. However, in some countries, for example Germany, the age of an individual is one of the criteria used to judge whether or not an individual receives a disability pension, and if so, of what size.

31. Blöndal and Scarpetta, forthcoming.

86. Public pension wealth must become much less dependent than at present on the age at which people retire. At a minimum, benefits should continue to accrue with every year that is worked and contributions paid, before and after the standard retirement age. Pension income should also be subject to the same income tax schedules as other kinds of income. The case for withholding all or part of pension income if the recipient re-enters the labour force also needs to be scrutinised with care. Of course, to the extent that workers still decide to retire early, accepting the financial penalties involved, there would be no gain in output and material living standards. But this would get incentives right, reduce public pension costs, and offer more choice to individuals.

87. Some aspects of private occupational pension systems need to be examined, especially those involving earnings-related pensions. It would be desirable for contributors to, and recipients of, such schemes to take better account of emerging demographic pressures, and take early action on benefit levels and contribution rates, so that older members can adjust to a possibly lower level of benefits than currently promised.

88. Nevertheless, even with sweeping reforms in public pension schemes, the Secretariat analysis indicates that other social programmes would continue to aggravate the trend towards earlier retirement. Reforms directed only at public pension systems will encourage older workers to take advantage of other sources of public transfer income, notably disability and unemployment benefits. Savings on public expenditures, and gains in material output, will be reduced. This implies that concerted efforts need to be taken in most OECD countries to assure consistency and coherence between public pension systems, occupational pension systems, and all social programmes which transfer income to those in their pre-retirement years.

IV. RETIREMENT INCOME REFORMS

Summary

Many OECD countries are actively engaged in reforming their public pensions. Contribution rates are being increased. The effective age of retirement is being raised and benefit levels reduced. There is a move towards multiple-pillar systems of providing retirement income. However, reforms in most countries will not be deep enough to handle the challenges that will occur in the period from about 2010 to 2030 when the baby boom generation retires. And the reforms have only modestly reduced disincentives to work at older ages.

The need to maintain public pay-as-you-go pension system in financial balance in the future will most likely involve reducing their generosity. This may not have serious consequences on the overall income of retirees at large. In fact, international comparisons show that living standards of older people do not depend directly on the generosity of public pension levels, as people make other arrangements to support themselves in retirement when public pensions are low. However, the lowering of public pension levels may have to be accompanied by increased targeting to ensure that those who do depend on public pensions are not adversely affected.

Lower public pensions will imply that individuals will have to rely on other "pillars" to support themselves in retirement. Advance-funded private pensions will grow in importance, and it might be necessary to make some minimum contributions to such schemes mandatory. Defined-contribution arrangements will have greater weight. It will also be necessary to ensure that private pension providers are adequately regulated. Earnings should become a greater source of income of older people, especially if retirement becomes more gradual, and other pillars should also become more important.

89. Many countries are in the process of changing their pension systems with the aim of meeting the challenge of the ageing of populations in the next century. The first part of this chapter briefly evaluates these reforms. The second looks at pension reforms in the future. It assesses whether cuts in the generosity of public pensions will have serious consequences for retirees' standards of living, and how such cuts may influence private alternatives to public retirement arrangements.

Assessment of current pension reforms

Reforms of current pay-as-you-go systems are underway in many countries ...

90. Many countries are in the process of phasing in changes to their pension systems or have decided on changes but have not yet started the implementation phase. Reforms differ from one country to another (Figure IV.1) but will generally result in lower pensions and higher contribution rates. None of the reforms have affected existing retirees, or those close to retirement, because imposing a burden on those who have few means to adjust would undermine trust in the pension system. Some of the more radical

reforms will be phased in very gradually to allow sufficient time for young working to adjust to the changes.

Figure IV.1. Selected recent reforms in OECD countries

Reductions in the generosity of pension payments

- Reductions in the final benefit available after the usual number of years of work and/or contribution, in Germany, Italy, Norway, Canada, Finland, United Kingdom, New Zealand, Sweden and Portugal.
- Less generous adjustment of benefits to changes in inflation, in Japan, Germany, and Finland.
- Increases in the level of contributions and/or years of employment required to generate the same level of benefits, in Turkey, Portugal and Finland (gradual increase in contributions until 2030.
- Increases in the number of years of earnings used to calculate final pension payment, in Spain, France and Sweden.
- As part of its broader pension reforms to operate from 1999, Sweden is to incorporate an element in the benefit calculation which adjusts the pension for increases in the average life expectancy of new cohorts of retirees.

Increased advance-funding

- Mexico is moving to a fully-funded privately managed system of individual accounts.
- Canada and Sweden are planning to increase the funded element of their public earnings-related benefits.
- Hungary, Poland and the Czech Republic are looking to private pension arrangements as a means of supplementing retirement pension benefits for workers without further expanding large public schemes.
- Other OECD countries encouraging greater reliance on the private pension system to provide retirement benefits include Australia, Denmark, Japan, Korea, Canada, New Zealand, Germany, and the United States.

Working longer and greater flexibility in the work-retirement transition

- increasing age of entitlement to age 67 in the United States over the next 25 years. Italy will increase the male retirement age from 63 to 65 by the year 2000 at the same time as the female retirement age is increasing from 58 to 60 years.
- increasing the retirement age for women up to the same age as for men (as in Australia, Belgium, Germany, Hungary, Japan, Portugal and the United Kingdom).
- Increasing the minimum age at which early retirement payments can be accessed, in Finland and Poland.
- Increasing the number of years of prior employment or prior contributions before individuals can access early retirement benefits, in Belgium, Hungary and Italy.
- Reductions in benefit payments for those who retire early, in Australia, Hungary, Sweden and the Slovak Republic.
- Increasing the rate of pension is increased according to actuarial adjustments (in Canada since 1987, Luxembourg and Sweden from 1999) while other countries have set permanent increments according to the number of months the pension is deferred (Finland, Hungary, Germany, the Slovak Republic and Sweden). Australia plans to introduce a single lump-sum bonus for those who defer retirement
- Greater direct relationship between years of contributions and final payments in many countries including Sweden
- Partial pensions to smooth the transition from work to retirement, enabling people below the statutory retirement age to reduce their hours of work with the loss of income from earnings partially compensated by the partial pension—Denmark, Japan, Luxembourg, Germany, and Sweden.

Source: These are highly selected examples taken from a comprehensive review of social policy undertaken in conjunction with a meeting of OECD Social Policy Ministers in June 1998. OECD (forthcoming), "The Caring World: National Achievements"

91. In all reforms it is ultimately the younger generation, mainly those who are currently less than 40 years of age, who will have to carry the bulk of the pension burden one way or another. The general objective of reforms in most countries has been to find the most reasonable way of making the adjustment, to see whether the existing generation of older people can make at least some contribution to the cost, and to put systems of retirement income on a sustainable basis for coming generations.

92. Fears have been expressed that a continuation of large public transfers to older generations in these circumstance could result in inter-generational conflict, even if there is currently little evidence of it. Since the main effects of ageing will only be felt after 2010, this lack of conflict may be the calm before the storm. But it may also reflect large inter-generational transfers to young people in families. Many young people are themselves dependent (directly or indirectly) on the income their parents or grandparents receive, and do not recognise that the difficulties they encounter in finding employment or in earning adequate take-home pay may be related to the payroll-based taxes which finance the pensions and other social transfers received by their parents and grandparents.

... but are neither sufficiently ambitious to prevent a deterioration in public finances in the future ...

93. Although pension reforms are narrowing the gap between projected growth in expenditure and revenues, they are unlikely to prove sufficient to deal with the fiscal implications of ageing populations. As discussed in Chapter II, even with the reforms under way, government budget balances will come under serious strain after the large baby-boom cohort starts retiring from about 2010. Putting the systems of retirement income on a sustainable basis for future generations will require further reductions in pension generosity, higher contribution rates than currently envisaged, and/or a reduction in the number of pension beneficiaries relative to the number of contributors.

... nor to remove disincentives to work at older ages.

94. Many of the changes being implemented to pension systems will encourage people to work longer in life. As discussed in Chapter III, increased standard retirement ages, lower benefit levels, higher pension accrual rates at older ages due to longer required contribution periods for full pension would all reduce the disincentives currently embedded in public pension systems. However, increases in pension contribution rates go in the opposite direction, raising the opportunity cost of remaining in work. Also, since pension reforms have typically not involved flanking changes in other benefit systems, important distortions remain. All in all, reforms to pay-as-you-go systems have only modestly reduced financial barriers to working later in life.

... but the ground is being laid for deeper reform

95. Many reforms have, however, laid the ground for future change. The extent of advance-funding and defined-contribution arrangements has increased through several mechanisms. A major theme has been to strengthen linkages between lifetime benefits and contributions. New approaches such as notional accounts which combine the advance-funding with defined-contribution accounts have been introduced. The use of refundable tax credits to replace flat-rate pensions has been explored. The variety of approaches that have been taken will allow sharing of experience and lessons that have been learned.

Directions for the longer-term

96. Further reforms of pay-as-you-go pension systems are needed in most cases to bring future contributions and expenditures into line and to reduce the disincentives to work in public retirement-income systems. This is a problem that must be addressed now. Transparency and public trust require an explicit plan for doing this. Unless there is a major reversal of the trend towards early retirement, the adjustment needed to maintain government budgets in balance is likely to fall on lower benefit generosity

to a large extent. This raises the issue of whether living standards of older people can be maintained in the future.

97. Reform must also take account of the desirable long-term evolution of the institution of retirement itself. The discussion of active ageing in Chapter VI suggests that a continuation of ever-lengthening periods of leisure in retirement is unlikely to be the preferred course. A more probable scenario involves a world where incentives would no longer encourage an abrupt division in life between work and leisure[32]. There would be less constrained choices about work and leisure, including more flexible options for using time to raise children or for education over the course of life. However, under any reasonable planning horizon, retirement would still remain as a normal "third age" phenomena. That is, most people would have a period of welcome leisure between their working years and the "fourth age"—the later years of life where frailty becomes common. Collective support would be for a standard period of retirement that was linked in some fashion to longevity, and that would not continuously grow in length as is now the case. People could decide to retire earlier or later, or abruptly or gradually, with appropriate actuarial adjustments to pensions to ensure neutrality.

98. Reform must take account of the variety of existing starting points, directions for the long-term future, and the urgency of fiscal action. This points to a flexible reform strategy and one that takes account of the retirement income system, not only public pensions.

Starting points for reform are diverse ...

99. In some countries, for example, people in older ages are supported by 1) a transfer to low income older people in order to prevent poverty, 2) a public contributory system designed to provide replacement income up to a certain level, 3) tax-subsidised company plans, both defined-benefit or defined-contribution, 4) tax-subsidised voluntary individual retirement saving accounts, 5) other tax support in the form of income tax deductions, 6) the use of their now mortgage-free house, 7) other private savings and assets, 8) health and long-term care programmes, 9) transfers within families and 10) earnings.

100. The list would vary for country to country but, in all cases, it is far longer than the number of pillars that are typically given "official" recognition. Many people would not recognise some of the elements in the previous paragraph as retirement-income "pillars". Yet all the elements can be influenced by public policy to a greater or lesser degree. The effects of changes to public transfers might well be offset, for example, by changes in private savings or in-family transfers. Analysis would be clearer if the complexity of existing arrangements were taken more fully into account[33]. There would be merit in giving fuller recognition to the diversity of pillars that exist, in a better understanding of their interactions and in assessing the policy implications of changes in both the number of pillars and their weight. Transparency

32. A very long-term vision might go even further and envisage a world where collective arrangements would no longer support a separate stage of life devoted to leisure in retirement. However, this would be beyond sensible planning horizons.

33. For example, analysis often refers to advance-funding as if there were only one type of arrangement. Yet there may be several types of advance-funding in play in a country: in a reserve within the public contributory system, in company plans and in private retirement savings accounts. The risks and effects on behaviour associated with each are quite different.

and understandability would also improve in a system where each pillar had its own objective. Where programmes now have multiple objectives, this would lead to an increase in the number of pillars[34].

..., and diversity has many virtues

101. A system of retirement provision that is based on many elements has the potential to reduce risk by diversifying across producers. A public pay-as-you-go system suffers from the risks associated with uncertain demographic trends, and from the non-contractual nature of implicit pension promises. These risks are mostly absent in advance-funded private systems, but such arrangements are inevitably subject to risks associated with financial market developments and the risk of default of private funds. Indeed, each of the elements of the system has its own strengthens and weaknesses and a flexible balance among them not only diversifies risk but also offers a better balance of burden-sharing between generations and gives individuals more flexibility over their retirement decision.

A starting point for reform: high public pension income is not critical for the well-being of older people in general, ...

102. A starting point for long-term reform must be that a further large allocations from workers to retirees is neither fiscally sustainable nor necessary. The income of older people has been growing relative to the rest of the population in most, but not all, OECD countries (Table IV.1). The income of individuals in older households has reached some 84 per cent of the average income of all individuals in a typical OECD country, about the same level as for individuals in households where the household is age 30 or less (and incomes of these younger people have been falling relative to everyone else). If existing trends continue, average the income of older people will soon exceed that for the population as a whole in a number of OECD countries.

34. There is merit both in terms of transparency and risk-diversification in having many pillars, if they are indeed quite distinct in terms of their objectives. However, there are clear limits. A very large number of pillars could cause confusion. Over the long-term, there would be merit in dropping smaller programs that have little total effect — including, for example, programs that provide seniors with reduced prices for some services or other in-kind benefits.--

Table IV.1. Relative disposable income of individuals, and population share, by age of the household head

Equivalence scale elasticity = 0.5

	Young head *Below 30*		Prime age head *Between 30 and 50*		Older working age head *Between 50 and 65*		Retirement age head *Above 65*	
	Relative income	Population share	Relative income	Population share	Relative income	Population share	Relative income	Population share
Australia, level 1993-94	101.1	13.3	101.4	53.7	110.9	19.9	68.2	13.1
Changes, 1975-1994	-4.4	-5.3	1.4	0.9	3.1	0.8	-5.7	3.6
Canada, level 1990	87.7	11.3	101.5	48.3	111.9	23.9	87.3	16.6
Changes, 1975-1994	-1.8	-1.8	0.4	1.8	0.5	-0.6	-0.4	0.6
Denmark, level 1994	89.6	16.7	105.9	48.1	117.3	19.0	73.4	16.2
Changes, 1983-1994	-10.9	-1.3	-1.5	0.0	10.7	0.6	4.7	0.6
Finland, level 1995	80.3	13.2	106.8	53.8	114.5	18.2	78.1	14.7
Changes, 1986-1995	-7.6	-4.8	0.3	0.5	6.4	1.4	1.1	2.7
France, level 1990	78.7	10.5	101.7	52.7	110.1	22.1	95.0	14.7
Changes, 1979-1990	-8.9	-1.1	0.8	2.5	2.3	-1.3	0.8	-0.1
Germany, level 1994	78.5	9.8	100.9	45.7	113.0	25.1	89.3	19.4
Changes, 1984-1994	-1.9	0.4	-1.5	-1.6	0.6	-1.2	4.3	2.4
Italy, level 1993	92.1	4.5	98.1	46.5	109.9	31.3	84.7	17.6
Changes, 1984-1993	-4.8	0.2	1.5	-1.1	-2.7	-2.8	2.9	3.6
Japan, level 1994	75.9	5.0	94.2	52.5	120.7	30.3	93.1	12.2
Changes, 1984-1994	-6.0	-1.2	-0.9	-7.2	3.6	3.7	-0.8	4.7
Netherlands, level 1994	85.2	11.5	100.8	52.9	114.0	20.6	87.5	14.9
Changes, 1977-1994	-5.9	-1.0	5.0	3.4	-2.2	-3.4	-8.9	1.1
Norway, level 1995	78.0	14.8	107.3	53.1	117.3	17.2	73.7	14.8
Changes, 1986-1995	-11.5	-0.4	0.6	1.4	4.6	-1.6	4.0	0.4
Sweden, level 1995	73.3	17.8	104.2	46.0	125.8	18.6	89.3	17.6
Changes, 1975-1995	-15.8	-2.1	-5.3	3.9	12.2	-2.2	16.5	0.4
United States, level 1995	75.0	13.4	101.5	53.4	120.0	18.9	91.9	14.2
Changes, 1974-1995	-9.5	-3.9	0.9	6.0	1.8	-4.0	6.4	1.9
Unweighted average of level values	83.0	11.8	102.0	50.6	115.5	22.1	84.3	15.5
Unweighted average of changes	-7.4	-1.9	0.1	0.9	3.4	-0.9	2.1	1.8

Source : OECD.

103. These trends have taken place against the backdrop of an increasing number of two earner families, with both partners being entitled to a public pension. Such families often have other significant resources to support themselves in retirement, including housing assets. In fact, there is much evidence that retired people do not consume the resources[35] at their disposal, but give money to children and grandchildren during their retirement years and as bequests.

104. Income adequacy of older people and inter-generational equity do not necessarily require a pension system with high total replacement rates. As can be seen from Figure IV.2, other elements of the retirement income system -- especially earnings and savings -- play an important role. Indeed, in Canada, the country that rates highest in Figure IV.2, replacement rates in the earnings-related pension programme are relatively low compared to those in many European countries. However, the Canadian system it is able to ensure a high degree of income adequacy because of a large targeted programme aimed at older people with lower income[36].

35. Esping-Andersen (1997) notes that in countries as different as Finland and Italy, pensioners save between 25 per cent to 30 per cent of their income. In Italy even the lowest income quintile saves.

36. Hauser, forthcoming. (Also on Internet as AWP 3.2. See Annex 2.)

Figure IV.2. Relative positions of countries: ranking of income in retirement in terms of adequacy and equity

Country (Year of reference)	Share of pension income in total net household income low < 60 % med. 60-80 % high > 80 %	Ratio of net equiv. income pensioner/ non-pensioner (old OECD scale) low < 85 % med. 85 - 95 % high > 95 %	Difference between female/ male single pensioners low > 25 % med. 20 - 25 % high < 20 %	Inequality among pensioners (combined top and bottom share) low > 30 % med. 20 - 30 % high < 20 %	Poverty among pensioners 50%-Line old OECD scale low > 16 % med. 8 - 16 % high < 8 %
EU-States					
Belgium (1992)	high	medium	low	high	high
Denmark (1992)	medium	low	high	high	high
Germany (W) (1989)	high	medium	medium	high	medium
Spain (1990)	medium	high	medium	medium	medium
France (1989)	high	high	medium	medium	medium
Greece[1] (1987/88)	low	medium	high	low	low
Ireland (1987)	medium[2]	medium	high	high	medium
Italy (1989)	low	low	high	medium	low
Luxembourg (1985)	high	high	low	high	medium
Netherlands (1991)	high	high	medium	high	high
Portugal (1989/90)	low	low	low	low	low
United Kingdom (1991)	medium	low	high	low	low
North America					
Canada (1991)	medium	high	high	high	high
United States (1991)	medium	high	high	low	low

1. Including pensioner households with head of household 42 - 54 years and main income from pensions.
2. Including non-contributory pensions.

Note: The term "high" is used if a country is among the top group with respect to the preferred value of an indicator. Low inequality or low poverty leads to the qualification "high". Quantitative limits are given in the column headings based on judgement by the author.

Source: Richard Hauser, "Adequacy and Poverty Among the Retired" forthcoming.

105. A recent comparison of people just before retirement age with those just after retirement age suggests that living standards for most do not drop on retirement, and that the generosity of public pensions is not a large factor in changes in material standards on retirement. Figure IV.3 shows that, on average, households in many OECD countries set targets for income just after retirement that are about 80 per cent of income just before retiring. For most families, that amount does not depend directly on the generosity of public pension benefit levels. People simply make other arrangements such as increasing private pension contributions, saving more or working longer. When assets and the lower living costs are taken into account, many people see their living standards increase on retirement.

Figure IV.3. The adequacy of retirement income does not depend on public pensions

This chart explores the adequacy of retirement income by comparing income levels before and after retirement. These are preliminary data that are still under development, but further refinement is unlikely to change the basic message.

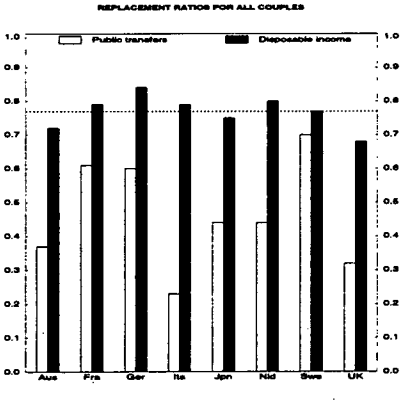
The black bars:

- compare the 1995 income of households where the head is aged 67 with the income of households where the head is aged 55. Income from all sources is included -- earnings, capital, pensions and other transfers. For ease of presentation, the data are for couples only.
- the dotted line shows that, on average, income at age 67 (when most people are retired) is about 78% of the income of people at age 55 (before retirement in most cases)
- similar ratios exist in all of the eight countries compared; replacement rates are in the 70% to 80% range. (Replacement rates calculated for the United States are lower, but the data are not completely compatible)

The white bars:

- compare public transfers for people aged 67 -- mainly public pensions -- with the total income from all sources of people aged 55.
- the role of public pension income accounts for a large share in replacement income in Sweden and much smaller role in Italy, Australia and the United Kingdom.
- that is, people appear to target an amount of income they need in retirement that is related to the earnings prior to retirement. This an amount that is similar in different countries -- ***an amount that does not depend directly on the level of public pension generosity in that country.*** . People and employers make up the difference by means like occupational and private pensions, working later, saving more etc.

The situation is quite different for people at different income levels:



- for the richest fifth of the population, the target replacement rate for total income is in the 70% to 90% range In this group, public pensions account for less than 20% of replacement income in Australia, Italy and the United Kingdom, but over 40% in France, Germany and Sweden
- for the fifth of the population with the lowest income, total replacement rates are generally higher, around 90% in several countries -- with most of this coming from public pensions. Since income at age 55 was low, public pensions play a large role in preventing people in this group from falling below poverty lines when they retire
- in addition to the income shown above, people in all income groups also accumulate significant assets such as housing. The 55 year old group have, on average, market wealth that ranges from two to six times their annual income. Market wealth in relation to income rises substantially for the 67 year old group (because of more valuable assets, retirement bonuses and lower incomes)

Conclusion: the level of public pension benefits is critical for low income households, but not for the majority of the population. Low public pension generosity does not, on average, directly affect the adequacy of retirement income. People simply make the necessary adjustments by other means. Taking account of market wealth and lower living costs on retirement, the standard of living of many people rises when they retire.

Source: OECD

106. The policy implication is that a lowering of public pension replacement rates in the future is unlikely to have a major impact on living standards of most retirees. The survey results demonstrate the need to look at all resources available to retirees in assessing the distributional consequences of changes in public pension systems. Lower public pensions may lead to spontaneous changes in other pillars, offsetting the detrimental impact on the income of older people. Unfortunately little systematic evidence is available about the response of the different sources of income when one level of one component changes[37].

... but the lowering of average public pensions might have to be accompanied by greater targeting.

107. It must be borne in mind, however, that many people approach retirement with few resources. Cuts in pensions for this group would have serious consequences for their living standards. They include low earners who have not been able to save throughout their working life. They also include persons who may have experienced family breakdown or have had a marginal attachment to the labour force over life and thus less ability to make traditional contributions to retirement. For these groups, the generosity of public pensions is of critical importance to sustain living standards in retirement.

108. Greater targeting of public pensions is one response to meeting redistributive objectives in the context of lowering overall pension generosity. Redistribution can be achieved in pay-as-you-go systems by stipulating high floors and low ceilings on pensions. Floors and ceilings are already common in pay-as-you-go schemes, and would have to be adjusted in order to protect certain groups from reduced pensions. However, earnings-related systems are not designed to redistribute income to people which have had only marginal attachment to the labour force. Income adequacy for this group is best ensured by budgetary transfers funded by general revenues.

Lower public retirement income will imply greater reliance on advance-funded elements, ...

109. With reduced pay-as-you-go benefits, many families will seek to top up their pensions with private savings for retirement. As discussed in Chapter V, there has already been a big increase in such saving, channelled through private pension funds. It can take various forms, including occupational pensions organised along sectoral or company lines and individual retirement schemes. These are now typically advance-funded and tie pension benefits much closer to contributions than has been the practice in public schemes. Greater advance-funded elements can also be accomplished by building up reserves within public plans that are primarily pay-as-you-go.

110. Although increased use of advance-funded private pensions is likely to be spontaneous, public policy can play an important role in this process through changes in regulations and taxation. Most countries also give favourable tax treatment to certain forms of retirement saving, for example contributions to private funded schemes, and to other types of saving accounts, of which the "401K" in the United States is a well-known example. To the extent that such tax-favoured and compulsory saving do not simply replace other forms of personal saving, total resources for retirees are increased.

111. As discussed in Chapter II, national saving can be expected to rise somewhat with increased use of advance-funded saving. The evidence is ambiguous, however, about whether tax-breaks for private pensions result in a higher total amount of private savings for retirement. It seems to be fairly clear that, once the impact on public finances is taken into account, national savings are at best unaffected, and are probably lowered.

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37. Börsch-Supan, forthcoming.

112. The growing reliance on private pension schemes also calls for an adequate regulatory framework, which is a precondition for maintaining the confidence of both beneficiaries and the public at large. Appropriate regulations will contribute to safeguarding beneficiaries' rights, which include *inter alia* non-discriminatory access to pension schemes, protection of vested rights, the implementation of provisions for transferability and the related promotion of labour mobility and the adequacy of benefits. Regulations concerning investors' protection are also critical to guard against an abuse of the system [38].

..., and a shift towards defined-contribution arrangements,

113. A shift to more advance-funding often brings with it a shift to defined-contributions and a resulting strong linkage between what an individual contributes and receives. This is an important element in promoting greater choice in the decision to retire. However, lifetime contributions and benefits can also be more strongly linked within pay-as-you-go systems and, indeed, this has been a major theme of reform in many countries. Pay-as-you-go systems can shift their benefits to a defined-contribution basis, mimicking some of the features of advance-funding[39]. Company plans can be shifted from defined-benefit to defined-contributions. The problem with defined-contribution plans is that they transfer risk to individuals. They therefore make most sense in a system where risks of low-income are covered by other programs and where there are real opportunities to work later in life.

... earnings, and other non-pension resources, should become a greater source of income for older people

114. Greater reliance on earnings is a particularly crucial element for people in their earlier "retirement" years. Earnings that arise from a gradual retirement process can be an important pillar in their own right. Chapter III described the large unwarranted incentives in public pension systems to early retirement that now exist. The inevitable lowering of the average generosity of public pensions could encourage people to work longer, though much depends on how cuts would be achieved. Increased use of advance-funded pensions of the defined-contribution type would also help in this respect, since such pensions do not distort the retirement decision. As discussed in Chapter VII, there is also a need to support people in working longer and more flexibly.

115. Older people can also draw on other "pillars" to support themselves in retirement. For example, the principal asset of many older people is their owner-occupied house, which provides income in kind and can be the basis for reverse-mortgage arrangements. The sale of a business can be an important source of income for the self-employed who often inadequate coverage in public schemes.

... resulting in a significant role for both mandatory and voluntary elements

116. Taken as a whole, the retirement income system should provide a better balance between individual and collective responsibilities. In most OECD countries that balance is presently too tilted toward collective provision. Certainly, there should continue to be an adequate mandatory anti-poverty element, preferably funded out of general revenue. A strong case exists for mandatory earnings-related pension saving -- but only up a point that is significantly lower than the replacement levels that

38. Laboul, forthcoming.

39. These are referred to as notional accounts.

individuals themselves would choose. Such mandatory arrangement can be through public pensions. Or, governments can stimulate saving by making it compulsory to contribute to private saving funds.

The future retirement system in a nutshell

117. The picture drawn up in this section is of a future retirement-income system that can consist of a flexible mixture of elements: pay-as-you-go and advance-funded, defined-benefit and defined-contribution, public and private, mandatory and voluntary, saving and earnings. The particular combinations will reflect country circumstances. However, on balance, the demographic and fiscal pressures mean a larger role in coming years for the second element in of each of these pairs.

118. A multi-tiered approach also will help the long-term evolution of the institution of retirement itself. People could decide to retire earlier or later, or abruptly or gradually, with appropriate actuarial adjustments to pensions to ensure neutrality. It would thus put an end to collective arrangements encouraging healthy and skilled people to spend ever-growing periods of leisure at the end of their life, out of contact with the labour market and, as will be discussed in Chapter VI, with many of the institutions of society.

V. THE FINANCIAL SYSTEM AND THE PROVISION OF RETIREMENT INCOME

Summary

OECD pension funds are already key players in many financial markets and their importance seems clearly set to increase. The benefits of advance-funding for living standards, however, hinge crucially on the performance of financial markets. Financial rates of return on private pension funds have varied significantly across countries in the past, but ageing may adversely affect returns in the future.

Gains in performance may be obtained by strengthening the financial market and pension system infrastructures, including by changing the regulatory environment surrounding pension funds. The "prudent person" approach to the regulation of pension funds has resulted in better financial performance than quantitative restrictions on asset allocation. Regulatory reforms aimed at giving pension funds greater choice in how to allocate their asset portfolio, accompanied by modern guidelines on risk accounting and risk management, could boost returns without greater exposure to risk. Gains can also be expected from pension funds increasing the weight of assets from the younger non-OECD countries in their portfolios. However, in the recent past average returns on non-OECD assets have not exceeded those in the OECD countries, and the benefits of portfolio diversification across different countries appears to be weakening due to increased financial integration.

Growing flows of savings into retirement accounts should promote increased breadth and depth of financial markets and encourage the creation of more financial instruments, including better retirement products. These developments can be expected to lead to more efficient allocation of resources and risks. They also raise some systemic concerns, such as the impact on asset prices, volatility and stability of financial markets, and solvency risk and government intervention.

119. The performance of pensions funds and financial markets is crucial for the success of advance-funded retirement arrangements. This first part of this chapter briefly reviews the importance of pension funds in the OECD countries, their financial performance in the past and how this might be influenced by ageing. The second part looks at the regulatory framework for pension funds, and how different regulatory structures influence financial performance. The third part examines the scope for pension funds to increase their performance through international portfolio diversification, the fourth part assesses the impact of the likely expansion of private pension funds on financial markets and the fifth reviews some systemic issues. The concluding part looks at the implications for corporate governance.

The size and financial performance of private pension funds

Pension fund assets are already sizeable in some countries and set to grow fast;...

120. The holdings of financial assets by pension funds have grown at a rate of 11 per cent over the last decade for the OECD area as a whole (Figure V.1), the stock rising from 28 per cent of GDP in 1987 to nearly 39 per cent of GDP on average in 1996. These aggregate figures hide a great variation among

individual OECD countries (Table V.). In many continental European countries pension fund assets amounted to less than a tenth of GDP in 1996; they exceeded 50 per cent of GDP in the United States, United Kingdom, the Netherlands and Switzerland.

Table V.1. Financial assets of pension funds as percent of GDP

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Australia	-	21.1%	20.0%	17.6%	22.1%	23.9%	30.1%	30.3%	31.4%	31.6%
Austria	0.0%	0.0%	0.0%	0.0%	0.5%	0.5%	0.6%	0.8%	0.9%	1.2%
Belgium	2.4%	2.4%	2.7%	2.5%	2.7%	2.5%	2.8%	3.1%	3.7%	4.1%
Canada	26.4%	26.8%	28.7%	30.0%	32.0%	32.8%	35.7%	37.7%	41.0%	43.0%
Czech Republic (1)(2)	-	-	-	0.0%	0.0%	0.0%	0.0%	0.1%	*0.2%*	*0.5%*
Denmark (3)	10.9%	10.3%	12.2%	12.4%	12.8%	16.6%	19.3%	18.9%	21.1%	*23.4%*
Finland	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	11.0%	13.1%	*20.1%*
France	0.0%	0.0%	0.0%	3.4%	3.5%	3.2%	3.3%	3.6%	4.3%	*5.6%*
Germany (4)	3.4%	3.1%	3.4%	3.3%	3.5%	5.1%	5.5%	5.4%	5.2%	5.6%
Greece	-	-	6.2%	6.5%	7.1%	6.9%	8.0%	10.3%	10.9%	*12.7%*
Hungary (1)(2)	-	-	-	0.0%	0.0%	0.0%	0.0%	0.2%	*0.2%*	*0.2%*
Iceland	-	-	-	-	-	-	-	-	-	-
Ireland	-	29.0%	34.0%	31.5%	35.2%	30.6%	40.1%	38.9%	40.5%	45.0%
Italy	-	-	-	-	0.6%	1.1%	1.7%	2.2%	2.6%	3.0%
Japan	38.0%	33.7%	31.8%	37.4%	37.9%	37.3%	41.0%	49.4%	40.6%	41.8%
Korea	3.2%	3.4%	3.0%	3.1%	2.9%	3.2%	3.4%	3.3%	3.1%	3.3%
Luxembourg	19.5%	16.9%	18.5%	19.7%	20.5%	18.8%	18.7%	20.3%	19.6%	19.7%
Mexico	-	-	-	-	-	-	-	-	-	-
Netherlands	45.5%	72.7%	61.6%	78.4%	81.1%	72.1%	83.5%	85.0%	86.6%	87.3%
New-Zealand	-	-	-	-	-	-	-	-	-	-
Norway	3.6%	3.9%	4.2%	4.6%	5.1%	4.7%	5.7%	6.6%	6.6%	7.3%
Poland (2)	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Portugal	-	-	1.4%	1.9%	3.2%	2.9%	5.6%	7.3%	8.0%	9.9%
Spain	-	0.1%	0.4%	1.5%	3.0%	2.8%	2.1%	2.3%	3.1%	3.8%
Sweden (5)	33.4%	30.9%	30.6%	31.0%	38.6%	29.6%	27.1%	25.7%	30.5%	32.6%
Switzerland	74.7%	64.5%	71.3%	72.5%	75.5%	74.7%	82.2%	86.5%	104.3%	*117.1%*
Turkey	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
United Kingdom	62.3%	58.2%	65.0%	59.7%	64.1%	58.2%	72.4%	69.2%	73.2%	*74.7%*
United States	35.7%	36.8%	36.3%	38.1%	48.0%	46.2%	53.4%	50.6%	58.9%	58.2%

Sources: OECD/DAFFE; "-" : data not available; data in italics: OECD estimates.

Notes:

(1) Pension Funds not existant prior to 1994.

(2) GDP-concept not existant prior to 1990.

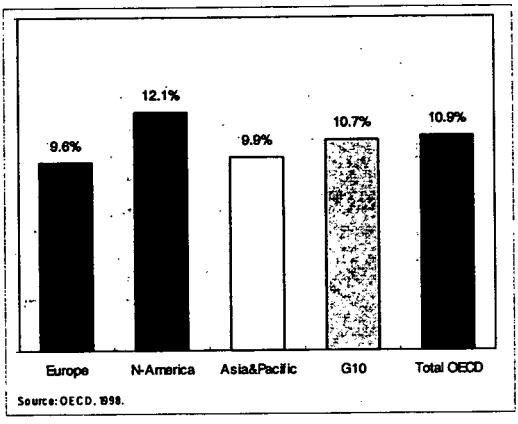
(3) Including company pension funds from 1995 on.

(4) Including company pension funds from 1993 on.

(5) 1983-1992: including first pillar assets.

121. This range provides a broad indication of the scope for further growth of pension fund assets in ageing countries with relatively underdeveloped pre-funded systems. For example, the larger continental European countries could see pension fund assets grow from 5 per cent of GDP to the current OECD average of nearly 38 per cent or, even more dramatically, to the US level of around 60 per cent.

Figure V.1. Average annual growth rate of total asset holdings by pension funds, regional breakdown, 1990-96



their rates of return have differed significantly across countries....

122. The financial rates of return on pension assets have varied significantly across countries. Over the 1967-1990 period, the average annual real total return ranged from close to zero in Sweden to close to six per cent in the United Kingdom. In a few counties the rates were no higher than the growth in average earnings (and in Sweden they were significantly lower), whereas they were significantly higher than the growth in labour income in several countries. As discussed below, the variability of returns across countries appears to be related to different regulatory structures and other structural factors.

and may fall as the population ages.

123. Future demographic trends may, however, weigh down rates of return on financial assets. As members of the baby boom generation starts to move into retirement in 10-20 years time, they will most likely be net sellers of at least some of the financial assets they have accumulated over their working lives. The younger generation is much smaller in size, hence there is a possibility that financial asset prices will be depressed. Furthermore, and again because the younger generation is smaller in size, there will be an increase in the amount of physical capital relative to the size of the labour force, and this will tend to drive down rates of return on real capital assets. Thus, there is a possibility that the retired baby boom generation will find that retirement income from pension funds is lower than would be expected based on extrapolation of current trends.

124. The possible future effects of ageing on financial rates of return have potentially important implications for the management of pension funds, and more broadly, retirement saving. First, the historical average rates of returns to pension funds and the equity premium may not be appropriate either for calculating expected future returns to pension assets or for drawing implications about whether baby boomers are saving enough for retirement. This is a particularly important issue for defined-benefit

pensions. Second, pension managers (and individual savers) need to plan for the possible decline of equity and bond prices as the baby boomers start liquidating their savings and pension assets to finance consumption during retirement[40].

Government regulations of private pension assets

125. Changes in the regulatory environment could potentially raise the performance of pension funds. Given the importance of pension assets for contributors, governments tend to subject pension funds to various regulations to ensure the interests of their members. If regulations put disproportionate emphasis on reducing risks, this may be reflected in lower asset yields. Moreover, traditional restrictions for reducing risks may be inefficient in the new financial landscape because of financial engineering. Regulatory reforms in the area might be able to allow pension funds to increase their earnings capacity for a given level of risk, provided that the funds adopt modern risk control standards and risk management systems.

Two basic approaches to regulate private pension assets ...

126. Governments have regulated private pension funds by either "asset restriction" or "prudent person" (usually referred to as "prudent man") investment rules. In the "asset restriction" approach the authorities impose quantitative restrictions on the assets which can be included in pension funds' portfolios: funds may be requested to hold a minimum amount of safe assets, such as government bonds; there may be a limit on the share of foreign assets in general or assets from certain geographical areas in particular; there may be restrictions to what extent investment in non-quoted companies are permitted; etc. Under the "prudent person" principle, quantitative restriction are not applied, but fund managers are expected to behave as careful professionals in making investment decisions.

... of which the "prudent person" rule has resulted in better financial outcomes.

127. It is difficult to determine the exact quantitative impact of the different regulatory structures on the investment performance of pension funds. However, by comparing the aggregate returns on pension fund portfolios in countries that have less restrictive "prudent person" investment rules with those of countries that have stricter quantitative restrictions, it is possible to get a very broad or rough indication of the *relative performance* of the pension fund management industry.

128. The evidence indicates that over the period 1967-1990, pension funds' portfolio returns have been higher in "prudent person rule" countries, exceeding the growth of average wages (Table V.2). However, it is important to note that these differences in returns may be the result of factors other than differences in regulatory arrangements, including macroeconomic policies, structural factors that influence economic growth (e.g. capital market segmentation, discoveries of mineral wealth, etc.) and various features of the institutional infrastructure. In countries with quantitative investment limits the difference between financial returns and wage growth was on average zero. It is of interest to note that a different allocation of assets (i.e. by constructing artificial diversified portfolio by holding 50 per cent equity and 50 per cent bonds between 1967 and 1990) would not have significantly improved average real financial returns in "prudent person rule" countries while financial returns would have been significantly

40. See also the considerations below concerning the impact of population ageing on the so-called risk premium.

higher in countries with portfolio limits (but also more volatile). International portfolio diversification would have yielded somewhat higher results (and lower risk) in "prudent person" countries but not in countries with quantitative investments limits (although risk would have been lower) [see Table V.2].

Table V.2. Returns on pension fund portfolios 1967-90, mean of real total return in local currency, standard deviations in brackets

	Portfolio Return (1)	Domestic Artificial Portfolio (2)	Domestic and International Artificial Portfolio (3)	Average Earnings Growth	Portfolio Less Average Earnings
Australia	1.6 (14.7)	2.7 (16.1)	2.8 (15.1)	0.7 (3.4)	0.9
Belgium	-	4.2 (18.4)	3.8 (16.7)	-	-
Canada (4)	1.6 (9.8)	2.2 (11.2)	2.2 (10.8)	1.7 (2.6)	-0.1
Denmark	3.6 (12.7)	5.3 (18.9)	4.6 (13.4)	2.8 (3.6)	0.8
France	-	5.2 (18.0)	4.9 (15.9)	4	-
Germany	5.1 (4.4)	6.1 (15.2)	6.2 (13.4)	4 (3.1)	1.1
Ireland (4)	5 (11.9)	3.8 (13.3)	3.8 (12.4)	2	3
Italy	-	1.9 (22.1)	2 (18.7)	3.1 (4.3)	-
Japan	4 (9.4)	5.5 (15.5)	5.3 (14.3)	4.2 (4.2)	-0.2
Netherlands (4)	4 (6.0)	4.5 (17.0)	4.2 (15.2)	2.4 (3.2)	1.6
Sweden	0.2 (7.6)	3.8 (13.5)	3.7 (15.2	1.5 (3.5)	-1.3
Switzerland	1.5 (6.4)	2 (15.4)	2 (12.3)	1.9 (2.1)	-0.4
United Kingdom (4)	5.8 (12.5)	3.8 (14.8)	3.7 (14.1)	2.6 (2.5)	3.2
United States (4)	2.2 (11.9)	2.1 (12.9)	2.8 (12.5)	0.2 (2.1)	2
Prudent Man	3.4 (11.1)	3.2 (14.2)	3.3 (13.4)	1.6	1.8
Asset Limits	2.9 (8.1)	4.5 (15,7)	4.4 (13.7)	2.9	0

Source: E. P. Davis (1997), Regulation of Pension Fund Assets, In: Institutional Investors in the New Financial Landscape, OECD, Forthcoming.

Notes:
(1) Estimated return on actual pension fund sector portfolios.
(2) 50 per cent domestic equity, 50 per cent domestic bonds.
(3) 40 per cent domestic equity, 40 per cent domestic bonds, 10% foreign equity, 10% foreign bonds.
(4) Countries with prudent man principle.

129. Financial returns covering more recent periods show that the "prudent person rule" countries continue to outperform the pension funds from countries with quantitative investment limits. Thanks in large part to booming stock markets in most OECD countries (with Japan as a notable exception) the difference in financial returns between "prudent person" and "asset restrictions" countries widened from 2.6 percentage points in the period 1984-1993 to 4.3 percentage points in the period 1984-1996 (Table V.3).

Table V.3. Returns on pension fund portfolios 1984-96

	1984-1993	1984-1996
Belgium	8.8%	9.0%
Denmark	6.3%	6.0%
Germany	7.2%	7.0%
Ireland (*)	10.3%	11.0%
Japan	6.5%	-
The Netherlands (*)	7.7%	8.0%
Spain	7.0%	-
Sweden	8.1%	-
Switzerland	4.4%	4.0%
United Kingdom (*)	10.2%	10.0%
United States (*)	9.7%	9.0%
Prudent Man	9.5%	9.5%
Asset Limits	6.9%	5.2%

Sources: EFRP Report, June 1996; Pragma Consulting; and OECD Staff Calculations.
Note: (*) Countries with prudent man principle.

Financial engineering may be undermining the effectiveness of traditional regulation ...

130. The new financial landscape has made many of the conventional risk controls less effective or even obsolete (e.g. investment only in high-grade securities, quantitative limits on asset allocations, restrictions on average maturity, currency prohibitions, etc.)[41]. Against this backdrop, the role and scope of existing regulations of pension funds should be assessed taking account of the extent to which the implementation of sound risk management standards for pension funds can be linked to a relaxation of regulatory constraints concerning asset allocation. In doing so, one would ensure that those making the risk-return trade-off decisions on behalf of pension beneficiaries would be well-informed, have the proper incentives and be adequately supervised. In this context, consideration should be given to a supervisory framework best suited to deal with investment risks in the new financial landscape characterised by financial engineering and more complex risk situations.

131. The preferred regulatory approach in the age of financial engineering seems to be "prudent person" principles and risk management standards for both asset managers and pension plan sponsors that adequately address risk management activity. However , the question whether a prudent-man rule is better suited than quantitative restrictions on asset allocation is also dependent on the specific circumstances of the countries concerned. The prudent-man principle can be more readily implemented in countries with a modern financial infrastructure, including a professional asset management industry and the availability of sophisticated models and techniques to measure risk adequately.

...requiring guidelines on risk accounting standards

132. The implementation of risk management systems requires the adoption of a proper risk accounting framework. This will require more sophisticated investment guidelines based on sound risk management standards that take into account the unique characteristics of pension funds and other

41. Analysts have pointed out that new and structured products make conventional risk control guidelines inadequate. Reasons include financial engineering that renders some guidelines (in particular quantitative ones) less effective and difficulties in formulating sufficiently specific investment guidelines.

institutional investors. In this context, it has been suggested that financial accounting needs fundamental revisions to develop a specialised new branch called "risk accounting". Traditionally, the financial accounting system focuses on value allocations (e.g. on the balance sheet of a hypothetical bank the accounting system indicates the value of assets on the left-hand side, and the value of deposits and the bank's capital on the right-hand side). Conventional financial assets (equity, bonds, loans, etc.) can be measured in a traditional accounting system (book or market valuation). However, swaps and other off-balance sheet contractual arrangements cannot be incorporated in a similar value framework. The traditional accounting system is therefore not very suitable to identify risk allocations. Although contracts like interest-rate swaps and future contracts have no initial value, they can have an immediate and significant impact on the risk exposure of the various assets and liabilities on the balance sheet of pension funds and other institutional investors. Changes in accounting structure and methodology are required to address this inadequacy by developing risk accounting standards.

133. The prospect for such development is not just prospective and theoretical. Pressed by the reality of the marketplace, financial firms that deal extensively in complex securities have already developed risk accounting protocols as part of their internal risk management systems. With the benefits of real-world experience, these protocols could serve as prototypes for standardised risk accounting.

Regulations concerning the capital market infrastructure are of critical importance

134. In addition to an appropriate regulatory framework for pension funds, a well-functioning advance-funded pension system requires a stable, sound and efficient financial market infrastructure. The financial infrastructure consists of the legal framework; the financial accounting system; the regulatory and supervisory framework; clearing and settlement systems; and the micro-structure for trading securities.

135. Most OECD countries have made considerable progress in the development of a solid regulatory and supervisory framework, although progress has been uneven. Nonetheless, important weaknesses remain. Several OECD countries have not established the proper legal and regulatory basis for dealing with take-overs, minority shareholders protection, insider trading and institutional investor operations [42].

136. Differences in disclosure requirements among countries are significant, partly due to different legal systems. In emerging markets, the ability of regulators to monitor and enforce disclosure may be weaker than in more mature markets. The international community has been working on the harmonisation of disclosure requirements. Accounting standards are key because disclosure will be effective only if the financial information provided by the company is based on solid accounting principles and practices. Internationally acceptable accounting standards are essential for pension funds to be able to assess accurately the "value" of investments. In parallel, auditing standards and practices also need to be high enough to ensure the reliability of disclosed information.

International portfolio diversification and pension funds

137. Pension funds can attempt to increase the overall rate of return on their portfolio by increasing their cross-border investments. As discussed in Chapter II, it would be beneficial, in principle, for OECD savers to invest in the younger non-OECD economies, and take advantage of potentially higher rates of

42. OECD, forthcoming.

return in these relatively capital-poor countries[43]. However, potential benefits of this strategy need to be carefully balanced against the risks and costs involved.

Returns in emerging markets have not been higher than in the OECD area ...

138. There are a number of factors that reduce the potential benefits of the diversification of the financial portfolios of OECD pension funds[44]. These include investment-risk related to poor financial infrastructure, political risk, impact of capital exports on OECD security prices, and financial fragility in emerging markets. To some extent, these concerns can be addressed by investing in securities issued by multinational companies or through the use of swaps and other derivative securities. The development of derivative securities markets on a global scale makes possible the linking of diverse national systems to exploit new possibilities for the efficient international transfer of risks as well as resources. Thus, national pension funds can retain the capital resources invested by their own pension funds, yet gain the benefits of international pooling of risks through such devices as international equity swaps[45].

139. A closer look at stock market returns and equity risk in emerging equity markets gives reason to be cautious. Although the growth record shows that in the period 1985-1995 the OECD countries have tended to grow more slowly than the developing or emerging economies, this has not been uniformly reflected in stock market returns. In fact, over the last 10 years, the G7 stock markets have given better returns than the emerging markets. The record shows that the Saving & Poor 500 basket has produced better returns per month than the average of all the emerging markets (Figure V.2). The same conclusion is valid for data recorded over the last five years. Average monthly returns in Latin America and Asia were somewhat higher than the S&P 500, but at the price of significantly higher risks[46]. These prudent assessments represent best guesses of the future. Naturally, the future might bring better news in terms of higher expected returns or lower risks. Prospects will improve if policy makers in the non-OECD area persevere with further improvements in the financial infrastructure in emerging securities markets and strengthen the domestic institutional investor base[47].

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43. Reisen, 1997.

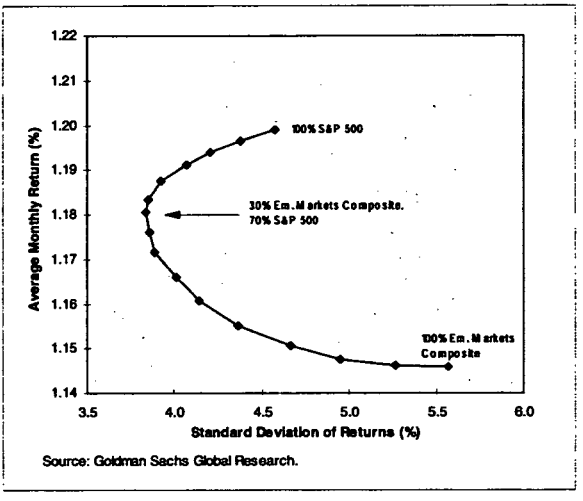
44. Blommestein, forthcoming.

45. Merton, 1989.

46. One might argue that in view of their long-term liabilities, pension funds should not care about short-term (e.g. monthly) volatility because market risk declines in the long run. In fact, the probability of an extreme shortfall (or maximum possible loss) actually grows over time. Put differently, if a pension fund based its investment decisions purely on the probability of making or losing money, it might make sense to invest more in the stock market when the investment horizon would be lengthened. But, when investment decisions are made on measures such as average return (mean) and risk (variance of return), there is not much presumption (if any) that stocks are safer for long-run investments.

47. World Bank, 1997; Blommestein, 1997.

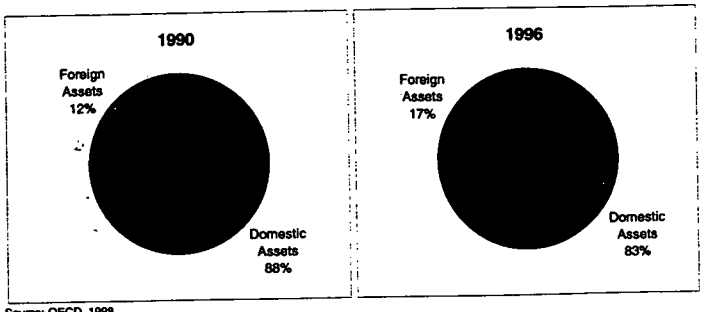
Figure V.2. Risk vs. return: emerging markets and US stocks



...and OECD pension funds have strong home bias ...

140. In most OECD countries, only a relatively small portion of pension funds' assets are currently invested in foreign assets. Among G-10 countries, only pension funds in Belgium, the Netherlands and the United Kingdom have very significant foreign asset holdings, of which only a small portion is invested in emerging markets. For those G10 countries with significant pension fund holding, the share of foreign assets (including emerging market securities) increased from 12 per cent in 1990 to 17 per cent in 1996 (Figure V.3).

Figure V.3. Foreign assets in portfolios of pension funds in selected(*) G10-countries



Source: OECD, 1998.
(*) Belgium, Ireland, Japan, Netherlands, Switzerland, UK, US.

141. Hence, total holdings of emerging securities markets assets by OECD institutional investors is relatively low. Surveys suggest that US pension funds and mutual funds currently have about 2 per cent of their assets invested in emerging markets. Emerging market exposure of UK pension funds and mutual funds is somewhat higher (3-4 per cent) but Japanese and continental European institutional investors have negligible emerging market assets in their portfolios. All the evidence points to the fact that all types of institutional investors are much less internationally diversified than the world market portfolio. Pension fund portfolios display a strong home bias[48].

though they can be expected to increase their international exposure in the future.

142. Against the backdrop of continued efforts to liberalise cross-border financial flows and to develop and strengthen capital markets in capital-importing countries, OECD pension funds and other large institutional investors will continue to seek to increase their exposure to international markets and to achieve greater diversification of portfolios. The extent to which they will increase their investments in emerging markets will depend on how returns and risks evolve in the future. Returns could go up and risks down if policy makers in the non-OECD area persevere with further improvements in the financial infrastructure and strengthen the domestic institutional investor base[49].

143. Recently, analysts have pointed out that the benefits of international portfolio diversification may be decreasing[50]. It is argued that increasing financial integration is leading to an increase in correlation of returns, in particular on the bond markets. The increase of integration of bond market -- especially in Western Europe -- has reduced the potential for reducing risk on a bond portfolio through diversification. Moreover, the fact that an increasing amount of institutional money is managed using the concept of diversification is likely to increase financial integration and, therefore, may cause the benefits of diversification to get smaller. High correlation of returns between countries has in some cases led to a

48. Reasons for this home bias are given in OECD Financial Market Trends no 68, November 1997.

49. World Bank, 1997; Blommestein, 1997.

50. Kessler, 1996.

restructuring of portfolios by diversifying by sectors. Also the correlation between OECD stock markets and equity markets in emerging countries have increased. Table V.4 shows the increase in correlation between US and emerging stock markets.

Table V.4. The benefits of diversified risk - correlations between US and emerging markets.

	Correlation Between S&P 500 and:	
	1975-95	1990-95
All Emerging Markets	0.27	0.41
Latin America	0.24	0.38
East Asia	0.16	0.27
South Asia	0.24	0.23
Africa	0.07	0.03

Source: ICFA

Financial market implications of expanding private pension funds

Deeper and more liquid financial markets ...

144. In countries where pension funds are relatively important, financial markets are deep and liquid, and stock-market capitalisation is a high percentage of GDP. This is probably no coincidence. In societies where a growing number of older citizens derive a significant proportion of their income from their indirect ownership of capital, financial intermediation has to be more substantial than in countries where the retired derive their income by transfer from those working. The growth of the advance-funded pension system may lead to an increase in the supply of risk capital and productivity improvements and, therefore, generate extra growth of real resources. Whether this happens or not depends on various factors, including the internal and external investment rules for the different types of pension funds, the availability of projects with a high return, the quality of the market infrastructure, the degree of liquidity of the capital market, the tax regime, labour market flexibility, further deregulation, etc. More generally, the growth of advance-funded pension schemes can be expected to contribute to the development of an "equity culture". In addition, in many OECD countries, pension funds are not willing (or able) to provide equity investment in start-up companies, unlisted companies, leveraged buy-outs, and in other forms of private equity. The exceptions are countries with a large advance-funded pension sector.

145. Clearly, regulations in the form of quantitative constraints on how much the various types of pension funds are allowed to invest in risk capital constitute potential obstacles to making institutional funds available for private sector projects. Onerous restrictions would also reduce the potential positive external effects, associated with a switch from pay-as-you-go to a advance-funded systems, on financial market development and capital formation and productivity. For these reasons, many analysts have argued in favour of abolishing or relaxing these quantitative constraints. The challenge for regulators is to balance the fiduciary responsibilities and risk factors, on the one hand, and return on investment, on the other.

...and more innovative financial products.

146. Sophisticated trading arrangements and investment techniques have been developed in response to the needs of pension funds and other institutional investors. The growing importance of institutional investors is generating also an increasing demand for risk-transfer techniques, which enable the investor to

choose the desired combinations of return and risk. Such techniques include both securitisation, which enables the investor to transfer the credit risk as well as the market risk, and derivatives, whereby market or price risk is reallocated among participants. The demand for risk-transfer techniques has been strongly driven by the nature of the liabilities of the different types of pension schemes and regulatory requirements. For example, defined-benefit schemes and strict minimum-funding requirements have stimulated demand for hedging by pension funds. In order to minimise the costs of hedging, pension funds and life-insurance companies have an incentive to immunise their defined-benefit liabilities via an investment strategy of duration matching.

147. However, the increased importance of private pension funds in many countries has not been accompanied by improved annuity markets. This is related to adverse selection problems, leading to the non-availability of annuities at an actuarially fair price for good risks[51]. Although recent evidence for the United States indicates that the expected pay out on annuity policies has increased significantly, there seems to be still a need, in view of the growing importance of these markets for managing longevity risks, to investigate further what public policy role there may be for improving annuity markets. Several solutions can be envisaged. For example, the encouragement of the development of *variable* or *participating* annuity markets in which people buy annuity units whose prices fluctuate as market conditions change.

Systemic concerns

Pressures on financial asset prices and the development of the risk premium

148. There have been concerns that the growing demand for high-quality private securities (equity and corporate bonds) associated with the growth of advance-funded pension systems and falling public sector borrowing requirements would put strong upward pressure on financial asset prices, and downward pressure on their returns, which are the ultimate source of income for the retired. In this context, the linking of privatisation of state-owned enterprises and pension reform offers opportunities to achieve important synergies. Undertaking pension reform (leading to an increase in demand for equity) and privatisation (leading to an increase in supply) at the same time permits, at least over the medium-term, a more balanced growth in private securities markets.

149. In a somewhat longer-term perspective, population ageing may have an impact on the risk premium (i.e. the difference between the returns on stocks and the yield on bonds). Because asset preferences vary across age groups, the ageing of the baby boom generation could affect both absolute and relative levels of stock and bond prices. On average, middle age is the portion of the life cycle when saving rates are highest[52]. Moreover, middle-aged workers generally are more able and willing to hold a riskier portfolio; that is, one weighted more heavily towards stocks than bonds.[53] This is a consequence of two factors: 1) while still working, a stockholder is better able to make up for any bad equity returns, and

51. Friedmann and Warshawsky, 1990; James, 1997; and Blommestein, forthcoming.

52. This type of saving behaviour is a feature of both a theoretical life-cycle model and, more importantly, the type of saving behaviour seen empirically in household data.

53. The real return on United States stocks, for example, averaged 9 per cent over the period 1947-96 with a standard deviation of 17 per cent. This implies that there is about a 30 per cent probability of a decline bigger than minus 8 per cent or a rise bigger than 26 per cent in any given year. The average real return on long-term United States government bonds over 1953-96, however, is much lower -- 3 per cent -- but also less volatile -- these returns have a standard deviation of 2 per cent.

2) in middle age, workers have a longer time horizon and thus are willing to accept more risk in exchange for the expectation of higher returns. In this case, the ageing of OECD populations will tend to increase the demand of stocks and bonds, exerting downward pressure on their rates of return. Moreover, higher demand for stocks relative to bonds should increase the price of stocks relative to bonds; i.e. decrease the equity premium[54]. After the baby boomers begin to retire, saving rates would tend to fall, stock and bond prices to decline, and the equity premium to rise as baby boom retirees shift their portfolios away from stocks toward bonds.

Volatility and stability of financial markets

150. In situations with no liquidity problems, there is nothing inherently wrong with the computerised portfolio insurance/programme trading strategies used by pension funds and other institutional investors, and herding may move prices quicker to their fundamental (i.e. equilibrium) values. If, in contrast, investment strategies are contrary to fundamentals, herding and computerised trading strategies may cause a rise in extraneous volatility. Pension funds have the trading technology and financial muscle to move markets rapidly, thereby inducing a possible increase in short-term volatility. Increased financial instability would be welfare-decreasing when institutional investors engage in "noise" trading or herding behaviour, leading to under- or overshooting of equilibrium prices. Moreover, recent periods with market turbulence seem to suggest that even very large financial institutions are not always willing or able to act as market makers in situations of massive imbalances between supply and demand in some markets. In these situations markets may become less liquid and more volatile, in particular the smaller ones.

151. Against this backdrop it can be argued that pension funds may find themselves exposed to a risk that is hard to quantify or anticipate, namely the risk that by their own investment decisions they may affect the direction of the markets in which they are operating and, thereby, over(under)shooting fundamental values. There may be a growing tension between what is reasonably prudent for the individual fund, and what is prudent for them collectively. The desirability of better monitoring of the financial market behaviour of pension funds and other financial institutions involved in the provision and management of retirement assets as well as the need for the implementation of better disclosure practices by market participants, will increase. Better monitoring would require improved statistics on financial assets of the institutional sector (including the gross stock of outstanding foreign assets and gross cross-border investment flows); better understanding of the investment and trading strategies of pension funds and other institutions, and their impact on the functioning of financial markets; periodic assessment of the consistency and adequacy of the various regulatory and supervisory agencies involved in the retirement income system.

Solvency risk and government intervention

152. It cannot be excluded that even a well and prudently managed pension fund would find itself in difficulties in conditions of a general and protracted period of depressed asset prices and returns. And not all funds have been well or prudently managed in the past. The spectacle of many citizens finding themselves bereft of adequate income on retirement would probably generate pressure on governments to

54. It is generally held that risk aversion increases with age holding length of life constant. Thus, some have hypothesised that an ageing population would cause the equity premium to increase. But if the age of the population is increasing at least in part because life span is increasing, and thus time horizons are lengthening, then the ageing of the population does not necessarily imply that average risk aversion should be increasing and risk premium on stocks should be rising.

intervene in future, as in the past. There is a delicate trade-off here between individual and collective interests because of potential moral hazard problems[55]. If the government is perceived to be, in effect, guaranteeing a certain minimum return, the moral hazard risk is obvious. Setting up an explicit system of government pension guarantees might therefore inadvertently encourage excessive risk taking or inadequate funding by private pension sponsors[56]. The experience of financial policy makers in the design and operation of deposit guarantee systems seems especially relevant in this context.[57] Government interference might also impede the development of private mechanisms for insuring savers against losses. Properly designed privately funded safety net arrangements, such as insurance systems organised and financed by private market participants, could in principle limit the costs of managing financial pension fund crises while at the same time be successful in fostering confidence in the retirement income system.

153. In any event, the likelihood of an increased public policy interest in extreme circumstances points to the need for at least some government oversight, in particular when the financial position of pension funds with defined-benefit plans would deteriorate dramatically so that there will be a large short-fall in honouring promised benefits. Effective regulation and supervisory oversight of the financial situation of pension funds is indispensable for the development of sound private systems (see Box V.1). The primary objective is to protect beneficiaries from the effect of sponsor's insolvency, insufficient funding of the plans reflecting improper technical and/or investment decisions, misappropriations by managers or the risk of default by other operators involved in the provision of pensions[58]. Appropriate criteria should guide the licensing of pension operators and plans; proper funding, actuarial, accounting and disclosure requirements as well as limits on self-investment should be set in place. Adequate competition among retirement asset managers should also be ensured. Continued attention needs to be paid to the evolution of market practices so as to ensure that supervisory methods are adapted to the realities of the marketplace. Monitoring and understanding of developments in other countries may be particularly helpful in this regard.

55. Merton and Bodie, 1992.

56. Bodie and Merton, 1992.

57. Bodie, 1996.

58. For a detailed analysis of regulatory aspects, see Laboul, forthcoming. (Also on Internet as AWP 2.2. See Annex 2.)

Box V.1. Regulatory policies related to private occupational schemes

The following principles should be at the core of the regulatory framework for ensuring financial security of private occupational schemes: (*)

- strict enforcement of an institutional and functional licensing system on the basis of adequate legal, accounting, technical, financial and managerial (competence and honourability) criteria
- legal separation of the fund from its sponsors or, at least, requirement of appropriate guarantees (e.g. reinsurance or insolvency insurance)
- prohibition of private unfunded pay-as-you-go schemes at company level
- minimum requirements for equity capital or equivalent solvency rules
- favourable tax treatment of over-funding/surplus
- establishment of minimum funding rules
- appropriate valuation and funding calculation methods, including actuarial techniques and amortisation rules
- transparent accounting methods based on comparable standards
- enhancement of ongoing supervision of the funds, including through the transmission of information to the authorities
- strict limitations on self investments, unless appropriate safeguards exist
- liberalisation of investments abroad, subject to prudent management principles
- adequate regulation of insurance coverage of the fund (through group insurance or reinsurance)
- setting up standards for adequate information and disclosure to the beneficiaries
- promotion of self-regulatory practices for fund managers
- granting of priority rights to the fund in the event of employer's winding up
- assessment of the role of insolvency insurance and other guarantee schemes
- levelling of the playing field among operators

(*) For a detailed analysis of the scope and applicability (e.g. defined-benefit or defined-contribution schemes), see A. Laboul, *Private Pension Systems: Regulatory Policies*, OECD, 1998.

Corporate governance issues

154. One purported advantage of the growth of equity markets with active pension funds as investors is that it provides alternative governance channels for influencing corporate decision-making. The growth of a dynamic institutional sector may contribute to a stronger role of capital market intermediation in so-called bank-based financial systems. In particular, pension funds that are investing significant parts of their portfolios in equities would pressure for changes in laws and regulations of companies that usually can be found in "bank dominated" financial systems. In addition to a modernisation of the capital market infrastructure, pension funds can be expected to push for a move to laws and practices that would better protect the interests of equity holders. These include take-over codes, insider information restrictions,

limits on dual classes of shares which seek to protect minority shareholders, as well as fair treatment of creditors in bankruptcy to protect their holdings of corporate bonds.

155. Fund managers have been accused of "short-termism", but there is very little evidence that companies subject to pressure from pension funds have sacrificed long-term profitability[59]. In this context, it has been argued that pension funds own such a large percentage of the market that two of the factors driving short-term orientation -- the need for liquidity and the competitive advantages of active fund management -- are no longer important, or even prudent. The massive size of some funds substantially removes the option of full dis-investment from a company due to the potential adverse impact on share price. In addition, the growth of indexed portfolios also means that funds are obliged to follow the view of the market. In effect, the large institutional investors are already "patient investors". This view may help explain why the larger pension funds have become more active in influencing the business behaviour of companies where they are holding large investments.

156. Several empirical studies of the impact of shareholder activism by pension funds demonstrate that institutional investor monitoring of management is associated with statistically significant value gains, including stock price appreciation and increased financial performance. The little evidence that is available indicates that many target companies are poorly managed and that resources spent on identifying and restructuring those under-performing companies can create opportunities for earning higher-than-average returns.[60]

157. The growing importance of pension funds as owners of productive assets (see Table V.5 and Figure V.4) has fuelled the debate about the formalisation of the corporate governance process. This formalisation embodies a commitment to exercise fiduciary responsibilities (e.g. voting) in accordance with published guidelines. This shift represents a major improvement over situations in which governance activities were exclusively conducted in an informal fashion (e.g. private conversations between fund managers and the management of companies) and without a clear accountability framework.

59. Blommestein, forthcoming.

60. OECD, forthcoming.

Table V.5. Portfolio composition of pension funds' assets in selected OECD countries

In percent of billion of US$ (end of year)

		1990	1991	1992	1993	1994	1995	1996
BELGIUM	Total Assets (Bn US$)	4.8	5.5	5.5	6.0	7.1	10.2	11.0
of which:	Bonds	47.70%	47.80%	50.50%	47.40%	47.00%	46.40%	43.00%
	Shares	27.60%	33.00%	31.10%	38.20%	36.00%	39.50%	41.11%
	Others	24.70%	19.20%	18.40%	14.40%	17.00%	14.10%	15.88%
CANADA (1)	Total Assets (Bn US$)	170.6	187.1	185.4	195.4	204.2	229.4	249.2
of which:	Bonds	56.41%	52.58%	50.03%	48.85%	46.73%	45.16%	43.74%
	Shares	25.37%	26.53%	27.20%	27.83%	28.09%	29.34%	29.28%
	Others	18.22%	20.90%	22.77%	23.32%	25.18%	25.50%	26.98%
FRANCE	Total Assets (Bn US$)	*41.0*	*42.2*	*42.0*	*41.0*	50.8	66.2	*86.5*
of which:	Bonds	*30.00%*	*30.00%*	30.00%	*39.00%*	39.00%	38.02%	*37.06%*
	Shares	*20.00%*	*20.00%*	20.00%	*20.00%*	14.00%	13.58%	*13.17%*
	Others	*50.00%*	*50.00%*	50.00%	*41.00%*	47.00%	48.40%	*49.76%*
GERMANY	Total Assets (Bn US$)	54.9	60.0	100.4	106.0	110.8	126.7	136.3
of which:	Bonds	45.01%	44.64%	82.00%	78.08%	75.00%	74.10%	*77.79%*
	Shares	0.02%	0.19%	3.00%	7.17%	11.00%	7.70%	*5.73%*
	Others	54.96%	55.17%	15.00%	14.75%	14.00%	18.20%	*16.48%*
ITALY	Total Assets (Bn US$)	-	7.3	13.9	17.1	22.7	28.7	*36.3*
of which:	Bonds	-	63.01%	63.31%	63.32%	62.43%	63.04%	*63.66%*
	Shares	-	6.85%	6.85%	6.69%	8.90%	7.71%	*6.68%*
	Others	-	30.14%	29.84%	29.99%	28.68%	29.25%	*29.66%*
JAPAN	Total Assets (Bn US$)	1111.6	1288.3	1389.2	1752.5	2318.7	2085.9	1919.7
of which:	Bonds	57.97%	61.07%	61.30%	62.58%	49.50%	51.60%	52.60%
	Shares	31.59%	29.63%	29.35%	29.19%	23.90%	26.00%	27.00%
	Others	10.44%	9.30%	9.34%	8.23%	26.60%	22.40%	20.40%
NETHERLANDS (2)	Total Assets (Bn US$)	222.5	235.4	232.0	261.3	286.8	344.3	345.7
of which:	Bonds	68.91%	69.29%	66.40%	*61.32%*	58.00%	63.00%	50.10%
	Shares	17.90%	16.50%	19.00%	*24.90%*	30.00%	26.00%	38.00%
	Others	13.19%	14.21%	14.60%	*13.78%*	12.00%	11.00%	11.90%
SWEDEN	Total Assets (Bn US$)	71.2	92.4	73.2	50.4	51.0	70.7	82.0
of which:	Bonds	93.10%	93.15%	92.43%	*92.43%*	47.00%	62.14%	58.49%
	Shares	5.67%	4.11%	4.66%	*4.66%*	32.00%	27.59%	35.35%
	Others	1.23%	2.74%	2.91%	*2.91%*	21.00%	10.27%	6.16%
SWITZERLAND	Total Assets (Bn US$)	165.5	175.7	181.8	194.6	226.0	321.5	*344.8*
of which:	Bonds	59.71%	63.04%	62.98%	63.00%	55.66%	54.00%	*53.26%*
	Shares	10.50%	11.01%	11.00%	11.00%	15.34%	20.00%	*21.44%*
	Others	29.79%	25.95%	26.03%	26.00%	29.00%	26.00%	*25.29%*
UNITED KINGDOM	Total Assets (Bn US$)	582.3	648.5	610.3	683.1	706.0	810.0	*861.9*
of which:	Bonds	13.01%	13.01%	12.02%	10.00%	11.00%	13.90%	*13.07%*
	Shares	69.98%	74.98%	77.01%	81.00%	80.00%	77.60%	*79.34%*
	Others	17.01%	12.02%	10.97%	9.00%	9.00%	8.50%	*7.59%*
UNITED STATES(3)	Total Assets (Bn US$)	2118.0	2742.0	2908.0	3383.0	3401.0	4140.0	4303.0
of which:	Bonds	36.21%	33.59%	33.77%	34.68%	34.68%	33.87%	32.41%
	Shares	49.48%	52.30%	52.13%	53.54%	53.54%	55.68%	57.64%
	Others	14.31%	14.11%	14.10%	11.78%	11.78%	10.25%	9.95%

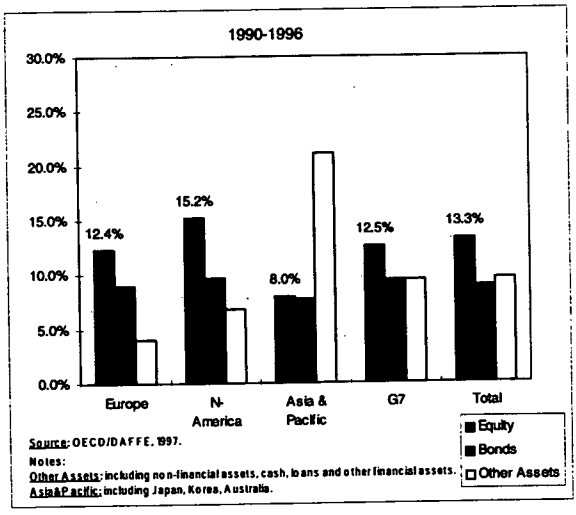
Source: OECD/DAFFE; Pragma Global Asset Consulting; "-": data not available; data in italics: OECD estimates.

(1) Data on Canadian holdings of foreign loans, bonds and shares are not available separately, herein as 'Others'

(2) Asset structure excludes ABP and PGGM in 1993; ABP in 1996.

(3) Asset structure for Corporate DB plans only.

Figure V.4. Pension funds' annual average growth rate of equities, bonds and other assets, regional breakdown, 1990-1996



Source: OECD/DAFFE, 1997.

Notes:

Other Assets: including non-financial assets, cash, loans and other financial assets.

Asia&Pacific: including Japan, Korea, Australia.

VI. ACTIVE AGEING – REFORMS IN EMPLOYABILITY, HEALTH, AND LONG-TERM CARE

Summary

The question whether there will be jobs for an increasing supply of older workers has been much studied. The balance of evidence suggests that age itself may be not the fundamental barrier to employability, especially given likely occupational trends. Today, many older workers face difficulties in finding employment because of deficiencies in their education. Some of the problem will be solved as a result of higher education levels of future cohorts of older people, but even more emphasis will need to be placed on human resource development in the future for the whole population, not specifically for older workers. Lifelong learning is needed.

Recent evidence suggests that people now have the capacity to be active in society beyond the age of 70, and that serious incapacitates are concentrated in the last two to four years of life. There is no biological reason for terminating work in people's 60s. However, data suggests increasing passivity in both the labour market and other domains of life as people grow older, especially beyond retirement ages. Lifelong learning and more flexible work-retirement transitions may help break down the tripartite division of life that appears to be an important factor in this passivity.

Older people, especially very old people, require more frequent medical care and far more long-term care. There is ample of evidence that more efficient ways of curing and caring are feasible for older patients. While the long-term care system is much less costly than the health care system, it is more in need of reform. Reforms should aim at better integration of health and long-term care, more equitable access to care, and improved protection against the financial risks associated with disability.

158. Existing demographic and labour market trends have been towards a concentration of leisure in the last third of life and of work in the middle of life. The active ageing concept described in Figure VI.1 suggests that a better alternative would be a more flexible mix of leisure and work (and of learning and care-giving) over the course of life.

Figure VI.1. What is active ageing?

Active ageing refers to the capacity of people, as they grow older, to lead productive lives in the society and economy. This means that people can make flexible choices in the way they spend time over life—in learning, in work, in leisure and in giving-care. These choices are often constrained in ways that harm both individuals and society:

- some of these are related to health—sickness or invalidity preventing people from working or enjoying leisure.
- others are physical such as the lack of wheel chair ramps in buildings.
- some are related to inflexibilities in the work place—such as time-off for raising children, giving care to elderly, or further education.
- still others are the result of public policies that have not kept up with changes in demography, families and employment. Educational arrangements that are aimed only at young people rather than lifelong learning are an example. Social and labour market programming that encourage early retirement is another.

Active ageing reforms are those that remove these undesirable constraints on life course flexibility and that strengthen support to citizens in making life-time choices. Examples of the former of the removal of incentives to early retirement that are embedded in social programmes. Examples of the latter are lifelong learning and medical interventions that help people maintain autonomy as they grow older.

What is gained by grouping these diverse reforms under the heading of active ageing?

Reform directions in many of these program areas are similar. Convergent themes include:

- greater emphasis on prevention -- making inexpensive interventions such as providing public information at an early stage of life and thereby reducing the need for later remedial action
- use of remedial interventions that are less fragmented and that are concentrated at critical transition points in life -- early identification of problems, use of case management techniques, on-the-ground co-ordination among various agencies responsible, and measurement of outcomes.
- better balance in the life-time costs and benefits of programming to provide less constrained choices and greater responsibility at the level of individuals -- such as greater linkage of life-time pension contributions and benefits.
- Without a common strategic framework for reform, changes in one area can offset reforms in another; reforms necessarily cut across traditional programme boundaries. A common framework would also improve the quality of on-the-ground service delivery by facilitating co-operation among many agencies. There would be opportunity for sharing of lessons learned across disciplines and providing of the common data and applied research that is needed.

Insight now; effectiveness later

Active ageing is a different way of looking at policies, a shift in paradigms that can result in new insights. At core, it is based on the simple notion that policy should take account of the continuity of life. This suggests, for example, that while the symptoms of ageing are found in older people, policy solutions usually involve interventions when people are younger. It suggests that policies should take account of their effects on the subsequent lives of individuals. This is rarely the case at present. The data does not yet exist to allow a systematic measurement of outcomes.

The full utility of active ageing in terms of improved priority-setting and programme effectiveness will only be realised once statistical information about the effects of policy life-course paths has been collected. Starting work on gathering that data should be a priority now.

159. Recent evidence suggests that people now have the capacity to work, learn, enjoy leisure and provide care for others for a much longer period. But the potential gains both to individuals and society of a more active life by people, as they become older, are not being fully realised. This chapter looks at the extent and scope for active ageing in society. The first part assesses employability in an ageing

workforce, the second part examines health and activity as people grow older, the third part reviews health care costs and the final part looks at long-term care for older people.

Employability in an ageing workforce

160. As discussed in Chapter I, ageing implies that older workers will become a greater proportion of the labour force in the first half of the next century. This trend will be amplified to the extent that reforms succeed in removing or reducing the barriers to working longer in life. Integrating the increased supply of older people wishing to remain active will be a challenge for OECD labour markets.

Employment problems of older workers are mainly due to low skills, ...

161. While older workers do reasonably well in today's labour market, older job losers often face serious difficulties. For many older people, the loss of a job means a prolonged spell in unemployment. Large cuts in wages may have to be accepted to get a new job. Several arguments have been advanced to explain the disadvantage of older workers compared with their younger counterparts: higher costs due to seniority wages and greater absence from work; lower productivity and lesser flexibility; and shorter employment periods in which training costs can be recuperated by the employer. A recent study[61] has cast doubt on the validity of these arguments. The effects of seniority pay, and the relation between age and wages, may be less pervasive than earlier thought[62]. Employer-sponsored training received by older workers is not as low as often though, employees aged 45 to 54 receiving as much training as those aged 26 to 45. And while productivity does deteriorate with age in some occupations, such as hard physical labour, it is doubtful if this is a general pattern. The older worker should be well situated in a knowledge-based economy.

162. The present employment problems of older workers seem to be rooted in their relatively low levels of foundation skills, such as literacy and numeracy. The recent International Survey on Adult Literacy[63] shows that low skills are more prevalent among older workers than among younger adults in the countries surveyed (see Figure VI.2). This is likely to reflect that older workers today have had less opportunity than younger workers to undertake formal education when they were young, and low educational attainment has acted as a barrier for them to have access to training that would have maintained or increased their skills. Indeed, empirical analysis[64] shows that low skills of older workers have more to do with cohort effects than age itself: when account is taken of a variety of demographic and economic variables, literacy skills show no more than a modest decline between the ages of 40 to 65.

61. Casey, forthcoming.

62. See also OECD, Employment Outlook 1997, forthcoming. (Also on Internet as AWP 4.1. See Annex 2.)

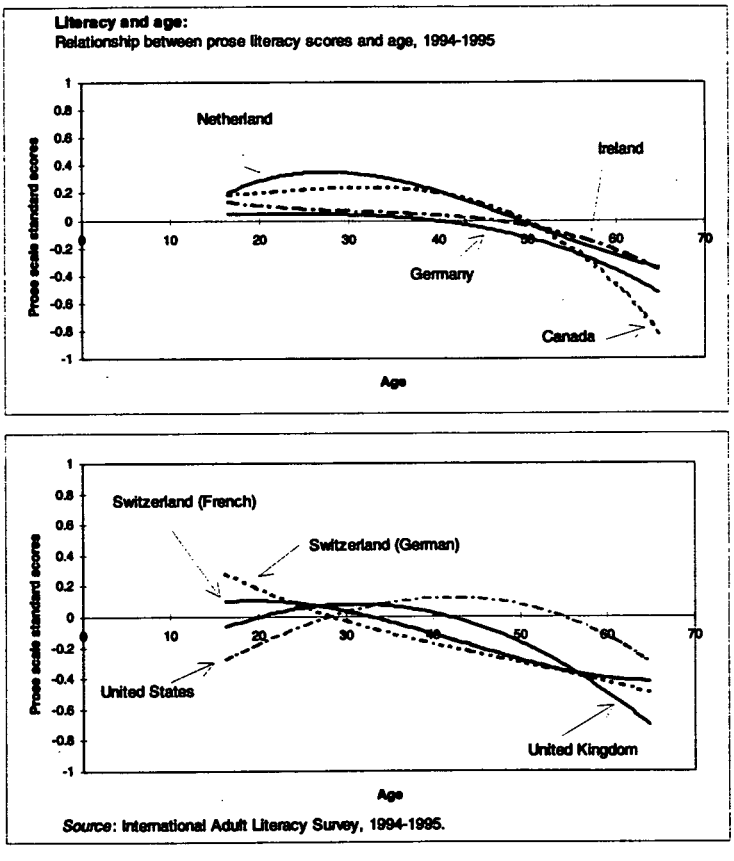
63. OECD and Human Resource Development Canada, 1997.

64. Employment Outlook 1997, forthcoming. (Also on Internet as AWP 4.1. See Annex 2.).

Figure VI.2. Skills and age

The graph examines skill levels for one of the skills measured in the international survey of adult literacy for different age groups. It shows:

- quite different results from country to country, indicating institutional factors are as important as anything to do with ageing itself. Indeed much of the difference can be accounted for by different educational levels at different ages -- although again there is much variation across countries
- that, generally, skill levels remain fairly steady throughout the "working years" of life and then tail off somewhat around the ages of 55 or 60. Other data from the survey support the view "use it or lose it view of skills" -- that they are maintained through regular use
- similar conclusions hold for other types of skill that were measured



Source: International Adult Literacy Survey, 1994-1995.

... and may thus be reduced as new cohorts of older workers have better skills.

163. As new cohorts of older people will be better educated than in the past (Table VI.1), the skill disadvantage of older people may be considerably reduced. Whereas close to half of all workers aged 50 to 64 in the OECD area had less than upper secondary education in 1995, the proportion is expected to drop to only a quarter by the year 2025. This educational upgrading should provide the basis for workers to acquire skills throughout their working life, and thus enter their older age relatively well equipped. However, if there continues to be growth in the duration of schooling rather than lifelong learning, then incoming cohorts of younger workers will continue to have educational advantages compared with older cohorts, especially since their education may be perceived to be more relevant to the current job market.

Table VI.1. Distribution of educational attainment of the labour force, aged 45 to 64 years, 1995 and 2015

	Per cent of workers age 45-64 years							
	1995				2015[a]			
	Less than upper secondary	Upper secondary	Non- university tertiary	University	Less than upper secondary	Upper secondary	Non- university tertiary	University
Australia	44.8	29.0	11.6	14.6	37.1	31.8	12.1	18.9
Austria	33.0	58.7	1.5	6.8	17.5	69.8	2.8	9.8
Belgium	46.2	27.0	13.3	13.5	25.7	35.6	19.1	19.6
Canada	27.7	24.8	29.3	18.2	14.1	30.1	33.8	21.9
Czech republic[b]	15.2	72.4	..	12.4	7.1	78.3	..	14.6
Denmark	35.5	42.4	6.1	15.9	23.5	49.6	8.3	18.6
Finland	43.4	36.0	8.6	12.0	17.9	56.2	10.5	15.4
France	38.4	44.0	6.5	11.1	15.4	57.8	11.0	15.8
Germany	15.4	58.1	11.7	14.8	8.6	63.5	10.8	17.1
Greece	71.4	14.4	3.6	10.6	41.5	29.6	9.9	19.1
Ireland	61.3	18.9	8.5	11.3	36.4	31.4	15.1	17.1
Italy[b]	67.2	21.9	..	10.9	44.6	42.3	..	13.1
Korea[b]	65.0	24.8	..	10.2	22.6	51.7	..	25.6
Luxembourg[b]	62.0	20.1	..	17.9	53.2	25.8	..	20.9
Mexico	85.1	7.0	0.5	7.4	64.7	16.7	1.9	16.7
Netherlands[c]	36.9	38.1	..	25.0	23.5	46.1	..	30.4
New Zealand	41.6	31.1	17.3	9.9	31.1	41.1	14.2	13.6
Norway	20.6	51.2	11.2	16.9	9.4	53.2	13.1	24.2
Poland	34.5	49.6	2.4	13.5	12.7	69.9	4.8	12.6
Portugal	84.0	5.2	3.8	7.0	67.8	14.7	4.3	13.2
Spain	78.8	7.1	2.7	11.5	49.5	20.1	8.4	22.0
Sweden	35.8	37.4	11.5	15.3	14.7	54.3	16.4	14.6
Switzerland	19.4	57.9	14.2	8.5	10.8	63.5	14.0	11.7
United Kingdom	27.6	51.3	9.9	11.2	13.0	61.3	9.4	16.4
United States	12.4	51.0	7.6	29.0	9.2	51.7	9.5	29.6
Unweighted average	44.1	35.2	9.1	13.4	26.9	45.9	11.5	18.1

a) The forecast distribution of the labour force in 2015 is based on applying education-specific participation rates for individuals 45-64 in 1995 to the population aged 25-44 years in 1995.

b) Data for non-university tertiary education are included in university education.

c) Non-tertiary university education is not applicable.

Sources: OECD Education Database. Data for Mexico, are from STPS-INEGI, Encuesta Nacional de Empleo, unpublished data.

164. Increased opportunity for people to change careers in mid-life would also increase the employability of older workers. People who start their career in jobs that require skills that may diminish with age (e.g. motor skills) could then transfer to occupations which required skills that were unaffected

by age or even increased with age (e.g. communications skills). Such an opportunity would also contain the adverse effect of structural changes on the employability of older workers, with those whose skills had been rendered obsolete being re-tooled for a new career instead of becoming candidates for early retirement. For such greater flexibility to be a realistic possibility, the potential need for late-career job changes must be anticipated, and the needed training must occur at an early stage of life. In the majority of cases, however, abrupt changes in career are not needed. Most people can adjust to new work by building on skills acquired over the working life, provided the necessary learning opportunities exist and provided that the workplace is adaptable

165. Age discrimination among employers may be a factor, as may an unwillingness among older workers to take lower-paid work. However, the evidence is not clear. There is no doubt that age discrimination is widely perceived to exist. For example, a 1993 survey of European countries[65] found that a large majority of people of all ages believed there was age discrimination in recruitment, promotion and training and indicated they favoured introduction of anti-age discrimination legislation. An argument is sometimes made that such legislation would have the perverse effect of making older workers less attractive to employers, although the evidence from countries with such legislation suggests that its direct effects may not be large. Certainly, it would be prudent to, at minimum, anticipate a period of adjustment where there would be an increased demand for active labour market programming for older workers and, possibly, for heightened public information to counteract ageism and to promote best practice.

Policy changes are required to increase the employability of older workers.

166. Markets will adjust towards bringing wages, training and productivity into line with the realities of an ageing work force[66]. However, markets work imperfectly and public policy interventions will continue to be needed.

167. A good start has been made on changes that will increase investments in skills as people grow older. The economic importance of investments in human capital and human resource development is well understood. The most promising directions for reform have already been identified. It is now a matter of ensuring high government-wide priority to these agendas and translating them into practical policies for reform. Ensuring lifelong learning for all is a major challenge for public policy[67].

168. One theme in developing practical reforms is that career structures and options at *all* ages need to be adjusted in order to maximise the capacity of labour markets to adapt to labour force ageing. A pro-active approach, emphasising the skill base with which workers enter the later stages of their careers, holds more promise than heavy reliance on remedial training of older workers after they encounter employment difficulties. Thus, it is important that the training and other personnel practices of employers, as well as the career planning of workers, begin now to adapt to the prospect of labour force ageing. Although many of these adjustments are inherently highly decentralised, governments have an important educational and co-ordinating role to play. There may well be quite high payoffs from simply gathering and disseminating information about employment prospects for people as they grow older,

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65. Commission of European Communities, 1993

66. For example, the trend towards lower labour market participation of older workers appears to be have slowed or reversed in some countries such as the United States. However, the reasons for this and extent to which this may occur in other countries is not fully understood.

67. OECD, 1996*b*.

information about available training opportunities, and information that counters myths about older workers that can create unwarranted stereotypes.

169. A second theme is the inter-relatedness of pay, training, job mobility and other personnel practices for determining the employment and earnings opportunities of older workers. Maximising the receptivity of labour markets to an expanded supply of older workers will require co-ordinated adjustments on all of these fronts. Adjustment here is primarily the responsibility of employers and workers, but again governments may play a useful expediting role.

170. A final theme is that enhancing the employment opportunities for older individuals should be addressed within the context of overall labour market conditions. The evidence does not point to any large factors that would automatically lead to a future lack of demand for older workers, on the grounds of their age. The main concern should be a lack of total demand. In particular, the potentially beneficial effects of increased labour supply among older workers will be very difficult to realise in labour markets characterised by high and persistent unemployment. The prospect of labour force ageing increases the importance of on-going efforts to develop and implement comprehensive structural reforms that can achieve high levels of employment and labour market adaptability.

Health and activity as people grow older: the role of older people in society and family

171. Chapter I described the large growth in the numbers of older people. The growth is particularly rapid among the very oldest groups. Although there are uncertainties today about the extent of future increases, the balance of evidence suggests that further increases in the numbers of very elderly people should be expected. It makes a large difference both to quality of life and to the economy whether these extended years of life are spent in good health allowing for an independent active life. Poor health might, for example, be an obstacle to labour force participation, to leading an autonomous life, to the provision of family-care and community services, and to the enjoyment of leisure.

Health barriers to activity are not serious until people reach their mid seventies ...

172. Health *per se* is difficult to compare internationally and that is why it is critical to assess health outcomes, particularly for older people. Here, the most satisfactory approach is to compare "active" life-expectancy using the measure of disability-free life expectancy. This refers to the length of life without disability—both the severe disabilities that require major social interventions and more moderate disabilities. There are many measurement problems in producing such data, especially on a internationally comparable basis[68]. However, a reasonably clear picture is emerging as shown in Table VI.2.

68. For a description of the various approaches to methodology and supporting data, see OECD, (forthcoming), The Caring World: Analysis.

Table VI.2: Trends in total life expectancy and comparison of disability- free life expectancy

Country	Life expectancy at 65	Disability- free life expectancy	Life expectancy at 65	Disability free life expectancy
	Males		Females	
	Moderate Disability Free Life Expectancy(1)			
Australia (2)				
1981	13.9	7.9	18.1	10.1
1993	15.7	6.5	19.5	9.1
Canada (3)				
1986	14.9	8.5	19.2	9.4
1991	15.6	8.3	19.7	9.2
France (4)				
1981	14.1	8.8	18.3	9.8
1991	15.7	10.1	20.1	12.1
Netherlands (5)				
1983	14	8	18.6	7.4
1990	14.4	9	19.0	8
United-States (6)				
1980	14.2	6.8	18.4	9.3
1990	15.1	7.4	18.9	9.8
New Zealand (7)				
1981	13.3	9.9	17.1	10.5
1993	14.8	10.0	18.4	10.2
Germany (8)				
1986	13.8	10.6	17.6	13.0
1995	14.9	12.2	18.7	14.9
	Severe Disability Free Life Expectancy(1)			
Australia (2)				
1981	13.9	11.9	18.1	13.8
1993	15.7	13.4	18.7	14.8
Canada (3)				
1986	14.9	12.8	19.2	14.9
1991	15.6	13.3	19.7	15.4
France (6)				
1981	14.1	13.1	18.3	16.5
1991	15.7	14.8	20.1	18.1
Japan (9)				
1980	14.6	13.2	17.7	15.8
1990	16.2	14.9	20	17.3
United Kingdom (10)				
1980	12.9	11.8	16.9	15
1991	14.5	13.6	18.1	16.9
Norway (11)				
1975	14.0	13.3	17.2	16.1
1985	14.4	13.3	18.2	16.9

1. Health expectancy concepts are not yet totally harmonised. The "severe disability" measures are more comparable than those for "moderate disability". Levels for other OECD countries have been estimated for single years only: extrapolating from indirect evidence brings a prognosis of analogous trends. Results also available in OECD Health Data 98 partially based on *REVES (1997) Health Expectancies in OECD countries, paper n° 317.*
2. For moderate disability: *Functional limitation free life expectancy;* for severe disability : *severe handicap-free life expectancy,* Mathers C. Trends in Health Expectancies in Australia 1981-1993, Journal of the Australian Population Association 13, 1, 1996.
3. Using a general scale including Activities of Daily Living, *general activity limitation,* severe disability score >11, no disability score zero, Wilkins Changes in health expectancy in Canada from 1986 to 1991. Statistics Canada.
4. Moderate: *general handicap free life expectancy;* Severe : *mobility handicap free life expectancy* from Robine J.M., Mormiche P. 1993, L'espérance de vie sans incapacité augmente, INSEE première 1993.
5. *Activity restriction free life expectancy,* Perenboom R.J.M., Boshuizen H., van de Water HPA, 1993, Trends in health expectancies in the Netherlands, 1981-1990, in Calculation of Health Expectancies: John Libbey Eurotext.
6. *Active life expectancy* including both major and secondary activities, moderate to severe disability, Crimmins E.M., Saito Y., Ingegneri D. 1997, Population and Development Review 23, 3, 555-572.
7. Davis and Graham, 1997, Personal Communication to REVES, 1997.
8. *General concept of disability.* Data refer to West Germany (Old Länder), Brückner G., (1997) Health Expectancy in Germany, October.
9. Japan *severe disability,* Activities of Daily Living, Inoue T., Shigematsu T., Nanjo Z., 1997, Health Life Tables in Japan 1990, *A quality of the longest life expectancy in the world,* Minzoku Eisei, 63, 4 226-240.
10. *Independent Life Expectancy;* Bone M.R., Bebbington A.C., Jagger C., Morgan K., Nicolaas G., HMSO 1995.
11. Norway, concept of *active independant life* Grotvedt L., Viksand G. (1994) *Life expectancy without diseases and disability,* in Mathers C., McCallum J., Robine JM. eds, Advances in Health Expectancies, Australian Institute of Health and Welfare, AGPS Canberra.

173. The table shows that for an individual the incidence of disability increases with age. As the oldest part of the population increases rapidly, the share of the population with some sort of disability increases. However, many disabilities do not require formal social interventions. Table VI.2 shows that in the countries covered, life expectancy at age 65 has been increasing in recent years and so has the number of years that were spend without either moderate or severe disabilities. Many of these findings are quite new, and are buttressed by newly-developed longitudinal data[69] that track older people over time. The techniques used to analyse traditional sources had often resulted in an exaggerated picture of disability[70].

174. In terms of severe disability of the sort that is likely to require social interventions, most findings suggest that it is concentrated at the very end of life. The relative prevalence of severe disability at a given age has tended to decline over time, particularly in age groups from 60 to 80; the share of life expectancy without severe disabilities has increased mildly in most countries. At the end of life, a constant period of disability of about two to four years on average can be expected. As people live longer, this period is shifted to later in life. These gains in disability-free life expectancy help to mitigate the effects of ageing. For example, preliminary results by the Secretariat show that, if rates of disability were assumed to remain stable at existing levels over the next 25 years, one could anticipate a growth in the number of dependent older people of about 50 per cent or more in the United States and France as a result of the pure demographic effects of population ageing. However, if trends in the 1980's and 90's towards reduced disability were to continue, the increase in the number of dependent older people would be significantly less, at about only 15 per cent.[71]

175. As discussed in Chapter IV, there is increasing use of disability programmes by older workers, but this appears to reflect changes in the labour market and the administration of these programmes rather than a worsening of disability.

176. Taking all evidence into account, the health constraints on active ageing among people in their 60s and on into their 70's are broadly similar to the rest of the population. There is a gradual increase in impediments to daily activities as people grow older, but it is not sharp. Until one reaches very old age groups, the variations within age groups are much more important than variations across age groups. The stereotype that links ageing with infirmity is unfounded.

177. One implication of these findings for policy is that there is no biological basis for a retirement age set in people's 60s. Another implication is that a whole range of services, from the legibility of traffic signs to housing standards, need incremental adjustment to reflect the ageing of the population. Another main policy implications is that active ageing measures -- particularly those associated with prevention -- are closely associated with health and dependence. Some countries with relatively low health expenses, such as Southern Europe or Japan, seem to achieve a high life expectancy and a much lower level of

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69. Particularly the waves of the National Long Term Care Surveys in the United States, see Manton *et al.*, 1997.

70. To measure health status one may either use data on "self perceived health status", or either use data on a measure linked with functional health in terms of independent living. Measurement issues are complex and much effort is needed to develop internationally comparable measures. See a discussion in [DEELSA/ELSA/PG(98)12)].

71. Preliminary results are available for France and the United Kingdom. Similar findings would hold for the United States. Wiener (1993) reports an increase of the elderly population of 49 per cent from 1993 to 2018, which would be only 35 per cent in terms of elderly people (all levels of disability considered under a moderately optimistic hypothesis. See also OECD, 1998*b*.

coronary disease for example as a result of a better diet[72]. Evidence about the negative effects of smoking on health is overwhelming. It is known that older people who maintain or adopt a life style with increased physical activity gain numerous health benefits and increase the range of activities they can perform [73].

178. These newly emerging data also shed light on fundamental questions of equity that only become apparent when examined from a life-course perspective. There are strong links between social status, education and health -- and these are perpetuated as people grow older. Rich, educated people live far longer and in far better health than poor, low-skilled people[74].

179. Unfortunately, in most areas, it difficult to move beyond these general findings to more specific policy prescriptions. The comparative evidence on outcomes and disease related patterns remain scanty across countries. Further efforts are needed to understand the dynamics and causes of health and dependence among older populations. Investing in regular surveys, research efforts and statistical information systems for gathering and interpreting longitudinal data on population health status and its determinants would be especially rewarding. Countries can learn much from the experience of others, but this will require the use of common classifications and concepts, and co-operative approaches to measurement and analysis.

... but older people tend to be passive

180. With the ageing of the population there will be a growing pool of healthy and (increasingly) skilled older retirees who can make other important contributions to the society and economy -- including care-giving of family members, voluntary activities of various sorts, learning and other forms of public service. Indeed, most OECD countries have ministries or agencies related to older people whose mandates include promotion of independence among older people and of an active life by older people in the society and economy.

181. The evidence suggests that active participation of older people in society is not high, although there is much variation across countries[75]. While there are many individual examples of older people helping out in the classroom, or mentoring young workers, or undertaking community services, they are not common across the whole older population. In terms of daily life, passive activities such as watching television predominate. In most countries, the great majority of people over the age of 60 rarely or never participate in social gatherings, activities and volunteering -- with levels becoming smaller as people grow older. There also appears to have been a downward trend towards volunteer activities in the period since 1980. On the other hand, contact with family members remains high. There is a trend towards older people living apart from their children, but still close to them. Grandparents provide care for

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72. For example as shown from results of the MONICA project co-ordinated by WHO.

73. Banta, 1997.

74. See OECD, 1998*b*. One studied cited suggest that the gap in life expectancy between the richest and poorest sections of the community may be some six years, while the gap in terms of occupational handicap-free life expectancy may approach 15 years.

75. There are comparisons from 1980 to 1995 for Japan, the US, Korea, and Germany that suggest the extent of voluntary activity is declining. Social and community volunteer activity is uncommon among older people in Japan, Korea, and Germany but is higher in the United States. See *Policy Office on the Ageing of Society*. Formal volunteer activities are not widespread among member of the European Union. There is more informal volunteering (such as visiting sick relatives or neighbours) but this too declines over the age of 65, see Walker and Maltby, 1997.

grandchildren. Frail elderly people received most care from spouses and children (usually their daughters) who are often themselves of retirement age.

182. When the baby-boom generation was young, the "dependency" problem centred on young people. The problem of dependency is now shifting to the large numbers of older people, particularly the very old. The most difficult problem lies with care-giving for frail elderly people. The role of government, heretofore largely confined to that of provider of palliative social care, is being transformed into a partnership empowering people to exert greater control over their lives, i.e. active ageing. This can only be carried out by governments acting at a very decentralised level. The dependence on large institutions is being replaced, in part, by a greater focus on community based care and care networks. This trend is known as ageing in place or deinstitutionalisation.

183. At the level of families, the issues are becoming more complex and, in the absence of good data, difficult to assess. Formerly there were three generations, the young, the active intermediate age, and the old. Now four generations are increasingly typical, the young, the middle age, the third age, and the fourth age. In most OECD countries, but to a lesser degree in Japan and southern Europe, the proportion of older people living with their children has been falling rapidly over the last decades. For the most part, it is now less than 20 per cent. Similarly, the share of the older population living alone has risen up to 30 or 40 per cent, although this may be now be near to a peak. The increase in female labour market participation may also negatively effect the potential resources for informal care-giving, although recent data suggest that this may not be as large a problem as once thought[76].

184. In summary, the evidence strongly indicates that there is potential for a much more active life in society for older people, certainly in the labour market but also in the broader society and community. There is evidence that stereotypes about age -- and the tripartite division of life (school, work, retirement) -- that are built into many social policies and institutions have a powerful negative effect on achieving this[77]. This suggests that changes which break down these stereotypes, such as lifelong learning and more flexibility in the work-retirement transition, would have a positive effect both on labour market participation of older people and their role in the society and community. What is needed is a culture that values learning and social activity at all ages.

185. The existence of large numbers of healthy, skilled, post-retirement people is a very new phenomenon. The rich complex of social and economic institutions that give support and meaning to children and people in their middle years, therefore, does not yet fully exist for older people. The benefits from developing those institutions and structures is very large. However, our knowledge is not yet strong enough to know how to best go about the task. We lack, for example, data which would indicate the extent to which more flexibility at the beginning and end of working life will reduce the working-time "crunch" or would increase active participation in care-giving, and in voluntary and social activities as people become older, after retirement. In particular, there is much to be learned about the likely combined effects for the future of higher female participation, changing family structures and the changing nature of work on the kinds of activities that people undertake, or would like to undertake if the opportunity were there.

76. For a review of the evidence see OECD 1998a.

77. Gerson and Patterson, 1995.

Ageing and systems of health and long-term care

186. Health and long-term care are closely related. Table VI.3 shows costs associated with each. Long-term care, or chronic care, encompasses both nursing care and other social services such as help in meal preparation, needed by a growing number of frail elderly people. There is a broad overlap in clientele and services provided, an overlap that becomes increasingly important in an ageing society. Unfortunately, they are usually not integrated in reality, either in delivery or funding. That fragmentation is an important policy issue that is discussed below under long-term care.

Table VI.3 Global comparison of health and long-term care expenditure

	Total spending long-term care (1992-1995) % GDP	Public spending long-term care (1992-1995) % GDP	Share of private financing long-term care (1992-1995) % total	Public expenditure health care 1980 % GDP	Public expenditure health care 1995 % GDP	Total expenditure health care 1995 % GDP	Share of private financing health care 1995 % total
	(2)	(2)	(2)	(1)	(1)	(1)	(1)
Australia	0.90	0.73	19	4.6	5.7	8.6	34
Austria	1.40	n.a.	n/a	5.4	6	7.9	24
Belgium	1.21	0.66	46	5.5	6.9	7.9	13
Canada	1.08	0.76	30	5.5	6.9	9.7	29
Denmark	2.24	n/a	n/a	5.8	5.3*	6.4*	17
Finland	1.12	0.89	20	5.1	5.7	7.7	26
France	n/a	0.50	n/a	6.0	8.0	9.9	19
Germany	n/a	0.82	n/a	7	8.1	10.4	22
Japan (4)	n/a	0.15 / 0.62	n/a	4.5	5.7	7.1	20
Netherlands	2.70	1.80	33	5.9	6.7	8.8	24
Norway	≡ 2.8	2.80	negligible	5.9	6.6	8	18
Sweden	n/a	2.7	n/a	8.7	5.9	7.2	18
U.K	1.3	1.00	24	5.0	5.8	6.9	16
United States	1.32	0.70	47	3.9	6.5	14.1	54
	(3)						
Greece	0.17	n/a	n/a	2.9	5.5	7.2	24
Ireland	0.86	n/a	n/a	7.2	5.2	7	26
Italy	0.58	n/a	n/a	5.6	5.4	7.8	31
Luxembourg	0.41	n/a	n/a	5.7	6.5	7.0	7
Portugal	0.39	n/a	n/a	3.7	5.0	8.2	39
Spain	0.56	n/a	n/a	4.5	6.2	8	23
Switzerland	0.75	n/a	n/a	4.9	7	9.6	27

N/A- Information is not available.

1. *OECD Health Data 98 for population and expenditure on health as of March 1998. Population data refer to 1994 for Denmark.*

2. *Secretariat estimates using various sources and experts report. Data refer to recent years, between 1992 and 1995.* Longterm care spending refers to the care needed to help older persons leading an independant life, at home or in an institution. It excludes informal help. For home care, it should include all home care services, including district nurses services, excluding medical visits. For institutions, it includes all the costs related to care and lodging, including help for all self-care activities, but excluding medical costs. Public costs includes all costs incurred by public institutions, municipalities, sickness funds or old age funds. Private spending refers to out of pocket payments or payments by private long-term care insurance when the definitions are available. Definitions for the lower part of the table may be a little more restrictive than for the upper part.

Australia *Key facts, provided by the Department of Health. 1998*

Austria K. Leichsenring (1998), Social Protection for Dependency in Old Age, Vienna, European Centre for Social Welfare Policy and Research, February.

Belgium *Pacolet et al. (1998). Country report Belgium, The State of the Debate on Social protection for Dependency in Old age in the 15 EU Member states and Norway. Research project for the European Commission DGV and the Belgian Minister of Social Affairs. Katoliek Universiteit Leuven.*

Canada *Charrrand P. (1993) Description of long-term care services in provinces and territories of Canada, Federal/provincial/territorial subcommittee on continuing care.*

Denmark *Department of Health, 1998.*

Finland *Vaarama M., Kautto M. (1997) Social Protection for the elderly in Finland ISBN 851-33-0495-7, Gummerus Oy, Jyväskylä.*

France *Joel, M.E., (1997) La dépendance des personnes âgées en France, mimeo, LEGOS, Université de Paris Dauphine.*

General *Pacolet J., Versieck K., Bouten R., Lamoye H. (1997) The State of the Debate on Social protection for Dependency in Old age in the 15 EU Member states and Norway, Research project for the European Commission DGV and the Belgian Minister of Social Affairs, Katoliek Universiteit Leuven.*

Germany *Rothgang H., Schmähl W (1995) The Long-term Costs of Public Long-term Care Insurance in Germany, Zentrum für Sozialpolitik Universität Bremen, Arbeitspapier n° 9/95.*

Japan *Data provided by the Ministry of Health and Welfare (1998)*

Netherlands *Schuijt-Lucaassen N. (1997) Social protection for dependent elderly in the Netherlands, Institute for Applied Gerontology, Vrije Universiteit, Amsterdam.*

Norway *Daatland (1997) Social protection for the elderly in Norway, Norwegian Social Research, NOVA, Skriftserie 4/1997.*

Sweden *Secretariat for Long-term analysis, Ministry of Health and Social Affairs, (1998).*

United Kingdom *HMSO (1996) "Long Term Care: Future Provision and Funding", House of Commons n° 119, London.*

United States *Wiener J., Illston L.H., Hanley R.J. (1994) Sharing the Burden : Strategies for Public and Private Long-Term Care Insurance. Washington DC. The Brookings Institution.*

Existing estimates for long-term care in OECD Health Data are somewhat lower but do exclude a considerable share of long-term care programmes.

(3) In the lower part of the table, source for Long-term care spending for the other countries, see Markus Schneider & al. Gesundheitssysteme im internationalen vergleich, (1994), BASYS. data refer to the years 1992-1994 as supplied by the authors.

(4) Japan. the data of 0.15 corresponds to present spending for care to the older persons, apart from hospitalization costs. The additional .62 is a forecast and corresponds to a Secretariat's estimate of the spending involved by the current long-term care project adjusted with the 1995 population.

Ageing will increase health care costs ...

187. There has long been a tendency to consider older people as a frail portion of the population and as a source of health care costs. The balance of evidence suggests that older people as a whole may account for 30 to 40 per cent of all health care costs. From a cost perspective, population ageing therefore was seen as a threat. As health care already accounts for around 8 to 10 per cent of GDP, even a modest growth in health care costs would imply a significant pressure on public finances. More recent evidence indicates reasons for concern, but also for optimism.

188. As noted, many of the health care costs associated with old age are associated with the period just before death, regardless of age of death. As more people are (by definition) dying in the oldest age groups, health care costs are increasing with age[78], and particularly in the oldest age groups above 70. Costs reflect the reality, however, that during this period, the likelihood of death is not certain and treatment is often designed to prolong life. Costs taper off in the very oldest groups. Population ageing will therefore push medical spending up, but not by an amount as great as once feared. Cost may rise by about 10 to 20 per cent in the next 15 to 20 years -- an important increase in health spending, but still not an explosion.

... but much will depend on the future cost of medical technology ...

189. The cost of medical technology is central. It is mainly driven by economic incentives that influence the behaviour of providers -- and not as much by the relative ageing of the population. Older people quite naturally tend to seek access to the latest medical technologies as a way to prevent or delay the onset of chronic conditions and disabilities. The fear would be that older people would therefore provide a new market where an excess of specialised providers could find a use for newly-developed, and expensive, technologies, with gains to health status that remain to be assessed in terms of cost-effectiveness. On the other hand, if it were linked to actual outcomes and re-oriented to address the burden of chronic diseases, high tech medicine could have an important role in dealing with an older population.

190. Knowledge to date about intensity of use or appropriateness of use of technology specific to older people is still scanty[79]. Some evidence suggests that the spread of technology—driven by providers' financial incentives – may lead to intensive use of technology, beyond that suggested by cost effectiveness. On the other hand, useful technologies may not have been fully developed because of the lack of appropriate financial incentives. The benefits of newer genetic technologies as they relate to older people are not well understood, but are potentially large.

... and on reforms aimed at greater efficiency and cost effectiveness.

191. Ageing therefore adds new priority to greater efficiency and cost-effectiveness in the delivery of health care. However, most reforms directed to efficiency and cost-effectiveness in health care will be similar regardless of the age mix of the populations[80]. Nevertheless, an older society does point to some

78. See data in OECD, 1996*a*.

79. Banta, 1997.

80. These are described in see OECD 1998*a*.

areas where reform should have especially high priority. One of these is a more harmonious approach to providing health care and social services to frail elderly people. This is discussed below. Another is to ensure that financial incentives in the health care system, and the funding of medical research, are associated with areas where chronic conditions are most severe. For example, better treatments for dementia, arthritis or migraine may lead to much greater reduction in functional limitation than comparable efforts in other areas. This suggests more targeted outcome-oriented medical and social interventions to increase the independence of older people – particularly those that are directed to maintaining functional independence and avoiding hospitalisation.

Long-term care and the need for deeper reforms

Relatively few older people benefit from public long-term care and public spending is still low.

192. In a typical OECD country, only about a fifth of the older population receives formal care. A third of all formal care is provided in institutions and two-thirds is home care. However, the number of older people is growing, especially in the oldest age groups where chronic care is concentrated. Moreover, the demand for formal care is affected by the behaviour of social actors, both within and outside the family—and the type and design of benefits provided.

193. It appears from the available data that the costs of long-term nursing care are still rather modest, even if they are rising. They are usually less than 2 per cent of GDP in total[81]. A major increase by around 50 per cent in the next two or three decades may hence only increase public spending by around one per cent of GDP[82]. This does certainly add to the other costs of ageing, but the base is much smaller than that for health care. The share of long term care costs in GDP are currently about the same order of magnitude as the *increase* of social spending for health care from 1980 to 1995. With careful planning and adaptation, such an increase should be reasonably met by most care systems, provided that the resulting burden is spread among workers and older people.

194. Some 40 per cent of people in the age 65-and-over group will eventually require long-term care. And costs per individual in care are very high – some 1.0 to 1.5 times the average yearly income. Care-giving arrangements are influenced by an individual's gender, age, income, and by the perceived price of the care purchased, especially for people with relatively few resources available to them. In addition, in spite of growing affluence among older people, income and wealth inequalities remain significant. In particular, incomes among the oldest groups, where care is most needed, are lower than for people in those age from 65 to 75 or 80.

A flexible system is required to respond to changing caseloads and a variety of needs ...

195. The key policy challenge in most countries is one of developing a system that can readily adjust to changes in the numbers of people needing chronic care and that responds to a wide variety of needs. This involves a balance between ageing-in-place and institutional care, between the family and the formal systems, and between medical and social services. Many countries have found that balance hard to

81. With the exception of the Scandinavian countries.

82. This would lead to a yearly increase due to pure demographic factors to around 1.5 per cent or 2 per cent a year which is within the range of potential growth for many OECD countries. Simulations in the US tend also to present a moderately optimistic view on these long term trends, see Manton *et al.*, 1997.

accomplish when formal chronic care was seen as a branch of either medical services or social services alone.

196. Until recently, few countries had identifiable policies for long-term care. It was provided in hospitals, at home and in old-people's homes or nursing institutions. It is still provided by complex networks of relatives and professionals that are buffeted by social trends, changing government policies and what public and private insurance systems cover. In this mix the extent of institutionalisation of older people is increasingly hard to define and measure. It is frequently difficult to assess the amount of formal care that is provided.

197. A variety of facilities and housing arrangements, have often replaced care that was once provided in hospitals. The available data suggest that between 5 and 7 per cent of those aged 65 or more are living in an institution. This may seem modest but these rates increase steeply with age[83] and current estimates lie between 20 and 30 per cent for those aged 85 or more. It seems that the share of institutionalisation may be largely driven by nursing home availability.

198. In recent years, reforms emphasising care-giving in the community, or "ageing in place" have attempted to encourage de-institutionalisation in the Scandinavian countries and the United States. The objective of reform was both to reduce costs and increase well-being, although more recent evidence suggests that difference between the costs of home and institutional care may not be as great as originally thought. Moreover, despite best efforts, it is not always easy to avoid institutionalisation. For example, in most OECD countries, the leading cause of institutionalisation of older people is the loss of intellectual faculties, due to senile dementia linked with Alzheimer's disease, where alternatives to institutions are not promising. However, new institutions are emerging in some countries to fill this gap. These are not in the home, but still provide a home-like setting, with an emphasis on personal care rather than skilled nursing.

... and incentives, moral hazard and adverse selection must be dealt with.

199. A critical feature in the design of formal systems is to avoid creating disincentives to family support. This could happen if the apparent prices of formal care are reduced by public or private insurance-type mechanisms. The result could be excessive demand for care or demand for an inappropriate type of care such as excess hospitalisation, if hospitalisation co-payments were lower than nursing homes. Policy measures to reduce excessive recourse to formal care include providing help in kind, introducing resource ceilings and income-adjusted co-payments.

200. Moral hazard also exist on the supply side. As the institutionalised population is the source their income, providers may favour longer stays. A policy of decentralised funding, with a fair degree of control over the creation of large nursing home capacities may help to control moral hazard. A socio-demographic adjustment of funding on a local level may help to ensure adequate financing and resource use, if the equity issue is addressed properly. In the case of an insurance type of financing, specific forecasting tools may be used, adapted from hospital prospective financing systems[84]. More generally, reform should stress -- more than has been the case in the past -- the importance of accountability structures such that financial incentives reward quality service, efficiency and cost effectiveness.

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83. OECD, 1996*a*.

84. Resource Utilisation Groups developed in the US constitute a useful experiment for pricing long-term care.

201. A problem with market-based solutions is that insurance markets are impaired by classical market imperfections, and even the more so in the field of long term care. Adverse selection -- only the individuals with the higher self perceived risk may seek insurance -- may hinder a sharing of the burden of this risk across an entire population[85]. Individuals may also be short-sighted and seek coverage for the risk only late in life. Hence, a balanced approach incorporating public coverage for catastrophic risks, could promote the development of individual coverage and contribute to alleviating the pressure on public finance.

Reforms differ from country to country

202. To balance all these factors, several OECD countries have developed reforms consistent with their own traditions that foster individual responsibilities. A basic element in reform is that long-term care is increasingly seen as a normal circumstance of life. Sharing of this increasing burden is hence required. Countries are attempting to find the best balance between public and private responsibilities and in sharing the burden across working age and older populations. Bringing sickness insurance and pension systems closer together would be useful. Keeping financial transfers on independent tracks fails to recognise the reality that the onset of dependence transforms both the health needs and the daily life of individuals.

85. Cutler, 1995.

VII. ACHIEVING REFORM

Summary

The magnitude and range of issues raised by ageing pose a formidable public management challenge. Effective budget management is important to bring public expenditures for age-related purposes in line with projected revenues. Because of their short-term nature, traditional annual budget frameworks are inappropriate for this purpose. The introduction of multi-year budgeting in several countries has not extended the time horizon for public budget long enough to account for the implication of ageing on public finances. Other techniques are required, including accrual-basis accounting standards for government financial reporting, but all have their limits.

It is necessary to develop a strategic framework to get the reform process underway. Governments can choose to launch a review aimed at addressing the full range of ageing concerns or to launch reviews through specific ageing issues. It is essential to co-ordinate reforms across the numerous departments and programmes at multiple levels of government with responsibilities for ageing issues, as well as to build public understanding and support.

To implement and sustain reforms it will be important to take full advantage of innovations in service delivery, including harnessing information and information technology to attain policy objectives. The collection, analysis and dissemination of empirical information will also be critical. To help sustain the momentum and support for reform, countries should also set in motion a process to monitor the progress of ageing reform strategies.

203. Governmental capacities which are relevant to the ageing issue need to be mobilised in order to achieve the recommendations of this report.. Challenges include avoiding capture of the issues by those most directly affected rather than reflecting broader national interests; sustaining commitment by governments over the longer term; and co-ordinating the multiple agents concerned with ageing policies. This chapter points to actions that are required. The first part looks at budget management techniques and how they can be used to make future spending trends more visible in the budget process. The second part demonstrates the need to develop national strategic frameworks to launch and co-ordinate ageing reforms. The final part briefly addresses measures to implement and sustain reforms. [86]

Budget management in support of long-term fiscal health

204. Effective budget management is a key aspect of achieving this report's recommendation to bring public expenditures for age-related purposes in line with projected revenue. Budgets are legally enacted on an annual basis in Member countries. This time horizon impedes effective longer-term expenditure

86. Many issues referred to in this chapter are discussed in the working paper by D.G. Mathiasen 1998. (On Internet as AWP 6.1. See Annex 2.)

management. Most OECD countries recognise this and have introduced measures in recent years to expand the time-horizon of the budget.

Traditional budget frameworks are inappropriate to address ageing issues ...

205. The use of budget frameworks that extend 3-5 years beyond the next fiscal year are now the rule rather than the exception in Member countries. The primary objective of these medium-term budget frameworks has been to increase fiscal discipline. However, paradoxically, when dealing the with long time-term implications of ageing, these medium-term frameworks will, over the next several years, give a less realistic view of the future than the traditional single-year budget. As described earlier, demographic trends support economic growth until about 2010 and then begin to work in the opposite direction. This problem is transitory and can be readily addressed by using longer-term frameworks and projections.

206. The use of longer-term budget frameworks is, however, the exception rather than the rule in OECD countries. Action therefore needs to be taken to develop additional capacities for systematically identifying and exposing adverse expenditure trends and future budget commitments at an early stage, i.e. to act as early warning systems, and to track these trends through time. This will then inform decisions to be taken in time to prevent, moderate and/or finance these expenditures, and to build up a consensus in support of decisions.

... and new techniques are called for.

207. Member countries have applied various techniques to better understand future commitments relevant to ageing. Actuarial analysis of public pension programs, present value calculations of multi-year receipts and expenditures, assessments of contingent liabilities, scenario-building, risk analysis of public insurance or lending programs and the use of generational accounting are among them. However, the methodologies behind them are often controversial. In addition, they are often "simple" financing models, which require a great many assumptions the validity of which is often uncertain. Moreover, long range projections may differ widely based on small differences in initial conditions. Nevertheless, these techniques are useful to begin assessing the long-term implications of policies. Their further use and development should be encouraged, without undue reliance on any one tool.

208. Several OECD countries have adopted or are adopting accrual-basis accounting standards for their government financial reporting and many are studying the feasibility of doing so. This has several implications. First, expenses are recognised when they are incurred rather than when they are paid. As a result, obligations which are building up over time, but that do not become payable until a later date, are nonetheless reported in the current period operating statement (and as liabilities in the balance sheet). Second, all recognised assets and liabilities are valued and reported in the balance sheet. For example, unfunded civil service pension plans are reported as liabilities in the financial statements.

209. Nevertheless, there are currently limits as to how far accrual accounting can assist. Not all future expenditure commitments may meet the definition of "expense" or "liability" for reporting purposes. For example, although obligations for civil service pension plans are recognised in accrual-basis financial statements, the future cost and liabilities of public pension (or old-age security) programmes are not. This suggests that accrual data requires supplementation with other information to estimate the long-term sustainability of budget settings. Nonetheless, accrual accounting improves the quality of fiscal reporting and increases awareness of long-term issues. There is a clear need to further improve reporting systems.

210. Reliable and transparent budget information and processes taking into consideration the long-term will not in themselves overcome the short-term nature of annual budgetary decision-making processes. However, they can highlight longer-term trends. This means that decision-makers will have to be transparent about the long-term fiscal impacts of policy decisions.[87] Moreover, longer term budget information together with an effective resource allocation system are necessary to provide a basis for moving resources to highest priority areas such as preventive or life-long learning programmes where investments may be required to meet strategic ageing objectives.

Developing a strategic framework

211. Success in achieving the goals set out in this report will depend on practical ways of ensuring that reforms work in harmony. The reforms are closely inter-linked and each can accomplish several objectives simultaneously. For example, working longer can simultaneously increase material living standards, reduce fiscal pressure, and provide meaningful activity for older people. However, this means that suitable work for older people must be available. One way of accomplishing this is through more flexible arrangements over life for inter-mingling work, learning, leisure, care-giving. Doing so would also facilitate family care-giving for the growing number of frail elderly people, better health and greater support for a more active life by older people in the broader community.

212. Increased advance-funding in the retirement income system provides another example of these linkages. If it is well managed -- often in conjunction with a gradual reduction of pay-as-you-go earnings-related benefits -- it can help address fiscal problems, diversify risk, support economic growth and reduce work disincentives. It can also increase individual choice in the level of income to be targeted in retirement, without harming the overall adequacy of retirement income. The viability of reducing pay-as-you-go benefits is, on the other hand, linked back to the possibilities of working later in life and making a gradual transition to retirement. It is also linked to overall economic growth since it easier to rebalance shares of national income between workers and retirees if living standards for both are increasing although at different rates.

213. Responsibilities for ageing issues therefore span numerous departments and programmes at multiple levels of government. They touch a diversity of actors including private and voluntary institutions. Even at its most focused, a national government would have difficulty in co-ordinating a set of policies to meet such a complex problem. It is all the more important to develop a strategic framework to get reforms underway, establish priorities, build public understanding and co-ordinate reforms in different areas.

Reforms can be launched in different ways

214. Achieving an effective national strategy requires important choices regarding the structure for a review of ageing-related policies, with implications for co-ordination of policy development and consultation with the public. One choice is between launching a review aimed to address the full range of ageing concerns (see Figure 8.1 for examples of this); or launching review through "lead sectors" (see Figure 8.2). A "lead sector" approach should aim to raise most or all of the key issues as interactions are made clear. One practical political question is whether a particular policy area focuses the attention of the public and the media more effectively on ageing issues in general: changing demography or health may be a focus, but often public pensions and future retirement income are the subjects that ultimately raise the

87. Discussion of these budget management issues is found in (OECD 1997*a*).

broad range of ageing issues for the public. The figures illustrate that in practice countries may be led to combine elements of both global and sectoral approaches.

Figure VII.1. Selected comprehensive ageing documents

Name	*Issued by*	*Topics covered*	*Remarks*
Australia's Ageing Society (1994)	Economic Planning Advisory Council	Welfare, health, education, employment, home and institutional care for the elderly	Data through year 2051. Includes international comparisons
Older **Australia** at a glance (1997)	Australian Institute of Health and Welfare and Office for the Aged, Dept. of Health and Family Services	Retirement, health. social services, institutional and home care, and community activities	A collection of facts on older people prepared for the 1997 World Conference on Gerontology; includes international comparisons
Welfare Implications of Demographic Trends **(Ireland)**	Combat Poverty Study, prepared by the Economic and Social Research Institute	Dependency and support, fertility and marriage, labour force participation and population ageing.	Population projection through 2026; a few international comparisons, mostly with the UK and the EU
"General Principles Concerning Measures for the Aging Society:" **(Japan)**	Cabinet decision of the Japanese Government, July 1996; tentatively translated into English by the Management and Co-ordination Agency.	Working income, health and welfare, learning and social involvement, living environment and promoting research.	A comprehensive set of policy goals in support of the 1995 "The Basic law on Measures for the Aging Society" (1995).
Aging in **Japan**	Japan Aging Research Centre	Population aging, changes in families and households, labour force, social insurance, health care and social service support systems.	Published in English for people outside Japan. An appendix contains the "General Principles" document described above.

Source: Mathiasen (1998).

Figure VII.2. Selected sectoral approaches to ageing issues

Country	*Document*	*Sector Emphasis*
Australia:		
Saving: Choice and Incentive	Ministerial Statement (May, 1997)	Relates national saving retirement and demography
National Healthy Ageing	Draft National Healthy Ageing Strategy	Health, related to age discrimination, indigenous people, community activities, and virtually all issues affecting the elderly
United States:		
Long-Term Budgetary Pressures and Policy Options	Congressional Budget Office Report	Budgetary control and fiscal policy related to national social security and nationally funded heath care services
Building a Better Future	Report by the Committee for a Responsible Federal Budget	Relates population ageing to economic growth, social security, nationally funded health care, tax policies and private pension and health benefits.
Retirement Income for an Ageing Population	Report of the Congressional Research Service	Uses retirement income as the basis for a detailed review of most aspects of ageing, including savings, investment, dependency, health, work, and private pensions. Data projections through 2060
Japan:		
New Gold Plan	Bureau for the Elderly, Ministry of Health and Welfare	Focuses on welfare facilities and services for the elderly
France:		
Work in Twenty Years	Planning Commission	Explores four scenarios. Includes international comparisons
Ireland:		
Pension Strategy for the Future	Pensions Board report on the National Pensions Policy Initiative (to be published in May, 1998)	Focuses on the role of each pillar of pensions provision
Health and Social Care Implications of Population Ageing in Ireland 1991-2011	National Council on Ageing and Older People	One of a series of studies conducted by the Council, which has a direct advisory function in the development of policy on ageing in Ireland.

Source: Mathiasen (1998).

A second choice is between a review process led from within the national government, albeit publicly; or from a non-executive body such as a standing advisory council or a special commission. One possibility (illustrated by Irish experience) is a comprehensive consultative approach bringing together in a high-profile forum representatives of concerned groups to work out broad policy guidelines.[88]

Co-ordination across different agencies and actors is critical.

215. Co-ordination is a critical aspect of putting a strategic framework into practice. Many governments are delegating and devolving decision-making authority, whereas an effective policy towards ageing requires an adequate degree of central coherence and co-operation at least among departments and institutions responsible for education, labour, public pensions, and health care. Co-ordination of services across levels of government creates an additional difficulty, as municipalities, regions, provinces or states have considerable autonomy. The sheer pressure of immediate events tends to preoccupy central co-ordinating units more than longer term issues. Therefore, while a national strategy is critical to achieving coherent policies and public support for action, if it is too prescriptive in detail or purely centrally-directed it is likely to tax national governments' own capacities. Within a broad strategic framework, many of the major decisions in practice will be taken and financed by sectorally-based ministries and agencies.

216. Sustained political leadership is an essential part of maintaining the necessary incentives across ministries and departments to ensure continuing attention to ageing strategy and its co-ordinated implementation. Yet this will always be difficult in respect of ageing because of its special, all-embracing characteristics, and will require heads of government to ensure effective long-term attention. Ministerial time is a limited resource, and inter-ministerial committees are hard to sustain. Thus some form of particular political responsibility may need to be considered.

217. In some countries a cross-party coalition on ageing may be feasible, encouraging the integration of a wide range of interests; in most, the traditional operating agencies will remain in place with political leaders charged with overseeing policy co-ordination processes and their necessary trade-offs. Canada, France and New Zealand have experimented with the use of Ministers of State (or equivalents) who are given policy responsibility for cross-cutting issues while leaving in place the structure and responsibilities of operating agencies. More recently, Canada has aimed to provide an integrated approach by consolidating under one minister responsibilities for a range of national employment and income security programmes many of which relate to ageing. The United States has a tradition of appointing "Czars" in the White House to co-ordinate policy. Finland has adopted a strong "lead ministry" approach. While different approaches to co-ordination and involvement at the political level appear to suit differing country circumstances, the essential common objective should be to create a structure that allows for cross-cutting consideration of interests and that avoids capture by any particular interest group or aspect of the issue.

218. Some countries have a special co-ordinator agency for ageing. Examples are the Office of Ageing in the United States' Department of Health and Human Services, the Office for Ageing in the Management and Co-ordination Agency in Japan, and the National Council on Ageing and Older People, an advisory body in Ireland. Often, however, the mandates of these agencies may be restricted, for example to a focus narrower than the topics covered in this report. Global agencies may help focus attention, communicate and exchange information but they may not have the clout, expertise or resources of large programme agencies, they may be particularly susceptible to capture by "grey power", and their

88. The recent US proposal for the American Association of Retired People and the non-partisan Concord Coalition to orchestrate a nation-wide debate on "saving Social Security" before spending any budget surplus also illustrates consensus-building in support of long-term solutions.

co-ordination responsibilities are likely to overlap with those of agencies such as the Prime Minister's Office or Ministry of Finance. In the last resort, there is probably no substitute for siting at least a powerful oversight responsibility in those latter central agencies.

Implementing and sustaining reforms

219. Effective implementation of ageing strategies can be advanced by mobilising a range of policy instruments, including innovations in service delivery. Changing circumstances mean that traditional policy instruments and related service delivery may not remain the best choices. The recommendation in this report to base retirement income on a "multi-pillar system", for instance, involves just such an approach: it brings together a balanced mix of pension and other elements, with a significant role for both mandatory and voluntary, advance-funded and pay-as-you-go, public and private elements, together with necessary regulatory structures and use of more non-pension sources of income in retirement.

220. In this context, an increasingly prevalent approach to the choice of public policy instruments and policy delivery is enhanced use of information as a potent policy lever, including innovative application of information technology. This is particularly relevant as regards encouraging savings, working longer, and maintaining health. There is already growing use of the Internet to disseminate public information on ageing issues (e.g. by the state governments of Florida (United States) and Western Australia), and to inform service providers so that they can implement ageing policies more effectively. These possibilities will surely increase as access to the Internet and interactive television becomes both technically simpler and less expensive.

221. Innovations in services delivery will also be an important factor. They include for example the development of "one-stop shopping" techniques either at the local level or via computer interface. A one-stop public sector service centre can provide access to services from a broad range of government ministries, agencies and programmes. As people age they are likely to require more services but finding the programmes and understanding their rules may be difficult: thus one-stop shopping is of particular importance to this group[89].

222. The collection, analysis and dissemination of needed empirical information is a critical factor in sustaining reform. As noted, reform strategies should include plans for improved statistics and applied research related to ageing and to active ageing reforms. These involve manipulating existing data in new ways and the collection of new kinds of information, especially tracking the activities and health of cohorts of people as they grow older, make the transition from work-to-retirement and on into older ages. Examples of major areas where empirical understanding is weak are found throughout the chapters of this report. Where new empirical findings have become available in recent years, they have often had large and unanticipated implications for policy. One example is the new information about increasing healthy life expectancy; it raises basic issues about the nature of retirement as well as casting new light on health and care-giving costs. Another example is the new data on the multiple resources available to people on retirement; it raises fundamental questions about generosity of public pensions. Finally, as described in Chapter VI, there is potential for large gains in cost-effectiveness through a combination of new empirical approaches and an active ageing focus in policy-making.

223. To help sustain momentum and support for reform, countries should also set in motion a process to *monitor the progress of ageing reform strategies* and share information on results (such as changing

89. A wide range of public management and service delivery improvements is discussed in (OECD 1995k), (OECD 1996c) and (OECD 1997b).

public and private roles and unfolding behavioural reactions). Regular review and analysis of the relative effectiveness of different policy instruments will be particularly necessary. Processes for monitoring, providing and sustaining the supporting infrastructure of data and analysis, and specific programme evaluations mutually reinforce each other. Monitoring can also help ensure that strategies are adapted in response to new information and changing circumstances. In addition to domestic monitoring, countries should also consider how best they can operate through international organisations such as the OECD to monitor progress and learn from each other. This report is part of that process.

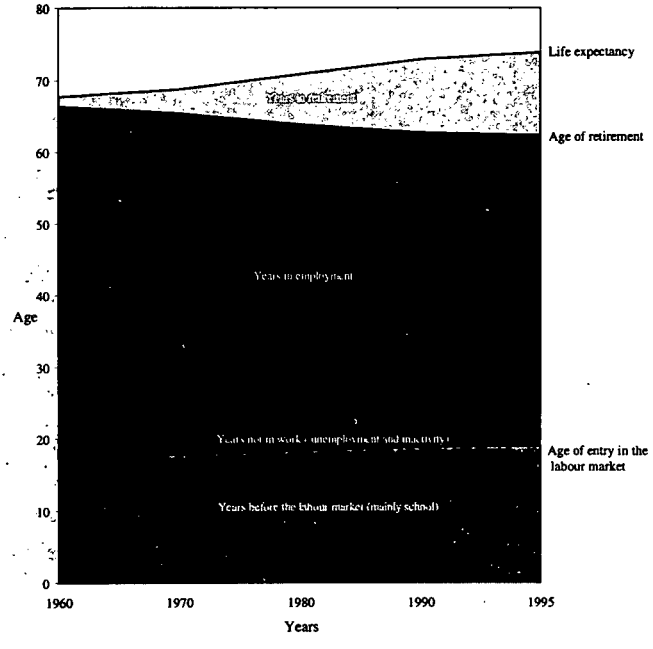
ANNEX 1. THE EFFECTS OF DEMOGRAPHY

The following figures describe the effects of changing demography. They amplify the story told in Chapter I.

Figure A.1. Large changes in how time is spent over the course of life

The charts show the large change in the allocation of time by men and women over the course of life. They show average life expectancies and labour force patterns as they existed in the year in question. That is, they do not show the pattern of activity for any one cohort.

Decomposition of men's life course for an average* country

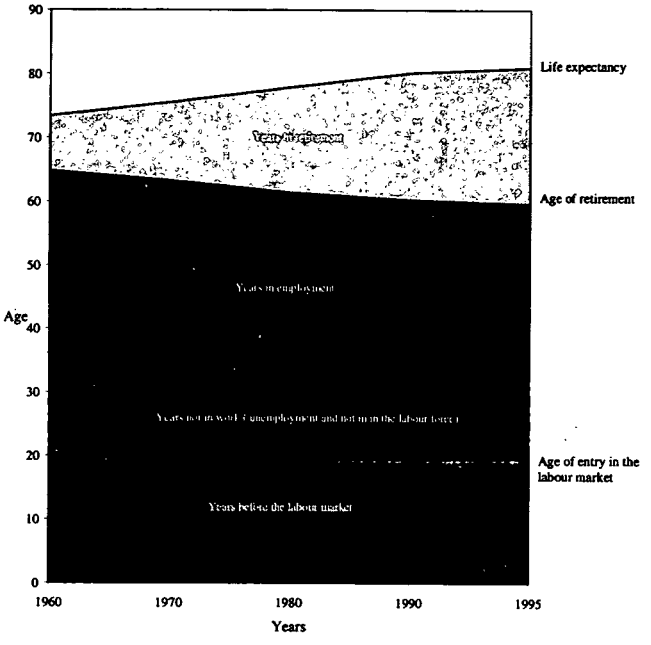


* Average made over 15 countries : Australia, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, Norway, New Zealand,Spain, Sweden, United Kingdom, United States

Source : OECD Labour Force Statiistics, Part II; Eco Santé, ILO

Figures A.1 (cont.) Large changes in how time is spent over the course of life

Decomposition of women's life course for an average* country



* Average made over 15 countries : Australia, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, Norway, New Zealand,Spain, Sweden, United Kingdom, United States

Source: OECD Labour Force Statistics, Part II; Eco Santé, ILO

Figures A.1 (cont.) Large changes in how time is spent over the course of life

Between 1960 and today:

- the average time spent in retirement grew rapidly—up to over 11 years for men and 21 for women.
- for men, the time in work shrank accordingly
- while for women, it grew as a result of a large drop in the number of expected adult years spent out of the labour force.

Note the very short period of retirement in 1960, especially for men. These data show the average expected length of retirement for the whole population, including those who never retired and those who died before the retirement age. The duration would, of course, be longer for those who did reach retirement age. For example, in 1990 men on average could expect ten years in retirement. The life expectancy of those who did reach age 65 was about 15 years.

CONCLUSION: The length of time spent in retirement is growing both a result of increased longevity and decreased time in work for men – and time spent working at home for women.

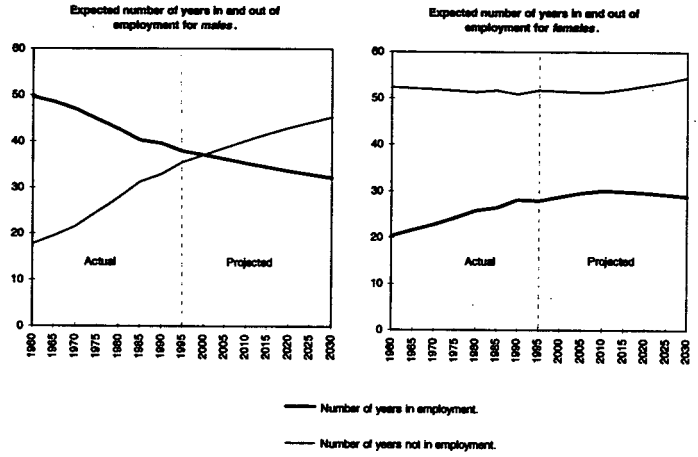
Note: The numbers are approximations only. The age of retirement is based on calculations using changes in participation rates by age. Expected years in and out of work are based on labour force survey data. The typical OECD country is an unweighted average of the countries shown in the figure, with adjustments made to compensate for gaps in the data. Note that because of data limitations there are small differences in the data in this chart and those that follow.

Source: OECD.

Figure A.2. Large changes in the amount of time that individuals can expect to spend in employment

This chart compares trends in expected years in employment and out of employment from Figure 1.1 and projects them into the future.

- In a typical OECD country in 1960
- men lived some 68 years, of which 50 were spent in work
- the other 18 years were mainly spent in infancy and school, and a short period of retirement
- women worked in paid employment around 20 years on average



Today,

- men live to 76 with only half of their lives—38 years—spent in employment
- the other 38 years are spent in much longer periods of time in education, unemployment and, especially, retirement.
- women live to 80 with 28 years in spend in employment.
- women's employment will begin to fall after 2010. (See note below for the assumptions used in constructing the graph)

CONCLUSION: If existing trends were to continue, by 2020 men would spend significantly more of their lives outside of work, and levels of employment rates for men and women would have become similar.

Note: The calculations are based on labour force data. A "typical" OECD country is an unweighted average of OECD Member countries for which data are available. Projections assume that recent trends in participation will continue except that, when women's participation rate reaches 90% of men's, it is assumed that both men and women will follow the same path towards earlier retirement. Unemployment rates are assumed to remain unchanged.

Source: OECD.

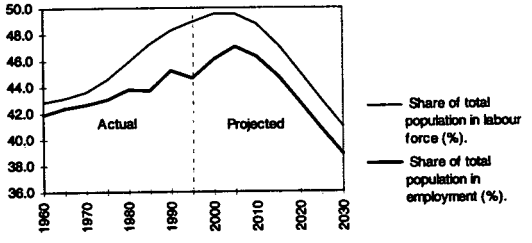
Figure A.3. The time that a society devotes to employment will begin to fall

This chart shows the combined effect of ageing and employment trends. At the level of the whole population, the trends are dominated by population ageing – the ageing of the "baby-boom" generation which resulted from falling fertility rates in the post-war period.

- the baby-boom generation is now of working-age, increasing the number of paid workers relative to non-workers (and helping offset the decline in the employment-population ratios for men).
- during the period 2010-2030 when the baby-boom generation reaches retirement age all three phenomena – increasing life expectancy, labour force trends and population ageing – will begin to work together in reducing the amount of time that a society devotes to employment

The chart shows the combined effect. It examines likely future directions in employment expressed as a portion of the total population. It also shows comparable data for the labour force (employed plus unemployed).

Shares of the labour force and employment in total population.



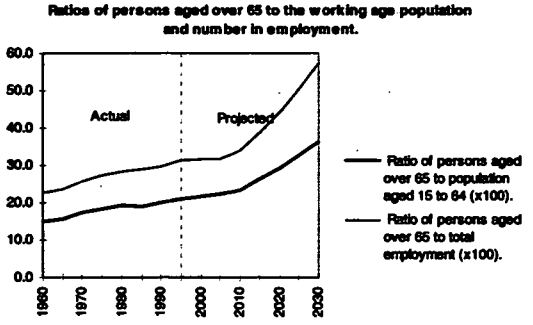
- the projected path of both the labour force/total population ratio and the employment/total population ratio assumes a continuation of existing trends in participation
- the path of employment/total population ratio assumes that unemployment rates have fallen to 5% by 2005. If unemployment continues at present levels, the employment ratio would remain at about present levels until 2010 and then begin to fall.

CONCLUSION: The share of the population who are employed will drop between 2010 and 2030

Source: OECD

Figure A.4. Fewer employees to support far more people in retirement

The demographic and labour market trends greatly affect the numbers of employees who can provide support for people of pensionable age. Figure A4 provides two broad indicators of these effects for the same "typical" OECD country shown in Figure A3.



The *top line* shows estimates and projections of the ratio of those aged 65 and over to total employment. The rate of growth in this ratio gives a rough indication of the increased pension burden per employee if pensions were entirely funded through the wage bill.

- in 1960, the number of older people was about 22% of the number of employees. That is, for every older person there were over 4 employees to provide support.
- currently, there are about 3 employees for each older person and that will continue for another decade.
- after 2010, the trend changes sharply. By 2030, the size of the older population will grow to 50%. That is, there will be only two employees for every older person

These projections are not greatly affected by assumptions about the future state of the labour market:

- the chart assumes that unemployment has reached 5% by 2005
- the future path has about the same shape whether one assumes that unemployment stays at current levels or that labour force participation trends persist or remain at present levels.

The *bottom line* shows the ratio of those aged 65 to those aged 15 to 64 -- the familiar "old-age dependency ratio" used by demographers. It shows a similar pattern but does not take account of trends to earlier retirement.

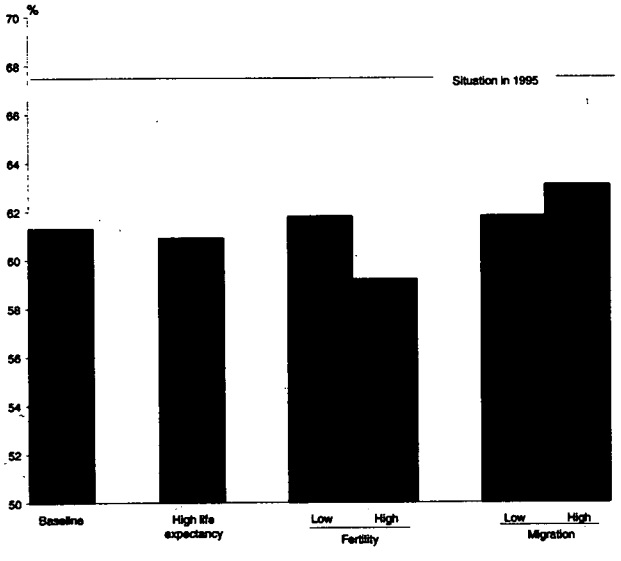
CONCLUSION: Demography poses an inescapable fiscal challenge in the period 2010 to 2030.

Source: OECD

Figure A.5. Different assumptions about demography make little difference

The chart shows changes in demographic trends alone would not make a big difference in the projections. Demographic assumptions can make a big difference in the very long run, but not in the period to 2030. The percent of people in these "working-age" years will decline under all likely demographic scenarios. High levels of net international migration produce the smallest decline (migrants tend to be of working age).

Share of adult population aged 15 to 64 as a percentage of total population in 2030, for various demographic scenarios



Fertility	1.	1.	1.	2.3	0.	1.
Life expectancy - men	77.7	79.0	77.7	77.7	77.7	77.7
Life expectancy - women	83.5	85.0	83.5	83.5	83.5	83.5
Migration of 1995 population per year	0.0	0.0	0.0	0.0	0.12	0.5

CONCLUSION: Demographic factors cannot, by themselves, solve the ageing challenge.

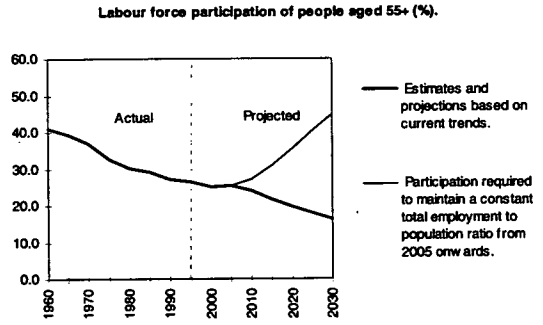
Source: OECD

Figure A.6. Solutions must involve reversing trends to early retirement

This chart shows what would have to happen in order to keep employment-to-total population ratios constant after the year 2005, on the assumption that unemployment has reached 5% by then.

More employment among people under 54 years would help but is of limited scope.

- given the priority on human resource investment, young people under 20 are likely to be staying longer in school, with no increase in employment likely.
- higher participation rates by women could help in some countries. However, if that were the only factor at play in keeping employment/population ratios constant after 2005, it would involve impossibly fast increases and, indeed, female participation rates would reach 100% during the projection period



- international migration could play a mitigating role, but the numbers involved would be exceedingly large. Taking the most extreme assumption that all the migrants were aged 20 to 54, the stock of workers from other countries would have to increase at the rate of 0.5% of the population every year throughout this period—if migration were to be relied on entirely to keep employment levels up.

More employment among older people:

The chart shows how much the participation of people aged 55 and over (both sexes) would have to grow to keep employment a constant percentage of the population.

- as before the heavy line shows data based on actual history and project based on a continuation of recent trends,
- the dotted line shows that the needed increase in participation would indeed be large, but would still only result in participation rates for older workers that are only a little higher than they were in 1960.
- the main solution can only lie here since the number of workers is simultaneously increasing while the number of retirees is decreasing. However, the rate of increase would be too large in some countries for this to be the only response.

CONCLUSION: Any successful strategy to the ageing challenge will have to result in people working longer in life, although other changes will also likely be needed.

Source: OECD.

ANNEX 2. GLOSSARY[90]

Accrual rate *(Pension, financial market term)*	The rate at which pension benefit builds up as pensionable service is completed in a ***defined-benefit scheme***.
Accrual-basis accounting *(Public management term)*	Refers here to government accounts that recognise expenses when they are incurred (not when they are paid) and that include a valuation of some recognised assets and liabilities.
Accrued benefits *(Pension, financial market term)*	The benefits for service up to a given point in time, whether ***vested rights*** or not. They may be calculated in relation to current earnings or projected earnings.
Active ageing *(Social policy, demographic term)*	The capacity of people to make flexible choices in the way they spend time over life—in learning, in work, in leisure and in care-giving. Active ageing reforms are those that remove undesirable constraints on life-course flexibility and that strengthen support to citizens in making life-time choices.
Active investment management *(Pension, financial market term)*	A style of managing a portfolio which is designed to achieve, over a period of time, performance which is superior to index-based performance benchmarks.
Actuarial neutrality *(Pension, financial market term)*	Used here to indicate pension arrangements which neither penalise nor unduly benefit those who retire earlier or later than the standard retirement age.
Actuarial assumptions *(Social policy, demographic term)*	The set of assumptions as to rates of return, inflation, increase in earnings, mortality etc., used by the actuary in an ***actuarial valuation*** or other actuarial calculations.
Actuarial valuation *(Pension, financial market term)*	An investigation by an actuary into the ability of a pension scheme to meet its liabilities. This is usually to assess the ***funding level*** and a recommended contribution rate based on comparing the ***actuarial value of assets*** and the actuarial liability.
Actuarial value of assets *(Pension, financial market term)*	The value placed on the assets by the actuary. This may be market value, ***present value*** of estimated income and proceeds of sales or redemption, or some other value.

90. This glossary was, in part drawn, from the Pension Management Institute, reproduced in D. Blake (1995), Pension Schemes and Pension funds in the United Kingdom, Oxford University Press; E. P. Davis (1995), *Pension Funds, Retirement-Income Security and Capital Markets*: An International Perspective, Oxford University Press; World Bank, *Averting the Old Age Crisis*, 1994; *Issues in Pension Economics*, edited by Bodie, Shoven, and Wise (Chicago: University of Chicago Press, 1987; and Lawrence Thompson, *Predictability of Individual Pensions*. However, a number of the definitions have been adjusted.

Advance-funding (pre-funding, or funding)	The provision in advance for future liabilities by the accumulation of assets, normally external to the employer's business. Many company plans are advance-funded as are individual retirement accounts. Public pay-as-you-go pensions may be partly pre-funded when the government raises the contribution rate above that necessary to finance current benefits, in order to accumulate a fund to help pay future benefits.
Ageism *(Social policy, demographic term)*	Discriminatory treatment of people based on their age, parallel to concepts of racism or sexism.
Annuity *(Pension, financial market term)*	A series of payments, which may be subject to increases, made at stated intervals until a particular event occurs. This event is most commonly the end of a specified period or the death of the person receiving the annuity.
Annuity option *(Pension, financial market term)*	The right to apply the proceeds of an insurance policy to buy an annuity in various pre-specified ways.
Asset allocation strategy *(Pension, financial market term)*	The long term apportionment of pension scheme assets between the various investment classes such as equities, fixed interest and cash.
Assets *(Pension, financial market term))*	The items such as investments, debtors, and cash to which the trustees of a pension scheme have title.
Baby-boom generation *(Pension, financial market term)*	Long-term fertility trends are downward. However following the second world war, there was a temporary (10 to 20 year) increase in births that, in some countries, resulted in a bulge in the age profile of the population—the baby boom. People in this baby-boom generation will reach retirement ages after about 2010 or so in most countries.
Basic pension *(Pension, financial market term)*	The single person's flat rate state pension paid to all who have met the minimum national-insurance contribution requirements. A widow, widower or in some cases a married woman may also claim a basic state pension on the contribution record of his or her spouse.
Beneficiary *(Pension, financial market term)*	A person entitled to benefit under a pension scheme or who will become entitled on the happening of a specified event.
Case management *(Social policy, demographic term)*	A co-ordinated means of delivering services (often a mix of services provided by different agencies) based on an assessment of the needs of the individual who is receiving the services.
Co-payment *(Social policy, demographic term)*	An arrangement where individuals who receive a service such as health care contribute to its financing
Company plans *(Pension, financial market term)*	See ***pension schemes***

Consolidation *(Fiscal, macroeconomic term)*	A fiscal policy that aims to reduce public-sector deficits, or increase public-sector surpluses, by increasing taxes or reducing public-sector expenditure, or both. Usually employed in circumstances when deficits have already been reduced, and it is desired to reduce them further in the medium term.
Current account (balance, surplus or deficit) *(Fiscal, macroeconomic term)*	The current account balance is the difference between the value of exports of goods and services (including income from foreign investments) and the value of imports of goods and services (including income paid to foreign owners of domestic factors of production). Because of the national accounts identities, it is also equal to the difference between domestic saving and investment.
Deferred annuity *(Pension, financial market term)*	An annuity which commences from a future date.
Defined-benefit Plan *(Pension, financial market term)*	A pension plan where benefits are prescribed by a formula. It is in distinction to a ***defined-contribution plan***.
Defined-contribution plan *(Pension, financial market term)*	A pension plan in which a periodic contribution is prescribed and the benefit depends on the contribution plus the investment return.
Dependency ratio *(Social policy, demographic term)*	The number of people who are not of working age as a proportion of those of working age—usually defined as people under the age of 14 and over the age of 64 as a percentage of those aged 14 to 64.
Disability-free life expectancy *(Social policy, demographic term)*	Also known as health expectancy. Refers to the number of years of expected life that are spent without functional limitations on daily living. Often the data take account only of severe disabilities that require institutional or other major interventions. Other data can include moderate disabilities that do not severely restrict activity.
Employment-population ratio *(Social policy, demographic term)*	The percent of the total population (of all ages) who are employed. This in contrast to the "employment rate" used in the analysis of current employment and unemployment data; this latter refers employment as a percent of the working-age population (or other group being examined).
Employee Retirement Income Security Act of 1974 (or ERISA) *(Pension, financial market term)*	Comprehensive US legislation regulating several key features of corporate pension plans and including the "prudent man" statutes and rules.
Final pensionable earnings/pay/salary *(Pension, financial market term)*	The pensionable earnings, at or near retirement or leaving service, on which the pension is calculated in a final salary scheme. The earnings may be based on the average over a number of consecutive years prior to retirement.

Flat-rate benefits *(Pension, financial market term)*	These are benefits, such as pension benefits, that related only to age and citizenship, not prior earnings. These usually have an anti-poverty objectives and are sometimes not "flat" in the sense of equal; i.e., they are sometimes means-tested or partially recaptured through the tax system.
Funding *(Pension, financial market term)*	Same as ***advance-funding***
Funding level *(Pension, financial market term)*	The relationship at a specified date between the ***actuarial value of assets*** and the actuarial liability.
Funding plan *(Pension, financial market term)*	The arrangement of the incidence over time of payments with the aim of meeting the future cost of a given set of benefits. *Possible objectives of a funding plan might be that, if the **actuarial assumptions** are borne out by events: (a) a specified **funding level** should be reached by a given date and (b) the level of contributions should remain constant, or should after a planned period be* the standard contribution rate *required by the **valuation method** used in the actuarial valuation.*
Gross debt; gross financial liabilities *(Fiscal, macroeconomic term)*	The sum of outstanding government financial liabilities, but without subtracting the value of assets. Note that holdings of government debt by components of the public sector itself (e.g. social security fund holdings of government debt) are included.
Global agency	See **Sectoral Department**
Guaranteed annuity option *(Pension, financial market term)*	The right to apply the proceeds of an insurance policy to buy an annuity at a rate guaranteed in the policy.
Hybrid pension plan *(Pension, financial market term)*	Plan that combines some features of the defined-benefit approach and some aspects of the defined-contribution method.
Indexation *(Pension, financial market term)*	1 A system whereby pensions in payment and/or preserved benefits are automatically increased at regular intervals by reference to a specified index of prices or earnings. 2. It is also in common use as a method of investment management where the objective is to produce a return equal or close to that of a chosen stock market index.
Individualised advance-funded accounts *(Pension, financial market term)*	See ***Pension schemes***
Inflation proofing *(Pension, financial market term)*	A term commonly used to describe ***indexation***.

Insured benefit plan

(Pension, financial market term)

Plan whose defined-benefits the sponsor insures through an annuity policy with a life insurance company.

Intergenerational transfers

(Social policy, demographic term)

Usually refers to tax and transfers from one generation to another, i.e., the government-operated distribution of funds among generations governments. Usually the even larger transfers of money and services that take place in family settings are excluded. This is distinct from *intra*generational transfers which involve the distribution of funds among people of the same generations, e.g., from richer people to poorer people.

Investment management agreement

(Pension, financial market term)

The document in which an investment manager sets out the basis upon which it will manage a portfolio. The document is normally countersigned on behalf of the pension fund trustees and forms the legal and regulatory framework for the relationship between the trustees and the investment manager.

Investment manager

(Pension, financial market term)

An individual or body to which the investment of the whole or part of the assets is delegated by the trustees in accordance with the provisions of the scheme documentation.

Investment performance measurement

(Pension, financial market term)

The comparison of the rate of return of a given pension fund over a period with one or more of: (a) the notional return of a model fund; (b) the actual rates of return of other funds; or © the movement in financial market indices over the same period.

Liabilities

(Pension, financial market term)

Amounts which a pension scheme has an obligation to pay now or in the future. The amounts may not be immediately ascertainable and some liabilities may be dependent on the occurrence of future events.

Life-course trends or patterns

Life-course patterns refer to the way that time is allocated over the course of peoples lives to activities such as education and adult learning, paid and unpaid work, leisure, care-giving and receiving. These patterns are undergoing deep change with, for example, more time spent in school and far more time spent in leisure, especially in retirement.

Managed fund

(Pension, financial market term)

An investment contract by means of which an insurance company offers participation in one or more pooled funds. Also used to denote an arrangement where the scheme assets are invested on similar lines to unit trusts by an external investment manager.

Matching

(Pension, financial market term)

1. The policy of selecting investments of a nature, incidence or currency similar to that of the expected outgoings.

2. An accounting term, meaning that revenue and costs are matched with one another or "hedged" so far as their relationship can be established or justifiably assumed.

Multiple pillars (or tiers or elements) of retirement income

(Pension, financial market term)

As used in the paper, refers to a recognition in policy-making of the wide variety of sources of income in retirement—pension and non-pension—each of which can be substituted for by individuals and all of which are influenced, to a greater or lesser extent, by public policy. It also recognises specific pension arrangements themselves vary widely from country to country and cannot be readily compared using traditional concepts such as three pension tiers (see **pension schemes**).

Net equivalent income

(Social policy, demographic term)

For some analytic purposes involving comparisons of individual incomes, it is useful to recognise family circumstances. That is, a family of four does not require twice the income of a family of two to maintain equivalent living standards, nor does a couple require twice the income of a single person living alone. Net equivalent income data makes an arbitrary adjustment to take household size into account.

Notional accounts

A centrally-managed, pay-as-you-go, notional contribution plan. In this model, each worker has an account in the central pension system institution which is credited with the contributions made by or on behalf of the worker. Account balances are also credited with the analogue of interest payments, but typically at a rate tied to the growth of wages—either the rate of increase in the average wage or the rate of increase in total wages. At retirement, the balance in the account is converted into a life annuity based on estimates of the cohort's expected life-span. The promises under notional accounts are similar to those under the defined-contribution model.

Occupational pension scheme

(Pension, financial market term)

An arrangement organised by an employer or on behalf of a group of employers to provide pensions and/or other benefits for or in respect of one or more employees on leaving service or on death or retirement.

Old age dependency ratio (elderly dependency ratio)

(Social policy, demographic term)

The population aged 65 and over expressed as a percentage of the working age population, usually defined as aged 14 to 64. This is a traditional measure. However, for many policy purposes, a better measure is the population aged 65 and over as percentage of total employment. This latter ratio takes account of changing labour force as well demographic trends.

Participation rate

(Social policy, demographic term)

The number of people in the labour force (unemployed plus employed) as a percent of the *population in the group in question* (such as a certain age group). It is distinct from labour force as a percentage of the entire population.

Pay-as-you-go (PAYG)

(Pension, financial market term)

An arrangement under which benefits are paid out of revenue and no funding is made for future liabilities.

Pension Benefit Guaranty Corporation (or PBGC)

(Pension, financial market term)

The US federal agency established in 1974 by the ERISA legislation to insure the vested benefits of private pension plan participants.

Pension fund

(Pension, financial market term)

Strictly speaking the assets of a pension scheme but very often used to denote the pension scheme itself.

Pension plan

(Pension, financial market term)

A fund that is established for the payment of retirement benefits.

Pension plan sponsor

(Pension, financial market term)

The entity that establishes a pension plan for its employees, which may be a private business or a unit of state/local government. Sponsors may also be a union acting on behalf of its members or individuals acting for themselves.

Pension schemes (and the traditional three-tier pension concept)

(Pension, financial market term)

Pension schemes are the dominant form of retirement income. They are traditionally classified into the following three categories, although the variations are sufficiently large that this three-tier categorisation has not been used in this report (see **multiple pillars**):

1. Public managed pension schemes with defined-benefits and pay-as-you-go finance, usually based on a payroll tax. They are mandatory for covered workers. In most OECD countries coverage is (near) universal. Variations involve partial advance-funding and notional individual accounts. In some countries, that are two quite different public schemes: an anti-poverty programme (often funded out of general revenues and not related to work experience); and an earnings-related programme designed to prevent major drops in living standards on retirement. The anti-poverty programme is often known as a ***flat-rate pension***, even though it sometimes means-tested.

2. Occupational pension are privately managed and offered by employers to employees. Within this category of funds there is a trend in OECD countries from defined-benefit and partially funded schemes toward defined-contribution schemes.

3. Personal pension plans in the form of saving and annuity schemes. These schemes are normally voluntary and based on fully funded defined-contribution plans. Tax incentives encourage the development of these plans, although at present their share of total income in old age is relatively small but growing.

Pensionkassen

(Pension, financial market term)

German term for legally separate but actually captive and in-house companies that manage pension funds.

Personal Equity Plan (PEP)

(Pension, financial market term)

This policy of the British government encourages individuals to increase their savings for retirement through exemption from taxation of gains from dividends and price appreciation in equity accounts.

Pre-funding

(Pension, financial market term)

Same as ***advance-funding***.

Primary (balances, surpluses or deficits) *(Fiscal, macroeconomic term)*	The difference between public-sector revenues and expenditures, excluding interest paid on government debt.
Provident fund *(Pension, financial market term)*	See ***pension schemes***
Prudent person rule or principle (also known as prudent man rule) *(Pension, financial market term)*	A number of countries do not impose quantitative limits but impose guidelines such as the so-called "prudent person rule" or "prudent person principle". Under the prudent person rule, fiduciaries, trustees, and bank trust departments are expected to behave as careful professionals in making investment decisions. In the United States ***the Employment Retirement Security Act*** (ERISA) stipulates that the fiduciary must be knowledgeable enough to act as a careful professional, experienced and educated in trust and financial matters. "Prudence" is a design standard, not a performance standard. This is reflected in the two most significant elements of the rule: (i) the requirement to diversify; (ii) the exhortation to favour "seasoned" situations that similarly-placed institutions find appropriate.
Replacement rates *(Pension, financial market term)*	1 For individuals, the value of a pension as a proportion of a worker's previous wage (sometimes the lifetime wages, but usually for a specified period of years prior to retirement). 2 For groups, the average pension as a proportion of the average wages of the group
Retirement income system *(Social policy, demographic term)*	All the resources available to families after the traditional standard age of retirement, including pensions, earnings, other forms of savings, non-pension taxes and transfers, use of housing assets, in-family transfers, etc. They are a system in that individuals plan based on all the components and substitute among them and, from a government perspective, in that all can be influenced (to a greater or lesser extent) by policies.
Sectoral department *(Public management term)*	A department or agency of government with programme administration responsibilities such as those that administer pensions. This is distinct from "global" agencies with co-ordinating and representational functions such as ministries with responsibilities for older people and from "central" agencies such as cabinet offices or treasuries.
Solvency test *(Pension, financial market term)*	An actuarial calculation to determine whether the assets of the scheme are sufficient to meet the statutory obligations to the members under the rules of the scheme.
Unfunded scheme *(Pension, financial market term)*	A pension scheme for which the employer does not set aside and accumulate assets in advance of the benefits commencing to be paid. The basis is usually ***pay-as-you-go***.

Valuation method

(Pension, financial market term)

An approach used by the actuary in an actuarial valuation. The main categories of approach are described under accrued benefits valuation method and prospective benefits valuation method. A variety of methods can be used but the method or methods used in a particular case should be adequately described in the actuarial report.

Vesting

(Pension, financial market term)

Vesting provisions in pension plans determine the minimum time required to qualify for full benefits.

ANNEX 3. AGEING WORKING PAPERS

Following are the main analytic documents prepared by the OECD secretariat or by contractors in support of the work on ageing found in this report. Prior to being available in printed form they can be found on the OECD Internet site. Also included in the Internet series are papers prepared by the ILO in conjunction with an ILO/OECD workshop on pension reform in December 1997.

The papers can be retrieved on the Internet at www.oecd.org. Most will be available by June 1998.

TITLE	
PAPERS ON THE ECONOMICS OF AGEING	
AWP 1-1	The macroeconomics of ageing, pensions and savings: a survey
AWP 1-2	The macroeconomic implications of ageing in a global context
AWP 1-3	The retirement decision in OECD countries
AWP 1-4	Microeconomic analysis of the retirement decision: United States
AWP 1-5	Microeconomic analysis of the retirement decision: Germany
AWP 1-6	Microeconomic analysis of the retirement decision: Italy
AWP 1-7	Microeconomic analysis of the retirement decision: United Kingdom
AWP 1-8	Microeconomic analysis of the retirement decision: the Netherlands
PAPERS ON FINANCIAL MARKETS AND PENSION REGULATION	
AWP 2.1	Ageing populations and the role of the financial market systems in the provision of retirement income in the OECD area
AWP 2.2	Private pensions systems: regulatory policies
PAPERS PREPARED FOR THE OECD/ILO WORKSHOP ON PENSIONS	
AWP 3.1	Adequacy and social security principles in pension reform[91]
AWP 3.2	Adequacy and poverty among the retired[1]

91. ILO-sponsored paper. Revised versions will be published by the ILO, forthcoming.

	TITLE
AWP 3.2	Incentives and disincentives to early and late retirement[92]
AWP 3.4	Retirement income systems: the reform process across OECD Countries[2]
AWP 3.5	Predictability of individual pensions[1]
AWP 3.6	Comprehensive quantitative modelling for a better pension strategy[1]
AWP 3.7	Retirement income: level, risk and substitution among income components[2]
AWP 3.8	Retirement income systems for different economic, demographic and political environments[1]
	PAPERS ON SOCIAL, LABOUR MARKET AND CARE-GIVING DIMENSIONS
AWP 4.1	Work-force ageing: consequences and policy responses
AWP 4.2	Long term care services to older people: a perspective on future needs
AWP 4.3	Resources on retirement
	PAPERS COVERING THE NON-OECD WORLD
AWP 5.1	Do funded pensions contribute to higher aggregate savings? A cross country analysis
AWP 5.2	Fiscal alternatives of moving from unfunded to funded pensions
AWP 5.3	Liberalizing foreign investments by pension funds: positive and normative aspects
AWP 5.4	The second-second generation pension reforms in Latin America
AWP 5.5	A model of global pension fund investment
AWP 5.6	The Chilean Pension System
	PAPERS ON OTHER DIMENSIONS
AWP 6.1	The capacity for long-term decision making in seven OECD countries: the case of ageing
AWP 6.2	Ageing and technology

92. OECD-sponsored paper.

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Addendum
Counting Widgets

Demographics and other measurements, including comparisons across nations assist policy-makers and decision-makers. The United States compares its health care expenditures to that of other nations, especially that of the 29 richest nations that make up the membership of the Organization for Economic Cooperation and Development (OECD). For instance, policy-makers in this country look to Japan and conclude that it has been able to maintain high quality health status and longevity at lower costs than we. Up to now, the International Longevity Center-USA, Ltd., has explored comparisons between the U.S. and Japan, in association with the ILC-Japan and Koseisho, the Japanese Ministry of Health and Welfare.

The conclusion drawn regarding Japan's health care system has occasioned me to formulate what I call my "widget hypothesis". It is derived from the fact that data can be misleading. Nations count "widgets" differently for a variety of reasons - including cultural differences. With respect to Japan, I believe that the numbers being used to support the contention that the U.S. is spending more on health care is probably exaggerated.

We must be careful to factor into the equation some important diffferences in the health care system in each country.

1) Administrative costs are much higher in the United States due to "claims" paperwork, advertising and marketing.
2) In Japan, activities of daily living are calculated as part of the social welfaresystem rather than being included in the health budget.
3) Maternity expenses are not included in health costs in Japan unless complications arise.

4) Japan has less rehabilitation and fewer physical therapists. Parenthetically, as a result, there are greater numbers of bedridden in Japan than in the United States.

5) Japanese physicians perform fewer tonsillectomies, coronary bypass operations, hernia repairs and lens operations. Japan does not allows transplants, which are especially expensive.

6) There is less tracking of uninsured services paid for privately in Japan.

These are just a few of the obvious differences we have found so far. One of the most interesting is that the length of stay of older persons is remarkably longer in Japan than in the United States. This can be explained by the fact that since the Japanese are uncomforable with the idea of nursing homes, general hospitals are used as nursing homes.

There are other societal differences as well. Japan has a much more homogenous population, which is highly educated and productive, and in general enjoys a healthier diet. Consequently, there is markedly less obesity in Japan than in the United States, where up to a third of adults are overweight. Japan is also less plagued by violence than we.

There are also other differences between the two nations. Because Japan has national health insurance, individuals have continuing access to health care. Medical problems are more likely to be taken care of in a timely fashion and illness is less likely left to worsen through neglect. There may also be differences in pricing, utilization, quality of care, practice style and structural arrangements.

The overall policy point I wish to make is that we may be seriously misinterpreting the data if our analysis fails to take into account variances in the ways the data are measured when making comparisons with other nations.

Dr. BUTLER. The second chart just briefly illustrates the variation in labor participation in a selected group of nations, and as you can see, just comparing Japan and the United States, many more Japanese men than American men still participate in the workforce. As you can also see that in many developing nations, the luxury of retirement in effect really does not exist so that people remain in the workforce longer. This is only given to you as a suggestion, an example of how we have to begin to rethink the world of work just as we need to rethink the world of health.

[The prepared statement of Dr. Butler follows:]

Hearings
on
The Graying of Nations
U.S. Senate Special Committee on Aging
June 8, 1998

by

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A silent and unprecedented revolution in longevity has occurred in the 20th century. The industrialized world has gained over 25 years of life, and this achievement is nearly equal to the life expectancy attained during the preceding 5000 years of human history. Nearly 20% of this gain has been from base age 65. Soon, baby boomers will reach 65. They will constitute 20% of the population and some 25% of the vote. The United States is not unique. Japan will arrive at the point where 20% of the population is over 65 a full decade ahead of the U.S. Europe, too, is aging rapidly.

Why are we experiencing a revolution in aging? Longevity is a function of social and economic progress, better public health and nutrition, and the application of important medical concepts, such as the germ theory of disease. Furthermore, in this century we have enjoyed steady success in meeting the challenges posed by the increasing number and proportion of older persons in many nations, through such advances as social security, health insurance, and biomedical research.

The longevity revolution is derivative of the Industrial-Scientific Revolution, and, like that revolution, fundamentally affects everything: the family, economic productivity, the health care system and culture. All major changes have unpredictable ramifications. For instance, the Industrial Revolution, which drastically transformed societies in positive ways, also contributed to adverse environmental changes, such as global warming. Similarly, along with the positive aspects of the longevity revolution we have acquired a significant minority of severely disabled and impaired people, devastated by Alzheimer's and vascular dementias, frailty, and problems with mobility.

The new longevity has resulted in considerable cultural, political and economic uncertainty, as nations consider rising public pension and health care costs. Social protections are under re-evaluation and four concerns are widely voiced:

1. Can we afford older persons? Are they a burden, given pension and health care costs?
2. How much can and should society and the individual bear?
3. Will costly medical and financial dependency take away resources from the young, creating intergenerational conflicts?
4. Will the overall aging of the population, its burdens and costs, cause stagnation of the economy? And society at large? A weakening of the national will? In war and peace?
5. Will there be an excessive concentration of power in the hands of older persons? Will we live under a gerontocracy?

However daunting the challenges of population aging appear, we must not be swayed by gloom and doom prognosticators. The odds are in favor of the growth of a vital, active, experienced, engaged and useful older population. We can point to positive developments, such as increased productivity - due to the reduction of disruptive illness and premature death - and the emergence, for the first time, of the multigenerational family. Moreover, the new longevity has led people to plan seriously

for the future, and to generate new savings through pensions, one primary source of capital formation today. The growing numbers of older persons have been the catalyst for basic research and clinical investigations into aging. There have been notable drops in disability rates and an improved quality of life. (See graph 1)

The revolution in aging is also contributing to a transformation of our health care and service delivery systems by requiring a more comprehensive and integrated approach to patient care, by the development of new technology to deal more effectively than we presently do with the frail and bedridden, and by advancing long-term care programs for all ages and conditions. Increasing longevity is also forcing us to think through end-of-life decisions. Finally, it has stimulated a consideration of the ethical and philosophical aspects of aging, dying, and death, and the equitable allocation of resources among the generations.

But the adaptive responses required by the new longevity are incomplete as we approach the 21st century. We are living in a world very different from the one in which this revolution began a scant hundred years ago. Today, just as we are seeing the globalization of the economy, of science and culture, we are also seeing the globalization of population aging. Longevity has presented us with a new and vital stage of life. Each of life's stages has its own characteristics and goals, and only now have we begun to make an effort to understand the spirit and purpose of this stage. Of course, there have always been individuals who attained great age in the past, and to whom we ascribed great wisdom and spiritual power. Throughout history, the aged have been the seers, guides, myth-makers and moral beacons. But with the mass production of old age and technological advances, the roles and status of older persons have changed dramatically. The sheer numbers of older persons in society today serve to contradict stereotypes and undermine conventional wisdom. Society must find new ways to utilize the skills of older persons.

While remaining mindful of traditional values and honoring the best of the past, we need to reevaluate the philosophy of old age. As a society, we must reformulate the very concept of growing old, and approach this stage of life with a fresh eye and an awareness of its potential. Already, many older persons in the small towns and great cities of America are contributing to their communities in new ways, and discovering new possibilities for intergenerational relationships. For instance, older persons today provide the equivalent of billions of dollars in voluntary service to their communities.

One community-based project of note which we established is the Linkage House Intergenerational Program, located in the East Harlem section of New York City. Linkage House is a partnership of four East Harlem organizations, who collaborated to create a 70 unit supportive living environment dedicated to promoting healthy and productive lives for older adults. The name "Linkage House" reflects the shared vision of its sponsors: to link the residents with safe and affordable housing, to link the residents to the community through a variety of programs, and to link the generations through intergenerational educational and recreational activities. Further, the building is designed to promote interactions among the residents through two shared living areas on each residential floor. Linkage House was constructed and is supported by funding from the U.S. Department of Housing and Urban Development (HUD), Section 202 Housing for the Elderly. Linkage House would not have been possible without the contributions of a team of dedicated individuals, organizations and foundations representing a wide spectrum of backgrounds and skills. Residents serve as volunteer after-school instructors and mentors for latch-key school children ages 6 to 12.

In addition, many older persons continue to carry out traditional grandparenting roles. For example, one of eight older persons directly cares for his/her grandchildren.

The very concept of work in our society needs to be redefined. Our present work model is antiquated and set in consecutive blocks - nearly airtight - of education, work and retirement (leisure), when they might better be interwoven throughout life.

That the world of work can be - and has been - transformed in the past - is illustrated by reference to history. Consider the medieval guild system and the Industrial Revolution's factory system.

Today's testimony concerns the productive utilization of older persons in both the paid and volunteer sectors. Of necessity, this topic encompasses the preservation and extension of the physical and mental capabilities of the aging population Major policy implications include:

1) The level of investment in medical research, especially gerontology and longevity science, to solve the problems of dementia and frailty, which are costly to society as well as personally devastating.

2) The reconstruction of Medicare - not simply of its financing - but of the entire health care delivery system to older persons, through the involvement of geriatrics and managed care, making it both clinically effective and cost-effective. The field of geriatrics must be fully established in the United States and integrated within medical undergraduate, postgraduate and continuing education. Medicare's Graduate Medical Education fund, totaling nearly $7 billion, is the obvious source of funding for this modest goal.

3) The vital connection between health, productivity and Social Security reform.

In 1982, I testified before the President's Commission of Social Security Reform. Alan Greenspan, who chaired the Commission, asked me, "Since people are living longer, shouldn't they work longer?" The equation is in the air today, and it needs to be addressed in tandem with another equation: If Social Security eligibility is raised to 68 or 70 years, it must be coordinated with an increasingly healthy and active life expectancy. Eligibility cannot simply be tied to chronological age. It seems clear that we need to coordinate the efforts of the Social Security Commission with those of the Bipartisan Commission on the Future of Medicare, and link these efforts with the

National Institute on Aging and the National Institutes of Health. We must also aim to protect older workers by enforcing the Age Discrimination in Employment Act . And, since it is obvious that there is no shortage of work to be done, we must strive to create jobs. (See graph 2)

* * *

A new era has dawned for humanity - the era of longevity - and society requires new organizations. The International Longevity Center (ILC) was created in 1990 to prepare the world for great longevity. A generous benefactor has provided the organization with a wonderful home, and the funds with which to recruit outstanding people in public health, medicine, economics and ethics. The ILC is not only concerned with older persons per se, but with the effects of population aging on the human family as a whole, including the equitable distribution of resources among the generations; societal productivity; health care and social protections; and the biological factors in aging that affect health and disease, among other topics. The ILC has autonomous centers in Japan, the U.S., France, the U.K. and the Dominican Republic.

The ILC is especially concerned that, because of disease, the developing world does not enjoy the same life expectancy as the developed world. Nonetheless, because of their large populations, 60% of all persons over 60 now live in the developing world, and as we approach the mid portion of the 21st century that percentage will rise to 80%

While those of us at the ILC are interested in exploring the innovative changes that are taking place in society worldwide insofar as they relate to the graying of nations, we are especially concerned with the world of work and the world of health . We believe that nations can learn from one another, and take heart from our

observation that the sky hasn't yet fallen on those nations who have higher percentages and greater numbers of older persons than we do.

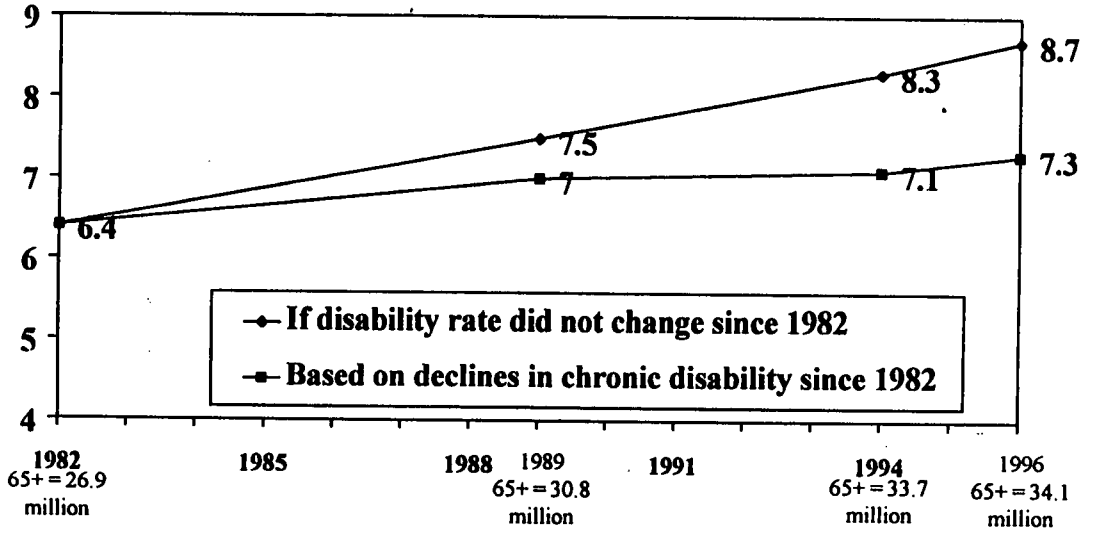
I just returned from Paris, where I met with one of the American officials at the OECD. He gave me the summary of a document (to be submitted), which was just approved at the OECD's ministerial level, entitled "Maintaining Prosperity in an Aging Society". It emphasizes three points:

- Incentives for early retirement should be eliminated
- Medical research and technology should focus on the reduction of dependence rising from conditions which particularly affect older people
- Action at the international level - studies such as the "collection and sharing of new statistical data on an internationally comparable basis."

As you can see, the research body of the world's 29 richest nations emphasizes the same issues, and is compatible with the spirit of today's Hearings.

This is the third occasion of Senate Hearings on the Graying of Nations. The first, in 1977, led to enduring relationships among research centers of various nations, e.g. the NIA and the Tokyo Metropolitan Institute of Gerontology; the second, in 1985, furthered discussions about both geriatrics and aging research. I feel certain that today's Hearings will serve to initiate new efforts to advance active aging and promote biomedical research that will keep people healthier and productive longer.

Number of chronically disabled Americans aged 65 and over (in millions)

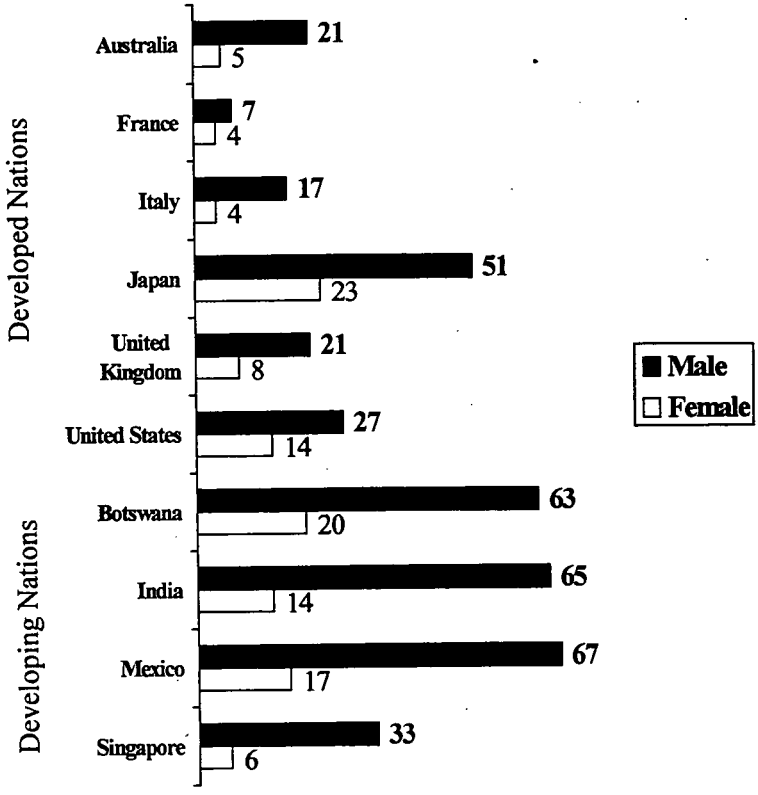


Source: Manton, et. al. (1997, March). Chronic disability trends in elderly United States populations: 1982-1994. *Proc. Natl. Acad. Sci. USA. 94*: 2593-98.

ILC-USA

Productive Aging

Percent of population age 60 and older which is economically active



Source: International Programs Center, US Bureau of the Census. (1996)

ILC-USA

Dr. BUTLER. Well, it really gives me very special pleasure to turn to my right and to introduce, as Senator Glenn requested, Lady Sally Greengross, who is Director General of Age Concern in England, one of the largest, if not the largest, of the public charities in Great Britain, and also Director of the International Longevity Center in the United Kingdom. Sally.

STATEMENT OF LADY SALLY GREENGROSS, DIRECTOR GENERAL OF AGE CONCERN IN ENGLAND AND DIRECTOR OF THE INTERNATIONAL LONGEVITY CENTER, UNITED KINGDOM

Ms. GREENGROSS. Thank you. Chairman, members of the committee, can I start by thanking you for inviting me? I think the generosity and open-mindedness of leaders in this great country in inviting people like me to talk a little about our own experiences, these are really admirable qualities.

I am privileged to be setting up an ILC in the UK working with Dr. Butler.

Senator GLENN. Would you pull that mike up real close to you. These mikes are very directional here and if you would get it right in front of you, that will help.

Ms. GREENGROSS. Sorry. Is that all right? Is that better?

The CHAIRMAN. Yes.

Ms. GREENGROSS. In the UK I am setting up an ILC now working with Dr. Butler and his team in New York and colleagues from other ILCs, and I think we really do know the value of common programs and research in policy analysis and in the development of services because a common understanding of problems and challenges which we are all facing does give us a chance to learn from each other, and to influence people who shape and make policy. We hope, of course, to enhance the quality of life as we move into the next century with a fundamentally different population, which is going to change everything, the way we look at all aspects of life in our countries.

We have heard a lot about the figures and how they have changed. I only want to quote one: that in the United Kingdom in 1951, there were 300 people of 100, and in the year 2031, it is estimated there will be 34,000. That is not a very long time. As a matter of fact, our queen used to send telegrams to everybody on their 100th birthday, but she cannot write that number of messages now. So it has already had to stop. There are big changes.

I think in the United Kingdom as in the United States, the older population has very high expectations. That has been intentional in the way policies have developed, but the other side of that is that if people feel they have been let down, and that is certainly the stage at the moment that many older people are at in the UK, then their resentment and anger is very intense indeed. What is new is the volatility of the older voter in the UK. That never used to be the case. But now it is very much so, and the last British government learned that to its cost when it imposed a tax on domestic fuel just before local and European elections, and was actually decimated, really directly as a result of that action. So it was a hard lesson for them to learn.

But I learn a great deal from this country, and one of the most valuable experiences over the years has been to learn about the White House Conference mechanisms, particularly the one on aging, and I was able to attend the last one. We recently created a very large initiative in the UK. This is a millennium debate, the debate of the age, and it is actually the largest exercise of this type ever initiated in the UK, the difference with ours and your own being that this is independent of government, although the government from the prime minister down supports the initiative and has made responses and promises that they will look at this in-depth as it goes forward.

But we have adopted much of the mechanism of the White House Conference from local to state to national involvement of people. The difference in ours is that we are looking 40 years ahead. We are looking long-term and using the coming millennium as the excuse for that, and we have divided the population therefore into different strands: the voice of experience, older people; the voice of the future being younger people; and a whole intergenerational strand, as well as the experts in many fields, architects, planners, as well as health professionals and so on. We already have over a hundred of the major professional bodies involved, and it is only just getting underway now.

So it is huge—it is a huge experience, a huge involvement, but it is very much based on what I have learned over the years from the generosity of American colleagues. The aim is to influence policy and to produce an agenda for the age which will come out at the beginning of the next century.

Now that is one thing, but one other initiative, one that I could not send in advance to you because it was confidential until last Friday, that you might be interested in was a double announcement from the British government. That is the new government that has only been in office for about a year. They have announced two initiatives, one at a local level and one at a national level. At a local level, they have put in motion 30 pilots with local government involving older people who will participate in the planning, the character, and the whole decision-making process of service provision and local government responsibilities so that they can guarantee the standards of service and the type of service that they provide. They can guarantee to older people what they will have a right to expect. It is very risky policy and it is a new form of government initiative.

At the same time they announced on Friday—I have to say in that local one, my organization is an active partner, one of five partner bodies working across the UK—at a national level they introduced an interministerial committee, which goes right across all the main departments of state. Our ministers, as I am sure you all know, are elected members of parliament who are appointed as ministers, but each of them brings with him or her a whole department of state. This ministerial committee goes right across the board. So it is not just health and social security, but it is crime, it is the built environment, it is transport, it is every aspect of life, and they are all coming together to look at the aging of the population and what they are going to do with older people and for older people.

So I think it is quite an interesting initiative. As I say, it was all under wraps until Friday so I could not write about it in advance. But we will be both part of it and monitoring it and would be very happy through the ILC to continue reporting on that if it is of interest to people here and indeed in other colleagues' countries.

There are one or two other initiatives which focus particularly on productive aging which you asked me to mention. One of them is in the area and field of health promotion—Senator Glenn, you were talking about that—prevention of disease and maintenance of good health in the wider sense as interpreted by the World Health Organization, who backed this right from the beginning, and whose involvement in aging and the health of the aging of populations is critical to all our success. We have to keep on saying this to WHO. Their chief global adviser is here and he knows about that, and we are always working together to make sure that WHO and the other intergovernmental bodies keep up the pressure on all countries to focus on the aging of their populations, and certainly organizations like the International Federation on Aging, whose president is here, and which I am involved with, do our best to constantly say to the UN bodies "you must keep up the interest in aging."

Anyway, our health promotion program is a European one. It now has spread right across the European Union and it is tied to government health targets, but the innovation in it is that older people are part of it. They are the senior health mentors. They spread the messages and research in Britain has shown that, in fact, you get more spectacular results in health improvement and health gain with the older population than you do with younger people. So we hope that this will continue to spread. It already has to Australia and various other countries around the globe.

There are other programs of this sort, many of which are more actively going on in the United States than in the UK, work with schools, work with secondary and junior children in schools. Another one called Transage action, which was based on the foster grandparenting program here, and where we are working now with the University of Pittsburgh to train older volunteers so that I hope we will get mutual training in accredited programs, and we can send our volunteers across the Atlantic to work for a little while in our respective opposite countries' programs, which would be really lovely.

There are differences in the funding between Britain and the United States, and I think this adds to the interest when we exchange experience. The other thing you may be interested in in Britain at the moment is the lottery program, the National Lottery Program in the UK has to devote a proportion of all the money it raises to what are known as "good causes." My own organization has just received about $4 million, to which we had to add quite a lot, but we are one of quite a number of organizations, and that money is for millennium fellowships, and these are fellowships, financial bursuries, to people of 50 and over who must work in their local communities with people of 25 and under so that is a very direct incentive for intergenerational work, which I think is one of the most important things we need to promote and pursue as we go into the next century.

The last initiative I can mention in this very brief presentation is one that we set up with employers. Just over a year ago, we set up a forum of the largest employers in the UK, many of them, in fact, multinational, and they are committed to demonstrating the bottom line economic case to having a mixed stage workforce and not just a young workforce, and that is now spreading to the public sector as well as the for-profit sector. There are incentives at the moment in the UK for employers to downsize by getting rid of all their older workers, first of all. That is because they can take money from the pension fund to do this rather from the P&L account, and that has been a huge incentive to employers. We really want to reverse that so that people are judged from the point of view of competence and sometimes because they have the history of the company at their fingertips and can pass that on to the younger generations, which, of course, can save a lot of unnecessary expenditure "reinventing the wheel."

So I think that the ILC initiative through serious research, comparative analysis of policy, and exchange of information and bringing people together to do that can help us all to understand what needs to be done sooner than we might do if we work alone. The big debate we initiated is one example of what I have learned from the United States experience over 25 years. A priority for me is that ILC research should help each country to look at true cost effectiveness of the programs we introduce, not just short-term savings, which are, in fact, long-term costs, and if we could do that, I think it would be extremely valuable, but it needs for that to have cross sectoral, cross-departmental as well as cross-national involvement. The huge challenge of the aging of our populations is such a fundamental one that if we can speed up the level of knowledge and understanding that we have, then I think our children and grandchildren will grow up in a world where, even if blood ties are replaced in many of our countries by new replacement family ties, the children will be able to be proud of living in a country that is not riven across the generations, but is one where the generations are united and age in the longer term can become at least chronologically irrelevant to our future. Thank you.

The CHAIRMAN. Thank you, Lady Greengross. Dr. Butler.

Dr. BUTLER. You want me to continue to introduce?

The CHAIRMAN. Yes, please.

Dr. BUTLER. It is a pleasure then to introduce Dr. Yuzo Okamoto. I would preface by saying that while he is the Professor of Health, Science and Welfare Economics at Kobe City College of Nursing in Japan, he also comes as a representative of the International Longevity Center Japan. We would not really have an International Longevity Center had it not been for the cooperative and collaborative efforts of Japan, and particularly Shigeo Morioka, who cofounded with me the ILC in 1990. Since then we have been able to examine the Gold Plan, to look at a variety of important matters, medical and social, including the transmission of values across the generations. It is a special pleasure now for me to introduce Dr. Okamoto.

STATEMENT OF YUZO OKAMOTO, M.D., PROFESSOR OF HEALTH, SCIENCE AND WELFARE ECONOMICS, KOBE CITY COLLEGE OF NURSING, JAPAN

Dr. OKAMOTO. Thank you very much for giving me such a precious chance to speak about the Japanese experience. In Japan, a matter of concern about the elderly had long been focused mainly on unease in old age especially on income and medical services. Therefore, a national pension system and a national health insurance system have been established since 1960's and 1970's. As living standards have much improved, usage of medical care have increased and average life expectancies of Japanese prolonged rapidly, but afterwards new programs have emerged among elderly and their family members who help to take care of their old parents. Questions concerning care for bedridden people and the senile constitute the greatest cause of unease people feel toward life after retirement. That is unease on long-term care since the late 1970's.

It also has been pointed out that one of the main reasons for rising medical expenditures is long length of hospital stay of older persons since the 1980's. To remove increasing unease, government has created and promoted eagerly a new social nursing care system we call the Gold Plan and New Gold Plan that greatly improved the services supplied in institutions and homes and have given financial assistance to all municipalities.

But the Gold Plan was insufficient for increasing care needs. To solve this serious problem, comprehensive nursing policies must also be devised in all related areas. Hence, new bills to create the public long-term care insurance system for ailing seniors and the middle-aged were passed by the Lower and Upper House in December 1997. This system which starts in fiscal 2000 shall make available a wide range of care services at care facilities and to households. Under the program, various care workers including homemakers would be dispatched to the homes of the elderly, nurses would be sent to provide the care services, doctors would make house calls, and recipients would be granted access to care for long-term and short-term stays at nursing homes, et cetera. Those who receive the services would have to pay ten percent of the cost of the services they receive in addition to the monthly payment of 2500 yen, $18, on average.

High labor force participation among the elderly. In Japan, labor force participation rates among elderly have been relatively high for a long time. In this sense, productivity of Japanese elderly has also been high. Why do more older people work in Japan? There are several explanations that are possible including employment opportunities for older people are greater in Japan. Policy initiatives and incentives for the hiring and the retention of older workers are different. There is a different cultural attitude toward work for older people.

However, some surveys indicate that there is little difference in interest for work between the elderly in Japan and the United States. I am sorry. These tables are included in my text. Therefore, in the area of public policy, it may be important in explaining the differences.

Efforts to help older people work are the most unusual aspect of Japan's policy toward the elderly. First and most important, Japan

permits firms to set a mandatory retirement age for their company. The minimum age of mandatory retirement—we call it "teinen"—is now 60. Mandatory retirement means leaving a fully benefitted lifetime job. Employment for older white-collar, however, involves several other alternatives prior to the teinen rule. Therefore, despite the practice of teinen, many elderly workers continue to work.

In the aggregate, about 60 percent of those previously employed remain in the labor force. Of these individuals, about 25 percent are reemployed at the same firm; 43 percent are transferred to subsidiary or related firms; about 14 percent work at firms that are entirely different firms. Nearly 13 percent find self-employment.

In 1994, a law was passed which will move the age for all pensions to 65 for men born in 1949 and later. This law shall necessarily promote employment and make more elderly workers participate in the labor force.

Another and one the most influential factors to promote employment of the elderly is the advent of an era of few kids and later marriage. The last two decades, Japan's birth rate has fallen far below the level needed to replace the population. As a logical consequence, more elderly people shall be employed to replace the labor force shortage.

Another way which makes the elderly productive is to do business on their own, work as a volunteer, and to get higher education at a college. In Japan, elderly people undertake a variety of social roles after they retire from work. The elderly still play a key role in holding together local communities based on territorial bonds in rural areas.

In addition a number of Silver Human Resources Centers have been established. This system covers almost all the cities in the whole country and is designed to help the elderly find employment, provide them with opportunities for a variety of work assignments. The era of productive aging is steadily coming in Japan.

This is a slide of grandparents and grandchildren. This old man talks about his younger days experiences with his children. This is voluntary school. They are taught how to care for the very elderly. This is a picture of elderly people. This is a big athletic event that Dr. Butler attended last year. Thank you. Thank you very much.

[The prepared statement of Dr. Okamoto follows:]

PRODUCTIVE AGING AND THE ROLE OF THE ELDERLY IN JAPAN

Yuzo Okamoto M.D.
A member of Project Advisory Group ILC-Japan

[Removing unease of aging —National Health Insurance & National Pension System]

In Japan a matter of concern about the elderly had long been focused mainly on unease in old age especially on income and medical services. Therefore National Pension System and National Health Insurance System has been established since 1960-70s.

And central government has also promoted employment of the elderly and kept cost sharing for patient over 65 much lower than those from other age group since 1970s. As a result of these, living standards has much improved, usage of medical care increased and the average life expectancies of Japanese prolonged so much(Fig. 1), but afterwards new problem has emerged gradually among the elderly and their family members who have to take care of their old parents.

Questions concerning care for bedridden people and the senile constitute the greatest cause of unease people feel toward life after retirement. That is unease on long-term care since late 1970s. To remove this increasing unease government has created and promoted eagerly new social nursing care system(Gold Plan , new Gold Plan) that greatly improved the services supplied in institution and home and given financial assistance to all municipalities. To solve this serious problem comprehensive nursing policies must also be devised in all related areas, such as the system of leave from work for nursing family members.

[Public Long-Term Care Insurance System]

Hence, new bills to create the Public Long-Term Care Insurance System for ailing seniors andthe middle aged were passed by Lower and Upper House in December 97. (reference material 3)

This system which starts in fiscal 2000 shall make available a wide range of care services at care facilities and to household. Under the program to be directly run by municipalities, workers would be dispatched to the homes of the elderly to help out with chores, nurses would be sent to provide care services, recipients would be granted access to care facilities for rehabilitation, rent health-care equipment, including wheelchair, electric lift etc. and portions their homes would be renovated to suit their limited mobility. Long-term stays at nursing homes, short-term stays of one week a month and day-time stays at care centers would also be available.

Those aged 65 or older , as well as those between 40 and 64 who suffer from disorders related to aging, such as dementia and cerebrovascular disorders, would be eligible for the services provided under the program.

Those who receive the services would have to pay 10 percent of the cost of the services they receive , in addition to their monthly payment.

Each municipality would be tasked with determining the eligibility of potential beneficiaries and which services they require.

The ministry of Health and Welfare has estimated that ¥4.2 trillion (in half subsidized by tax)will be necessary to operate the nursing care system nation wide in fiscal 2000year, when the nation's ailing elderly is estimated to reach about 2.8 million.

To sustain the system all people aged 40 and above should be made to contribute. the ministry has estimated that the monthly payment per policy holder in fiscal 2000 would be ¥2,500 on average. Removing the big-three unease in old age, that is-income, medical service, and long-term care Japanese people begin to have much more concern to spent meaningful life in their old age as a productive third phase of whole life.

[High Labor Force Participation Among the Elderly]

In Japan labor force participation rate among elderly has been relatively high for a long time(Fig.2, Fig.3). In this sense productivity of Japanese elderly has also been high. One of the reason why do more older people work in Japan than in other industrialized countries was underdeveloped pension system. For example, Fig.4 and 5 clearly shows the economic disincentive to work among older workers in Japan. But still now work participation level among the elderly in Japan is far exceed those in other country (fig3.7).

Several explanations are possible, including: [1] [2]

- Employment opportunities for older people are greater in Japan.
- There is a different cultural attitude toward work for older people.
- Older people have different interests regarding work.
- Policy initiatives and incentives for the hiring and retention of older worker are different.
- Work, particularly for older men, may be viewed as a more socially acceptable activity in Japan, less deviant there than in the West.

Each of these possibilities needs to be considered to better understand the relatively high levels of employment among older people in Japan. However some surveys indicate there is little difference in interest for work between the elderly e.g. in Japan and U.s. (Table 1) [1] [2] Therefore in the area of public policy, differences between Japan and the United States may be important in explaining the differences in activities of older people in the two countries. The following efforts to help older people work are the most unusual aspect of Japan's policy toward the elderly. (cf. reference material 1, 2)

[Public Policy in the Area of employment]

Japanese public policy in the area of employment and labor differs markedly from that of the United States . First and most important, Japan permit firms to set a mandatory retirement age for their company. Mandatory retirement is a way of removing older salaried workers from "lifetime job" positions. The minimum age of mandatory retirement, or"teinen", is now 60; throughout the 1970s and the 1980s, many firms set it at age 55. Although retirement means leaving a fully benefited "lifetime job", many older people continue to work beyond the age of 60 at the same company, at satellite or somewhere else.

In Japan 95% companies set mandatory retirement at age 60(or over). This does not

necessarily force an older worker out of the labor force. but rather it terminates the lifetime protection and job security of the primary career job. Employment for older white-collar. however. involves several other alternatives prior to the teinen rule. (cf. notes)

Despite the practice of teinen. many elderly workers continue to work(Fig. 2. 3 Table 2) In the aggregate. about 60% of those previously employed remain in the labor force. Of these individuals. about 25% are re-employed at the same firm; 43% are transferred to a subsidiary or related firm; a smaller number. about 14%. work at a firm that has no relation to the former firm; and nearby 13% find self-employment. (1)

[Raising the Retirement Age]

Public pension in Japan are comparable to those of the other industrialized nations. Japan's has two-tiered pension system. The first tier provides a basic floor or safety net for all workers at age 65 through the National Pension System. The second-tier pension is based on earnings history and occupational level-Employee' Pension System. Eligibility for special old age benefits is at age 60 for men and age 55 for women full benefits are available from age 65. In 1994 a law was passed which will move the age for all pensions to 65 for men born in 1949 and later(i. e. 2014). Women's eligibility will rise to 65 in 2019. This law shall promote employment the elderly necessarily and make more elderly workers participate in labor force. Therefore labor force participation rate among the elderly in Japan shall rise again in near future. (Fig. 7)

[Advent of" An Era of Fewer kids]

Another and one of the most influential factor to promote employment of the elderly is advent of "An Era of Fewer kids. Later Marriage". The last two decade have seen Japan's birthrate plummet far below the level needed to replace the population. (Fig. 8) A trend towards marrying later seems to have been a major factor in this decline. With more women getting college education and embarking on careers. a growing are putting off tying the knot. More alarmingly. a significant share of young people see no advantages to the married state. As a logical consequence. more elderly people shall be employed more to replace the labor force shortage(Fig. 6).

[Social activities of the elderly on the increase]

Another way which make the elderly productive is to do business on their own. work as a volunteer and get higher education at a college. The following is a good example. a letter from a 60 years old male reader of "Asahi Newspapaer" which is the most influential news paper in Japan and publishes circulation of 8 million daily.

Drink. Chat and Happily Challenged

Hideo Matsuda. Ebina City(Student. 60 years old)

I get together occasionally with my former colleagues from affiliated companies whom I worked with twenty-some years ago. Even now when most of us have retired from work. this gathering we

call the "Men's Cultural Circle" is still going on.
Originally we were getting together just to drink with our friends. Then we decided to make the time more interesting by first doing some cultural activities such as visiting various museums before drinking.
As my friend began to reach the age of retirement, we found a greater significance in activities that form culture rather than simply visiting cultural sites.
Mr. K, who is scheduled to retire soon, says "After I retire, I want to create a new field of philosophy that combines physics and philosophy."
Mr. M opted for early retirement and opened a patent service office. He plans to use years of experiences ad a researcher to introduce field with good patent prospect to young researchers.
Mr. S who retired two years ago has been energetic in the campaign to bring a library into his residential community.
And I enrolled a literature department of a college after my retirement with the goal of becoming a man of literature(maybe).

The more we drink, the more we talk enthusiastically. But surprisingly we never hear old stories related to our companies.
(Asahi Newspaper, May 17, 1998)

[Social Activities of Elderly People in Japan]
In Japan, elderly people undertake a variety of social roles after they retire from work.
・ In the era when the primary industries were the predominant industries, the elderly played a key role in holding together local communities based on territorial bonds. This role is still commonly performed by the elderly in rural areas.

・ As the number of relatively affluent retired salaried workers has increased in recent years, these people has built networks based on their individual hobbies and interest. There are increasing numbers of circle activities and volunteer activities especially in urban areas. Moreover, the numbers of people entering college to receive life time education have continued to spiral. (Table 3)

・ Japanese elderly people seem to have greater desire to work than elderly in other countries. In addition to the details outlined above, A number of Silver Human Resources Centers have been established(400, 000 applicants enrolled -1997). This system covers almost all cities in whole country and are designed to help the elderly find employment, provide them with opportunities for a variety of light work assignment, as well as, in recent years, intellectual work that require specialized knowledge such as translation and computer-related services. (cf. reference material 2)
[The era of Prductive Aging]
Traditionally in Japan, the role of the elderly has been considered or emphasised

within family structure as a common idea. But recently their role is extending into variety of field in society more and more as stated above. With the Big Earthquake of Kobe as a turning point, participation rate among all generation are on the increase rapidly especially among the elderly.

The era of Productive Aging is steadily coming in Japan.

(notes-Retirement Pathways in Japan[1])

By age 55, a typical white-collar worker has risen to one of four different categories that may allow exceptions to the teinen rule(quote from reference (1)p22) :

・A board member in the central parent company. The teinen rule will probably not apply. The appointment to the board goes only to a select few.

・A board member in a top satellite firm of the parent company. For very senior people, the teinen rule does not apply. Lower-status board members tend to retire by 65. They could be appointed to a lower-tier satellite.

・Not a board member but a section chief or division head of leading or secondary satellite Often, section chief in the parent firm have been offered a parallel position in the satellite. At age 60, They will likely face the teinen system and could become board members of the satellite firm, could be re-hired without the same level of compensation or benefits, or could seek self-employment.

・Those at age 55 who have not risen to the level of section chief. In all likelihood, they will remain at the parent firm until age 60 and seek re-employment or retire. Through "shukko" , defined as placement at a satellite firm, they could continue to work age 60 or 65. In such cases, the parent firm assists the satellite with salary payment. The advantage of shukko for the parent company is the opening of a higher level position for younger worker. Older workers in this category can also choose to exit at age 55 with full severance pay.

In sum, those in the most influential positions at age 55 are often exempted from mandatory retirement. Further, who have been particularly industrious and loyal to the company will rewarded with a wider and better set of choices for later life employment.

REFERENCE;

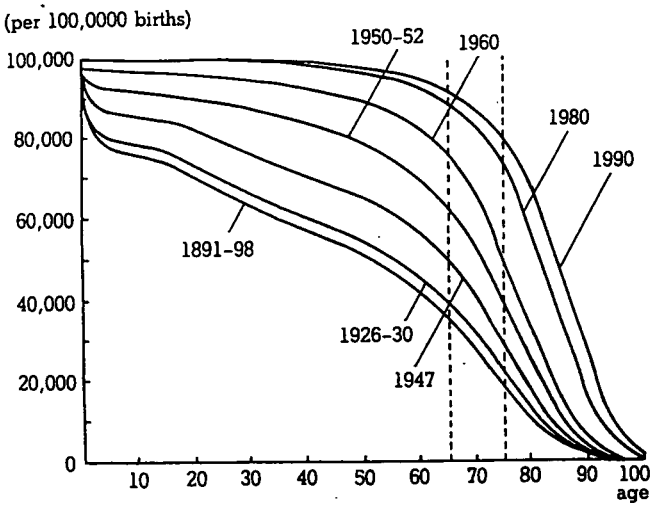
(1)JAPAN SOCIETY & INTERNATIONAL LEADERSHIP CENTER ON LONGEVITY AND SOCIETY(U.S.A.)
"Productive Aging and The Role of OLder People in Japan: New Approches for the United States"
1994

(2)INTERNATIONAL LONGEVITY CENTER(JAPAN)
"A COMPARATIVE STUDY OF VALUES AND VALUE TRANSMISSION BETWEEN JAPAN AND THE U.S."
1995

(3)White Paper on Labor Minstry of Labor(Japan) 1998

Fig. 1

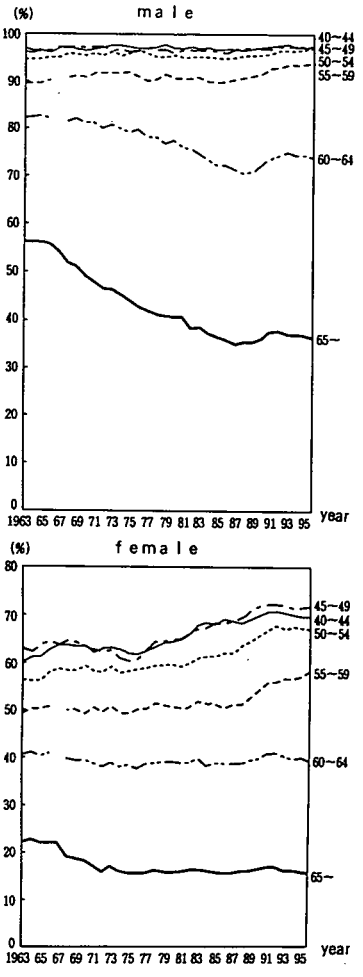
Trends in Survival Rates (Women)



Source: Ministry of Health and Welfare vital statistics.

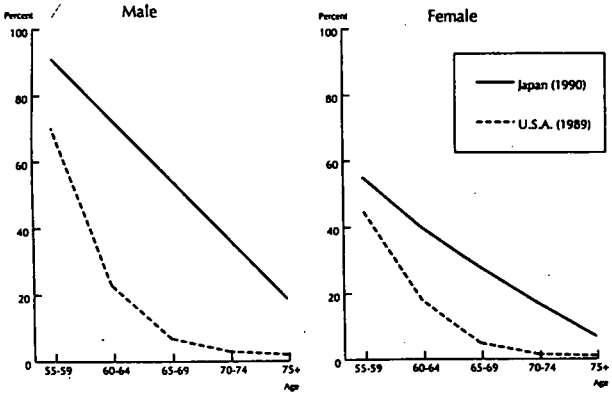
Fig. 2

Trend of Labor Force Participation Rate by Age Group



Ministry of Labor (1966)

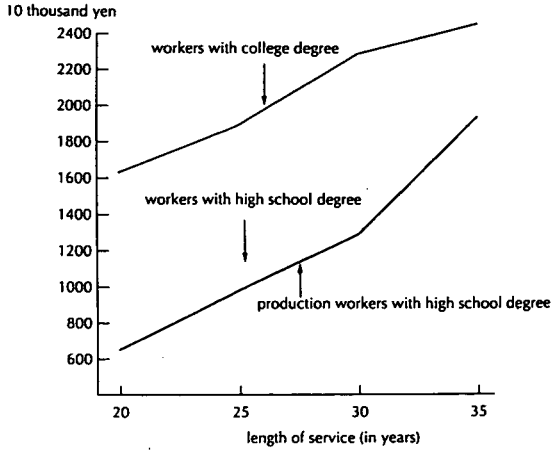
Fig. 3 **Labor Force Participation Among the Elderly in Japan and the United States, by gender**



Source: International Labour Office, *Year Book of Labour Statistics 1991*, Geneva, 1991.

Fig. 4

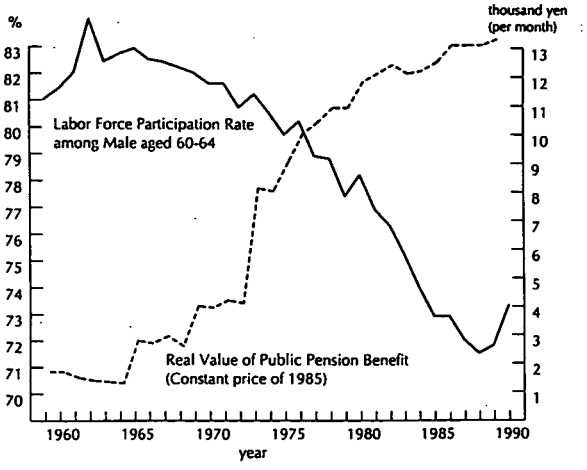
Average Amount of Retirement Allowance in Japan, by length of service



Source: Seike, A. (1993 Project Report). "Labor Market Implications of Social Security: Company Pension Plans. Public Pension and Retirement Behavior of the Elderly in Japan." Tokyo: Japan Center for Economic Research

Fig. 5

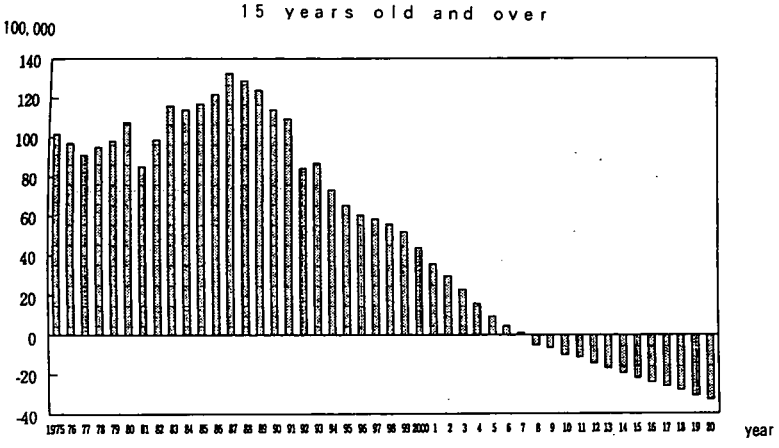
Japanese Labor Force Participation Rate and Public Pension Benefits Level



Source: Seike, A. (1993 Project Report). "Labor Market Implications of Social Security: Company Pension Plans, Public Pension and Retirement Behavior of the Elderly in Japan." Tokyo: Japan Center for Economic Research

Fig. 6 Population Increase

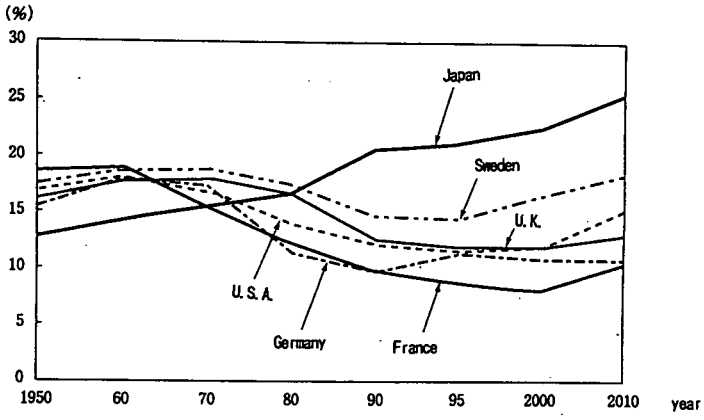
15 years old and over



National Institute of Social Security(1997)

Fig. 7

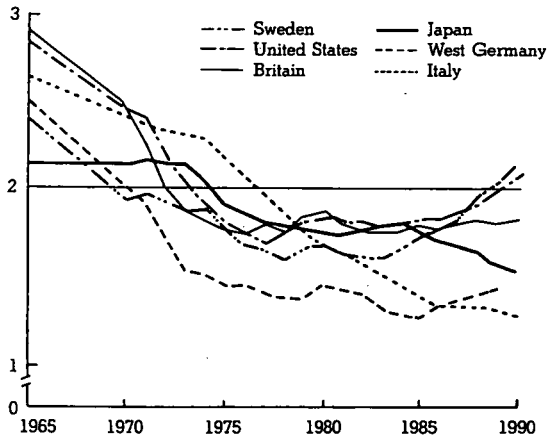
Participation Rate of 55 years old and over Among Labor Force



ILO "Economically active population 1950-2010" (1966)

Fig. 8

Total Fertility Rate in Selected Countries



Source: Council of Europe, *Recent Demographic Developments in the Member States of the Council of Europe*, 1990, 1991.

Table 1 **Desirable Lifestyle in Old Age: Japanese vs. Americans**

(%), ( ): Ranking

	Japanese		Americans	
Enjoying traveling, hobbies, or sports	65	(1)	64	(3)
Living in harmony with your husband/wife	46	(2)	73	(2)
Enjoy the company of friends and colleagues	42	(3)	73	(1)
Living peacefully with children or grandchildren	41	(4)	52	(5)
Continuing career as long as possible	33	(5)	31	(9)
Enjoying learning activities you didn't have time for	30	(6)	50	(6)
Contributing to society through volunteer activities	26	(7)	56	(4)
Retiring from social, political, and job activities, while keeping informed	13	(8)	38	(8)
Teaching school subjects to children in the local community	9	(9)	39	(7)
Taking up the challenge of a new business/occupation	8	(10)	22	(12)
Enjoying living alone	8	(11)	26	(11)
Taking the lead in advancing social development	4	(12)	27	(10)
Others	0		2	
Not sure	2		1	

by permission of INTERNATIONAL LONGEVITY CENTER(JAPAN)
"A COMPARATIVE STUDY OF VALUES AND VALUE TRANSMISSION BETWEEN JAPAN AND THE U.S.
March 1995
(1996)

Table 2
Present Employment Status by Occupation at the Age of 55(Male, 55~59)

(1)Age Group 55~59 (%)

Occupation at the age of 55	Present Occupation		
	Employment		Unemployed
	Same kind	Different kind	
Total	83.0	12.0	5.0
Professional & Technological speciality	88.3	8.3	3.4
Managerial	85.5	11.0	3.5
Clerical work	82.0	12.6	5.5
Sales	77.5	18.1	4.3
Service	79.2	16.5	4.3
Protective service	81.4	16.9	1.8
Farming & forestry	72.4	13.6	13.9
Transportation	83.4	10.5	6.1
Communications	72.7	25.8	1.8
Technical % Machinery operator	84.1	10.2	5.7

(1)Age Group 60~64 (%)

Occupation at the age of 55	Present Occupation		
	Employment		Unemployed
	Same kind	Different kind	
Total	45.5	22.1	32.4
Professional & Technological speciality	45.6	20.1	34.3
Managerial	44.2	24.2	31.6
Clerical work	35.7	27.1	37.2
Sales	56.9	23.4	19.7
Service	50.5	23.0	26.5
Protective service	52.3	24.6	23.1
Farming & forestry	60.9	18.2	20.8
Transportation	33.0	27.2	39.8
Communications	32.9	26.6	40.5
Technical % Machinery operator	48.2	18.7	33.2

(White Paper on Labor, 1997)

Table 3 Social Activities of Elderly People in Japan

	Territorial bonds	Network
Contents	Based on territorial bonds, many people engage in a variety of activities such as traditional festival, amusement and sports. The elderly play a key role in the administration of local communities by serving as a community council chairman, welfare volunteers, etc. As the aging of the population progresses in the region, there are increasing number of activities in which people take care of the feeble elderly or the elderly who live alone, from the perspective of providing mutual aid.	The key players are economically privileged retired workers with sufficient pension income. They form networks based on their individual hobbies and interest. Their activities in a variety fields including culture and welfare have been on the increase. More and more people are going to college and special schools.
Characteristics	Based on the territorial bond. Target activities are those that are needed to maintain the local community.	Emphasis is on the discovery of something new that gives joy and purpose to one's life apart the workplace.
Region	Rural areas where agriculture and fishery are the main industries.	Urban areas with many retired salaried workers.
Main place of activity	Community gatherings, elderly people's club.	Hobby circles, volunteer groups
Public measures	Support for elderly people's club activities(covering part of the cost of activity expenses)	Support for volunteer groups, municipal support for circle activities(providing space, covering part of the cost of activity expenses), support for lifetime education(college courses on air, etc.)

REFERENCE MATERIAL 1

Background of Measures to Employ the Elderly

(1) Enactment of the Employment Promotion Law for Middle-aged and Older Workers: 1965–1974

a. Overall employment situation was significantly improved due to the high economic growth in the latter half of the 1950s. In terms of age groups, however, the situation was quite unbalanced, and it is clear that the middle-aged and older unemployed did not have an easy time getting job. Consequently, the Special Measures Law concerning the Employment Promotion for Middle-aged and Older Workers, etc. was enacted. This law prescribed the setting of employment rates by job type for middle-aged and older people, the issuance of job search passbooks for the middle-aged and older unemployed, the provision of passbook holders with an employment promotion allowance, and the provision of vocational training.

b. Subsequently, the overall employment situation for middle-aged and older people improved. For people 55 years and older, however, the situation remained difficult. Consequently, the Special Measures Law concerning the Employment Promotion for Middle-aged and Older Workers, etc. was amended. This amendment prescribed an elderly employment rate system which set an employment rate irrespective of job type, instead of the rate set previously by job type (1976).

The elderly employment rate system has been used actively as a means to administratively promote the extension of the retirement age to 60 years old. With regard to the fact that industry provides various types of jobs, conditions and age configurations, it has been pointed out that it is problematic and unrealistic to demand a fixed percentage for elderly employment rates. In the future, emphasis will be placed on ensuring employment up to arcund the age of 65, using the current retirement age of 60 as a base.

(2) Enactment of the Employment Security Law for Older Workers: 1975 – Present

a. When economic growth leveled off after the first oil crisis in 1973, the aging of society was anticipated as a significant problem. There were fears that employment of the elderly, a problem even in the times of high economic growth, would become even more difficult, and that the problem would deepen.

Further, with the average lifespan extending past 70 years, the average retirement age, which was 55 at that time, was incommensurate with the actual work capabilities of workers. It was therefore necessary to extend the retirement age toward 60 years old.

b. A report from the Employment Council stated that employment until around the age of 65 should be ensured for elderly people. To accomplish this, the consent of society should be sought, and the support for both industry and workers to actively deal with this issue should be provided. Based on this report, the Employment Promotion Law for Middle-aged and Older Workers was amended (name amended to the Employment Security Law for Older Workers). The amended law provided for compulsory efforts toward a retirement age of 60 years, and provided guidance regarding the increasing of the retirement age (1986). Further, in order to ensure a diversity of employment opportunities, it was decided that Silver Human Resources Centers would be established.

Furthermore, in 1990, the Basic Policy for Measures for the Employment Security of Older Workers was formulated for the purpose of popularizing the retirement age of 60 years old and promoting reemployment. In 1994, the Employment Security Law for Older Workers was amended to make a retirement age of 60 years old compulsory starting in 1998.

c. To maintain economic and social vitality, it is important from now on that the retirement age be fixed at 60 in the near future and that the elderly be provided a variety of opportunities to work actively until the age of 65.

Ministry of Labor (1966)

6 Promoting the Employment of Older Persons

With the extension of the average life span and the lowering of the birth rate, Japan is now witnessing the aging of its population at a rate unprecedented in the world. In order to maintain vitality in Japanese society in the 21st century, it has become an urgent task to make the best use of the strong will to work among older persons, and of the knowledge and experience they have cultivated over their long lives. To achieve this goal, the Ministry of Labour has been promoting comprehensive employment and work measures in line with the Basic Policy on Employment Security Measures for Older Persons.

I. Promotion of employment up to age 65

The following measures are being taken to promote continued employment up to age 65.

1. With a view to establishing age 60 as the standard retirement age as early as possible before it becomes legally required to do so in April 1998, enterprises that have a retirement age of under 60, barring any special justifications, are given administrative guidance that includes requests to raise the age of retirement, orders to formulate a plan to raise the age of retirement, recommendations to revise and implement the plan, and a public listing of uncooperative enterprises.
2. Moreover, in order to secure stable employment up to age 65, guidance is given so as to promote continued employment even for those who have reached the age of retirement.
3. The Central Older Persons' Employment Security Center and Prefectural Older Persons' Employment Security Centers have been designated as the core organizations to promote conditions essential for continued employment in individual enterprises. They provide such services as counseling and assistance concerning continued employment and the payment of related grants.
4. Grants are paid to employers who introduce a system for continued employment. Subsidies are also available for preparing the workplace environment for employment of the aged.

II. Promoting employment in various forms

The following measures are being implemented to meet the diversifying employment needs of older persons.

1. The flow of manpower demand and supply has been improved by the following:
   a. appointing at each Public Employment Security Office an expert who provides vocational guidance and employment services for older persons;
   b. showing videotapes introducing individual applicants, emphasizing their strong points;
   c. providing vocational counseling, connected with daily life counseling, at the Vocational Counseling Room for Older Persons; and
   d. promoting job placement. In addition, Grants for Employment Development for Specified Job Applicants are paid to employers hiring, through an introduction from Public Employment Security Offices, older persons who have difficulty finding work.

Grants for Employment Development for Specified Job Applicants

The objective of these grants is to expand employment opportunities for specified job applicants, by paying grants to employers engaging older persons or persons with disabilities as workers under "continued employment," through the placement service of the Public Employment Security Office. This grant covers part of the wages paid to them.

Poster for the One-month Campaign to Promote Employment of the Elderly

2. The Association of Employment Development for Older Persons is working to facilitate retirement from work life through seminars to help workers make lifelong living plans to prepare for retirement.

3. Dispatching services operate a special system for older persons to enable them to work as they choose and at their own discretion. The establishment of Older Persons Vocational Experience Utilization Centers are being promoted to encourage short-term employment opportunities.

4. Among older persons retired from full-time jobs, more and more wish to use their abilities by engaging in some form of work or volunteer activity, thereby making their lives more meaningful. To meet this demand, the Ministry of Labour provides help and assistance in setting up Silver Human Resources Centers, which aim to provide older persons with temporary and short-term jobs closely connected with the daily life of their local communities. Also, based on a revision of the Law for Stabilization of Employment for Older Persons in October 1996, additional measures are stipulated for more effective implementation of these services throughout all of the prefectures and to cultivate and assist the collaboration among the Silver Human Resources Centers providing these services.

III. Assistance for employment in old age

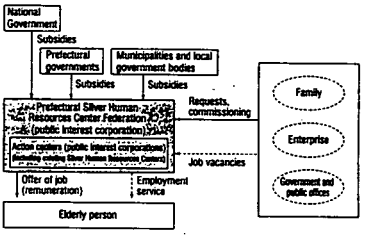
Centers for Employment in Old Age have been set up at major Public Employment Security Offices (15 Centers as of FY1994) to enable workers to select, at an early stage, a pattern of work that is matched to their interests and abilities. These centers provide advice and guidance on planning a working life.

In addition, subsidies are paid to employers who have set up systems providing paid holidays to workers to enable them to prepare for work life in old age.

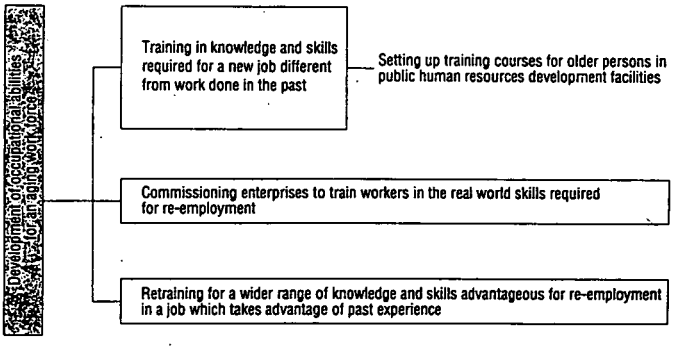
IV. Developing occupational abilities adapted to the aging work force

To enable workers to give full play to their abilities and lead stable, fulfilling work lives as Japan's work force undergoes rapid aging, positive measures are being taken to help older workers develop or upgrade their abilities in order to take advantage of available employment opportunities.

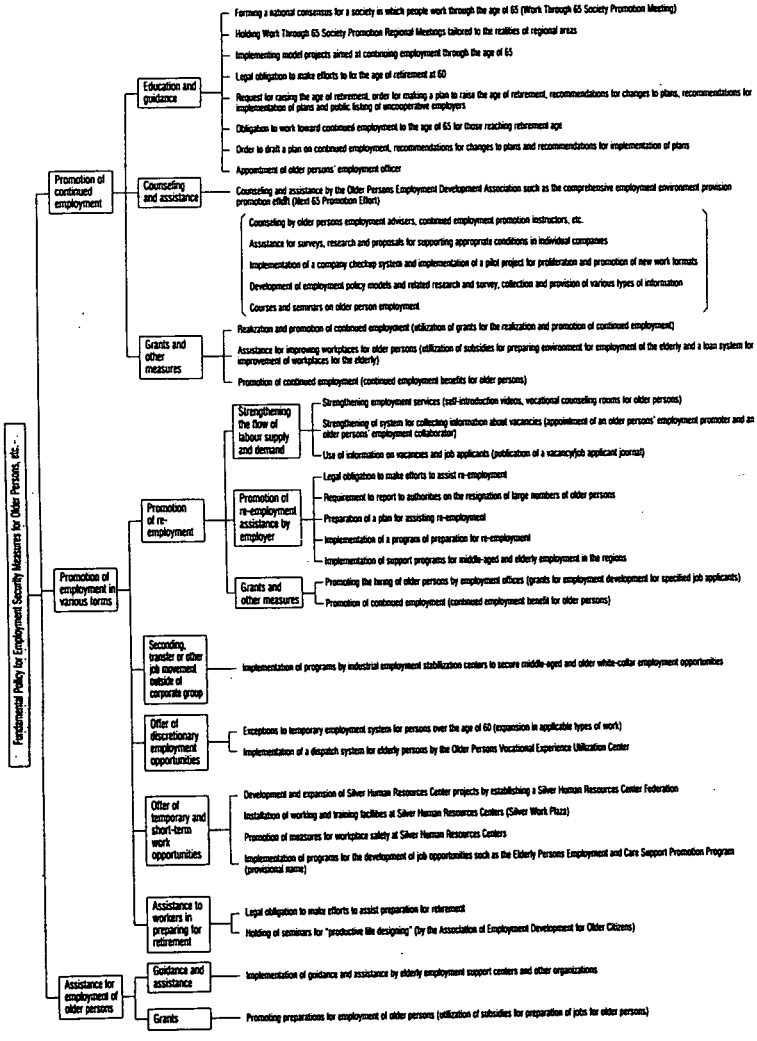
Organization of Silver Human Resources Center Federation



Occupational Abilities Development for Older Persons



Outline of Employment Measures for Older Persons



PROFILE of ZENSHIKYO

What The Silver Human Resources Center aims at

(Remarks: the word "Silver" denotes specifically aged people in Japan and will be used hereafter for the meaning.)

The Silver Human Resources Center is a new working system for the aged derived from the general labor system as the ratio of older population against whole population is rising. "To be Independent and self-supporting, collaboration and mutual assistance", whose motto, expresses briefly the basic concept of the system.

The members are those who retired from the regular employment and yet wish to make good use of their working ability outside ordinary employment system with some revenue. Contribution to activaing regional community by their labor is the main object.

- Senior citizens living in a region (each administrative area) independently consolidate themselves aiming to work together and assist mutually.
- The way is open to any senior citizens who have working will and ability to join the organization.
  By joining it voluntarily and offering their labor, they can fulfill the idea of maintaining a rich and positive senior life as well as enjoying a worthy community life.
- By promoting senior citizens' labor motivation, vitality will be greatly enhanced not only in their families but also in the relative regional community.

Structure of Silver Human Resources Center

Silver Human Resources Center is designated under "Law Concerning Stabilization of Employment for Older Persons" as legal nonprofit foundation (corporation) run based on principle of member's collaboration. It has highly public utility nature offering even opportunity to those aged people who agree with the principle and the object of the organization.

●Members

Silver Human Resources Center consists of senior citizens, aged about 60 or over, who are healthy and willing to take up temporary and comparatively short term work.

●Project

Silver Human Resources Center contracts with local residents, private companies and public entities for paid works of temporary and comparatively short term work that adhere to the daily life in each regional community. The Center provides job with members whose conditions match with requirements of the client according to the members' wishes and abilities, in the form of undertaking or commission, while the Center does not guarantee fixed terms of labor or revenue. No formal employment relationship exists between them.

The Center designated by the local governor is eligible to perform as the employment agency at cost free basis for the aged people who wish to take up temporary jobs and short term employment.

Establishment of Silver Human Resources Center

Average life expectancy rate in Japan rose older than 70 years old after '70. There are and will be more and more senior citizens, who wish to remain in the community or to seek working opportunity with some revenue even after their retirement from the regular employment.

The above as the background, a group called "Koreisha Jigyodan" i.e. Senior Citizens' Enterprises Group was established in Tokyo Metropolitan area in 1975, which put its ideas in "To be independent and self-supporting, collaboration and mutual assisance". It was established to secure the opportunities for those who wished to contribute to regional community by utilizing their acquired experience and skills, while the work might not have necessarily general term of employment.

This became a primer and many groups which had similar idea spreaded thorughout the country.

Government policy and Silver Human Resouces Center

Government showed a basic policy in the Fourth Employment Security Plan in 1979 that would extend employment opportunity in various forms, notwithstanding the conventional employment practices.
In accordance with the plan, Ministry of Labor decided to subsidize local governments that brought up the groups offering voluntary employment opportunities to the aged people.
In the government policy, it is indispensable to unify the bodies from the organizations run under various names. Thus, under the unified name of "Silver Human Resources Center", the substantial activities has begun.

Legalization of Silver Human Resources Center

The "Law Concerning Stabilization of Employment for Older Persons" was enforced in 1986.
By this law, it became compulsory for central and local governments to endeavor executing necessary means on employment security for the senior people such as those who reached the mandatory retirement age etc.
Silver Human Resources Center became the legal organization accordingly(Article 46 and article 47 of the law).
By its role being confirmed and the way becoming clear for receiving assistance, number of the establishments increased rapidly.
The number of the establishments is 680 and members are over three hundred thousand at the end of 1994 and they cover almost every main cities nationwide in Japan.

History of Establishment of National Silver Human resources Center Association ("ZENSHIKYO")

In 1980, 114 groups of Silver Human Resources Centers which had been established in the various districts, joined to found a corporated organization called "The Liaison Conference of National Aged Peoples' Enterprises, Silver Human Resources Centers, etc." that covers whole Japan.
In 1982, Government decided to back up this nationwide organization by subsidizing. Thus, it was reorganized progressively to found "National Federation of Silver Human Resources Center". The new office was set up and a real base for the organization was established.
In 1986, by enforcement of "Law of Concerning Stabilization of Employ-

ment of Older Persons", the Federation became a designated organization by Minister of Labor in parallel with legalization of "Silver Human Resources Center".

Taking this opportunity, the federation revised its name, object and content of activities, and has been "National Silver Human Resources Center Association" i.e. "Zenshikyo."

The Role of National Silver Human Resources Center Association

National Silver Human Resources Center Association that is the sole designated organization by Minister of Labor, carry on following projects;

① Enlightenment of activities of Silver Human Resources Center.

② Training the members who engage in activities of Silver Human Resources Center.

③ Making liaison, and contact in respect of Silver Human Resources Center's activities.

④ Collection and distribution of information/material in respect of Silver Human Resources Center's activities.

⑤ Promotion of wholesome development of Silver Human Resources Center and positive utilization of senior citizens reached the mandatory retirement and other aged people

Also, the corporation extends its activities to the development of block associations and prefectural associations as a part of National Silver Human Resources Assosiation.

The Japan Times

USA 43¢
Value Network System
Chiyoda Corporation

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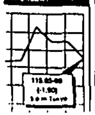

LONG ARM OF THE LAW

JAKARTA — Muslim girls wave the United Development Party logo beside an Indonesian riot policeman during an election rally Wednesday. Jakarta's military commander said he had deployed 20,000 troops and police officers across the city and surrounding towns after rioting Tuesday left one man dead and about 125 injured. *Story on Page 4* AP PHOTO

Lower House approves elderly nursing-care bills

Raising questions — Page 3

Three bills to create a public nursing-care insurance system for ailing seniors were passed Thursday by the Lower House with the support of the ruling Liberal Democratic Party, its smaller allies and a segment of the opposition.

After the plenary session passed the bills, which are intended to help elderly people in need of nursing care in addition to households with ailing seniors, including the bedridden and those suffering from dementia, the legislation was immediately sent to the Upper House for deliberation.

Although there are only four weeks left until the current Diet session is scheduled to end, the government and ruling camp strongly hope to have the bills passed before the June 18 close.

During the plenary session, the bills were supported not only by the LDP and its two non-Cabinet allies — the Social Democratic Party and New Party Sakigake — but also by a portion of the opposition, including the Democratic Party of Japan, the second largest opposition party.

Shinshinto, the largest opposition force, and the Japanese Communist Party, the third largest, voted against the bills.

If enacted, a wide range of care services would be made available at public care facilities and to households that include an ailing elderly member, beginning in fiscal 2000.

Under the programs, to be directly run by municipalities, workers would be dispatched to the homes of the elderly to help out with chores, nurses would be sent to provide care services, recipients would be granted access to care facilities for rehabilitation and portions of their homes would be renovated to suit their limited mobility.

Long-term stays at nursing homes, short-term stays of once a week or one week a month, and day-time stays at care centers would also be made available.

Those aged 65 or older, as well as those between 40 and 64 who suffer from disorders related to aging, such as dementia and cerebrovascular disorders, would be eligible for the services provided under the programs.

Each municipality would be tasked with determining the eligibility of potential beneficiaries and which services they require.

Patients who require similar care due to accidents or diseases that are not related to old age will not be eligible for the services.

However, some experts question the feasibility of the system and have expressed concern over the possibility of contributors to the insurance scheme being refused necessary care because of a shortage of care workers and facilities.

The Health and Welfare Ministry has admitted the services could not be provided in full scale from the system's introduction in fiscal 2000 due to possible delays stemming from insufficient infrastructure. The ministry, however, will undertake to build the necessary facilities and train workers to gradually meet the needs of the programs.

In an attempt to supervise the system, original, government-proposed bills were amended in a way to allow the public more say in municipalities' nursing care programs and to review the system five years after it takes effect in fiscal 2000.

The health ministry has estimated that ¥4.18 trillion will be necessary to operate the nursing care system nationwide in fiscal 2000, when the nation's population of ailing elderly is estimated to reach about 2.8 million.

To sustain the system, all people aged 40 and above should be made to contribute. The ministry has estimated that the monthly payment per policyholder in fiscal 2000 would be ¥2,500 on average.

Those who receive the services would have to pay 10 percent of the cost of the services they receive, in addition to their monthly payments.

A raise in monthly payments, however, would be implemented gradually. It is expected to reach ¥2,800 on average in fiscal 2005, when the elderly population is estimated to have reached 3.4 million, and ¥3,500 in fiscal 2010, when seniors are expected to number 4 million.

Prime Minister Ryutaro Hashimoto has maintained that creation of the nursing-care system would be an important part of the ongoing reform of Japan's social security system, one of the "six big reforms" he says are indispensable to the nation's journey into the 21st century.

Proposed services

- Dispatch workers to households with ailing elderly to provide care and help with household chores;
- Dispatch nurses;
- Rent health-care equipment, including wheelchairs;
- Assist rehabilitation at care centers;
- Renovate houses to help make them barrier free;
- Provide day-time and short-term stays at care facilities;
- Provide long-term stays at nursing homes.

ANA feud takes new twist: Wakasa to resign from board

Tokuji Wakasa, the powerful and controversial 82-year-old honorary chairman of All Nippon Airways, will resign as a board member next month in an apparent move to take responsibility for a recent feud that shook the firm's top management.

"Our honorary chairman expressed his intention to resign from the board at the end of this term," Yuzuru Masu... ...enior vice president of

from some board members.

Wakasa and Sugiura then fed the fire by pushing an alternative.

At that point, it is believed that Fukatsu tried in vain to oust board members close to Wakasa.

After the dispute surfaced, Fukatsu said he will step down at the end of the current term, which expires next month. ANA announced later that Kenzo Yoshikawa, 60, the

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EDUCATION & DEBATE

Health care for the elderly in Japan: medicine and welfare in an aging society facing a crisis in long term care

Yuzo Okamoto

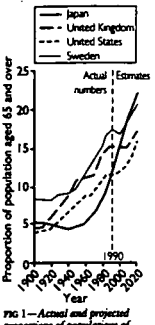

FIG 1—*Actual and projected proportions of populations of Japan, United Kingdom, United States, and Sweden aged 65 and over (1900-2020). (Sources of data for Japan: Japanese Statistics Bureau; Japanese General Affairs Agency; Institute of Population Problems, Japanese Ministry of Health and Welfare. Source of data for other countries: United Nations Population Studies)*

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Yuzo Okamoto, *chief of staff*

BMJ 1992;305:403-5

How medical care and social welfare services for the elderly should be provided is now a common concern among all advanced industrialised nations. In demographic terms an advanced industrialised nation implies an aging society. Hence the provision of medical and welfare services specifically for the elderly is integral in the development of an industrialised society.

The rapid economic growth in Japan since the second world war has been accompanied by improved health standards of the Japanese people. The average life expectancies of men and women in Japan are the highest in the world (75·9 years for men, 81·8 years for women (1990 data)), with the result that 11·6% of the population of Japan is over 65. Owing to the continuous migration of younger people from the country to the cities during the period of rapid economic growth in the 1950s and 1960s, in some rural areas over a quarter of the population is over 65. It is estimated that by about 2025 the proportion nationally will be 23·4% (see fig 1).

In addition to the question of who should bear the rapidly increasing cost of medical care for elderly people is the question of who should provide long term care for disabled members of the group. The lack of sufficient facilities providing excellent care and the severity of disability of many elderly people have strained relations between older and younger generations. The excessive family burden has led to crises in many families, resulting in increased public awareness of the problem.

Mechanisms of a rapidly aging society

The major causes of the rapidly aging population in Japan are the improvement of living standards and increased usage of medical care. These have lowered the death rates for all age groups caused by tuberculosis and other infectious diseases and resulted in sharp falls in mortality among infants, adolescents, and young adults. Moreover, since the 1960s death rates among middle aged and elderly people have also shown a steep decline and life expectancies of all age groups have risen substantially. These improvements may be attributed to social, environmental, and biological changes.

Several factors have contributed to the remarkable improvement in health in Japan. The availability of medical services for all was achieved by the introduction of compulsory national health insurance in the 1960s. Encouraging people to eat high protein diets and the promotion of health education, which emphasises restricting salt (from 13·5 g daily in 1975 to 11·7 g daily in 1987),[1] have helped reduce mortality from cerebrovascular disease.[2] Corrected mortality (based on the European population model in 1976)[3] for cerebrovascular disease was 271·8/100 000 population in 1955 and 118·6/100 000 in 1985. The mortality from cardiovascular disease has also been kept low in Japan by traditional low energy, low fat diets (table I). Corrected mortality for cardiovascular disease was 113·2/100 000 in 1955, increasing slightly to 123·9/100 000 in 1985.[3,4]

Given this background, population aging in Japan occurred very rapidly. The proportion of the total population who were aged 65 or over increased from 5·3% in 1955 to 10·3% in 1985 (fig 1).

TABLE I—*Daily dietary intake per person in Japan, United Kingdom, and United States*

	Energy (MJ)	Starchy food (%)	Protein (g)		Fat (g)
			Total	Animal	
Japan	11·0	46·4	87·9	45·1	82·4
United Kingdom	14·2	30·9	95·3	57·7	167·2
United States	14·8	20·7	106·6	74·9	177·6

Source: Tsuneta Yano Memorial Society.

Medical care system in Japan

Japan has a compulsory national health service system that is financed by employer contributions, individual contributions, and taxes through non-profit insurance funds. As of April 1961 the system has been operating to guarantee coverage by some form of medical care insurance to everyone. Each of these insurance plans has its own insurer and type of member and different premium and cost sharing rates. The insurance system has had some problems—for example, in the heavy use of pharmaceutical products and long average hospital stay of patients.[7,8]

Problems inherent in care systems for the elderly

When the national health insurance system started cost sharing for an elderly, dependent person was relatively high (50%). Although elderly people were those who most needed medical care services, most of them either were pensioners or were retired with little or no income, so that their cost sharing ability was limited. Hence, although the sickness rate of elderly people was high, their rate of receiving medical care was lower than that of other groups, including children. This continued until the 1970s, when the government made all people over 65 eligible for free medical care. With the increase in numbers of elderly people in the population, however, the cost of providing free medical care rose substantially. Thus in 1983 cost sharing for patients over 65 was reinstated, though contributions were kept much lower than those from other groups. Overall these policies increased the use of medical care services by elderly people, so that in 1988 elderly people accounted for 26·7% of the total national expenditure on medical care. In Japan elderly people have also become more willing to use medical care services, which is a further, major factor in the increased life expectancy (fig 2).

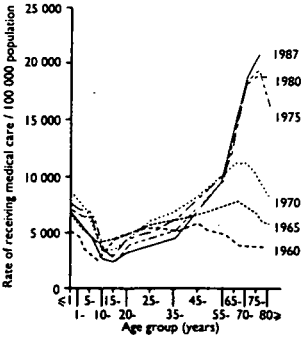

FIG 2—*Annual trends in rate of receiving medical care in different age groups in Japan. (Source: Health and Welfare Statistics Associations')*

The effect of the medical care service on the standard of health of elderly people has been remarkable. People over 65 in Japan had low living standards and poor nutrition in their early years and did not benefit constitutionally from the substantial postwar improvement. Nevertheless, they now have lower mortality and longer life expectancies than earlier generations. Longer life expectancy as a result of better medical care, however, has meant that most hospitals in Japan have beds occupied for long periods by disabled elderly patients. For example, in 1987 about 29% of all 1·11 million inpatients (excluding the mentally ill) had admissions exceeding six months (table II). Of these patients, 69% (221 710) were aged 65 and over, of whom 40% were in hospital for cerebrovascular disease.[1] During 1964-84 there was no significant decline in the incidence of cerebrovascular disease in the over 70s,[2] so that since the early 1980s the long term care of elderly people has become a serious problem.

TABLE II—*Distribution of all inpatients (n=1·11 million) in Japan in 1987 by duration of hospital stay (data exclude patients admitted for psychiatric disorders)*

	Inpatient stay								
	≤14 Days	15-30 Days	1-3 Months	3-6 Months	6 Months to 1 year	1-3 Years	>3 Years	Unknown	Total
% Of inpatients	27·1	13·1	20·4	10·1	8·0	11·2	9·8	0·3	100·0

Problem of long term care for the elderly

"Social admissions" of elderly people during the 1970s and 1980s not only meant that some critically ill patients could not be admitted but also caused extra work for nurses and jeopardised efficiency. The main reasons that these elderly patients could not return home included lack of family care givers, lack of home help services, and lack of space. Administrators, however, ignored these problems. The numbers of nursing homes remained static whereas demand for long term care of elderly patients was increasing. Nursing home beds totalled only 11 280 in 1970 and 80 385 in 1980. In order to satisfy the growing need for long term care numbers of beds were increased by establishing new hospitals, converting mental hospitals into geriatric facilities, and utilising private hospitals that hitherto had been providing substandard care.

In recent years government at all levels has taken a more active role in encouraging the development of facilities for the long term care of disabled elderly people. There are currently three types of facilities.[9] The first, "hospitals for the elderly" (123 355 beds (1989 data)), are geriatric hospitals which are authorised to have fewer doctors and nurses than acute care hospitals. The second type are "special nursing homes for the aged," and currently there are 172 019 beds in such establishments in Japan. These are welfare institutions for people who need constant care. Staffing is at a level of one full time or part time physician, three nurses, and 22 nursing assistants per 100 residents. The third type of facility, "health facility for the elderly," has been introduced only in the past seven years. There are to date only 47 811 beds in these facilities, but this type of institution is targeted for expansion. These are rehabilitation facilities with stays limited to three months for patients who need functional training and nursing care but not medical treatment. Required staffing is one full time physician, eight nurses, and 20 nursing assistants per 100 patients.

Plainly there is still a severe shortage of long term care facilities for elderly patients in Japan, the lack of rehabilitation services making things worse. Even in 1985 only 30% of general hospitals had a rehabilitation department.[10] As a result some 34% of patients in long term care facilities in Japan are bedbound as compared with 6·5% in the United States and 4·2% in Sweden.[11]

These elderly patients either are too heavy a burden for their families or do not have families who can care for them. Many have ended up in decrepit, understaffed hospitals, where treatment may be grossly inadequate. For example, patients with dementia may be tied to their beds and overmedicated.

Factors underlying the unwillingness or inability of families to care for disabled elderly relatives include the dramatic changes in social structure that accompanied the rapid development of a highly industrialised society during the 1960s and 1970s. These changes included a rapidly declining number of workers in primary industry (for example, agriculture), a decline in the custom for elderly people to live with their children (fig 3), the nuclearisation of the family, and the growing number of middle aged women in the labour force. Of the 600 000 bedridden people in Japan in 1989, around 250 000 stayed at home, 100 000 were in the special nursing homes for the aged, and 250 000 were in hospital.[9] The Japanese Ministry of Health and Welfare estimates that by the year 2000 the number of bedridden people in Japan will have reached 1 million.[9]

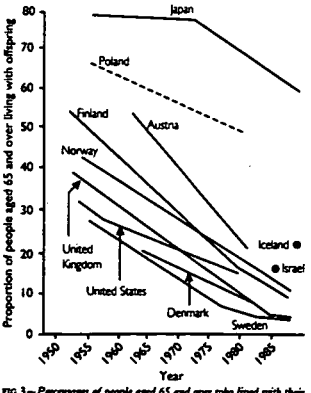

FIG 3—*Percentages of people aged 65 and over who lived with their children. Data for selected countries, 1950-85. (Source: Professor G Lundstrom, Institute of Gerontology, Jönköping, Sweden)*

Other problems

Several problems remain, not least of which is the shortage of physicians and nurses in Japan. This is especially true in hospitals, where the ratio of nurses (qualified and unqualified) to inpatients ranges from 1:2 in the best hospitals to as low as 1:6 in the most basic hospitals for the elderly. This is no more than a quarter to a third of the level in Western countries (table III).[13] In the past the shortage of nursing staff in hospitals was overcome by the compulsory participation of the family in the patient's care (one reason why the cost of personnel in medical facilities—and the cost of medical care in general in Japan—is low) (table IV).[14-15] However, with insufficient skilled staff it is impossible to cope with rapidly advancing technology. This applies not only to general hospitals but also to hospitals for the elderly, which primarily are concerned with long term care. Hence disabled elderly patients may be kept in bed for prolonged periods, so becoming completely dependent.

TABLE III—*Numbers of doctors and nurses per 100 beds in selected countries, 1989*

	Japan	United States	United Kingdom	France	West Germany	Sweden
No of doctors/100 beds	8·5	18·2	20·3	29·5	22·7	19·3
No of nurses/100 beds	18·3	55·1	40·2	69·1	29·6	61·9

Source: Sugaya *et al.*[13]

TABLE IV—*Size of health sector*

	% Of gross domestic product spent on total health expenditure (data for 1984)	% Of gross domestic product spent on public health expenditure (data for 1984)	% Of all employed people who work in health care (year for which data available)
United Kingdom	5·9	5·3	5·3 (1983)
Japan	6·6	4·8	2·9 (1981)
Germany	8·1	6·4	2·2 (1980)
Canada	8·4	6·2	4·8 (1981)
France	9·1	6·5	4·4 (1983)
Sweden	9·4	8·6	7·8 (1983)
United States	10·7	4·4	5·3 (1983)

Source: Organisation for Economic Co-operation and Development.[14]

Health care facilities in Japan are a legacy of attempts to meet the sharp rise in demand for medical care that occurred in the period after the second world war. The standard of living was low, which influenced the design of hospitals. In most hospitals, for example, floor area per bed is no more than 35 m²—that is, one third of that in the United States and Europe. Furthermore, hospitals lack enough communal toilets and bathrooms, and very few have rooms with a private toilet or bath (or even shower). Many hospital wards are very unattractive, matters like renovation being ruled out by lack of spare space in the design. It is also fairly usual to have six to eight patients to a room, so that overcrowding is common. Of all 1·64 million beds in hospitals in 1991, 5·8% were in private rooms and 3·9% in semiprivate rooms.[16]

Overall the environment for medical care in Japan is poor. Standards were set when hospitals were concentrating on acute medical problems. Medical care consisted in applying technology while ignoring patients' other needs. Cramped, ill equipped, and uncomfortable surroundings in which to receive treatment were to some extent compensated by the patient having members of his or her family in attendance as compulsory care givers.

Future of long term care for the elderly

Japan is now reviewing all aspects of the social welfare and medical care of its elderly people in order to decide the direction of future development. As in other advanced industrialised nations many elements of long term care include long term financial aid, so that social welfare is inseparable from the medical care service.

There are two main ways of providing a long term care service (institutional and home care) for elderly people—(*a*) commercially, as controlled by market mechanisms; and (*b*) by social services with public money. Limitations of the first method are evident in the United States. There the cost of services is so high that many elderly people fall into poverty. The most important advantage of a commercial supply should be the elimination of inferior services by competition—but this does not work in the United States, where excessive demand results in some extremely unsatisfactory services.[17-23] Furthermore, a complicated and diverse service supply system is more expensive overall and results in higher premiums for users.[24] This leads to deterioration in the quality of services and dissatisfaction among users. Hence this method may encourage limitless growth in the need for these services and result in unendurable costs for many households.

Scandinavian countries provide a very high standard of long term care for elderly people funded by the social services with public money. But such a system cannot be introduced in Japan at present because of deficiencies in its social security system. Nevertheless, the funding of long term care of disabled elderly people in Japan—both at home and in special facilities—has improved substantially and exceeds the limits possible by families.

Recently in Japan it has been voiced publicly that long term care of the elderly should be the responsibility of government. Though the various alternatives are accepted to some extent and are practical and efficient, facilities are in short supply and cannot cope as life expectancy rises. Japan is facing a crisis in the long term care of its elderly citizens and a solution is required urgently.

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(Accepted 12 May 1992)

The CHAIRMAN. Dr. Butler. Thank you very much, Dr. Okamoto.

Dr. BUTLER. Now Dr. Anthony de Bono. Tony de Bono, presently Director of the International Institute on Aging in Malta, is here also because he was the chair at the occasion of the United Nations World Assembly on Aging in 1982, when 123 nations gathered together for 2 weeks to discuss the issues confronting the world with respect to global aging. I might add, it was members of the U.S. Senate, that played a major role in mobilizing the concept of the United Nations World Assembly on Aging. Dr. de Bono did a spectacular job as the chair of that conclave. Dr. de Bono.

STATEMENT OF A.H.B. DE BONO, M.D., DIRECTOR OF THE INTERNATIONAL INSTITUTE ON AGING UNITED NATIONS—MALTA

Dr. DE BONO. Mr. Chairman, as chairman of the advisory committee and later chairman of the main committee the United Nations World Assembly on Aging in 1982, I presided over the drafting and the debate on the International Plan of Action on Aging that was unanimously agreed by the World Assembly and later by the General Assembly of the United Nations. I say this because during these meetings and during subsequent years, I have had a unique opportunity to gain a very wide and I hope relatively deep understanding of aging across the world and particularly in less developed countries. The World Assembly on Aging was a historic landmark in the question of aging as it focused for the first time the attention of policymakers and governments throughout the world on the fundamental consequences of the transition in population aging that has been, and is being, experienced with increasing intensity in the developed world, and now nearly two decades later, it is beginning to affect in a phenomenally rapid way the populations of the less developed countries.

Although it was Malta that first raised the question of aging in the United Nations in 1969, it was very much the United States that provided the impetus for the World Assembly to take place. It was, I understand, the first time that Congress had urged a worldwide conference on a particular topic, that of aging, and the United States throughout assumed an effective leadership role.

As you are well aware, the shift from the pattern of relatively young to old populations is due mainly to a combination of increased longevity and decreased fertility. As people live longer, so their numbers increase absolutely and proportionately. This and the speed at which this transition takes place has consequences of enormous importance both in socioeconomic development and to individuals of all ages.

The less developed countries at the time of the World Assembly had but 45 percent of the world's population over 60 years, and in the year 2025 it will be over 80 percent when there will be over a billion people over the age of 60. Obviously, these global figures hide a heterogenous picture, but the most important and disturbing fact is that from now on, it is the developing countries that will experience a very rapid aging of their populations, a much more compressed population transition from young to old, without the social, financial, health and educational infrastructures that the more de-

veloped countries have had the time and experience, money and incentive to develop over the past century or more.

Although it is true that in some developing countries, there is still a tradition of care for the elderly within the family, the very process of development has contributed both to longevity and decreased fertility, and therefore aging populations, has itself tended to destroy the extended family and to encourage, for instance, migration towards the conurbations that development creates.

The World Assembly on Aging and the International Plan of Action on Aging certainly focused the attention of countries around the world on the question of aging. However, although there have indeed been a very large number of conferences on various aspects of aging, and although excellent research has been carried out both in the biomedical field and in demographic studies that have contributed and will continue to contribute immeasurably to our understanding of aging, yet the enormous need is for action and for creating not only an informed awareness but also adequate and appropriate socioeconomic infrastructures in the developing countries to meet the vast problems they will face due to aging populations in the next two decades and beyond.

This has been almost totally neglected when one considers the scale of the problem. Action is needed now to avoid the predictable but preventable crisis that the rapid aging of the populations of the largely unprepared developing countries will certainly cause. The need for cadres of personnel trained in all aspects of aging to influence and develop policies and to help build the necessary infrastructure in these countries and in their turn to train others is, in my view, absolutely paramount. It was with this in mind that I had inserted into the plan of action the clause that enabled the United Nations to set up the International Institute of Aging in Malta some 10 years ago.

Since that time, a large number of long and short courses have been held for participants from developing countries all over the world and in situ courses organized in the developing countries themselves. These courses are conducted by the institute's resident and visiting faculty of international experts.

The prime objective is to catalyze the interaction of the experience and expertise of the developed world with the needs and aspirations of the developing countries to produce appropriate and sustainable responses. People who are most likely to influence the development of aging policy and practice in their own countries and communities are chosen for these courses. One advantage of the location of the Institute in Malta, quite apart from its excellent communications set-up, is that students from developing countries can see in practice what can be done in the field of aging in a country that is itself developing. It also allows these courses to be run at a very moderate cost.

The in situ courses are always organized in collaboration with local organizations, either government body, NGO or university. The demand for courses is tremendous and seems to be growing as the awareness of the impending tidal wave of aging dawns in countries that but 20 years ago would never have dreamt of aging as a national concern. The Institute has limited resources and what are needed are more scholarships to be awarded to people from spe-

cific developing countries to enable them to participate in the courses.

The policy of my institute is to enhance and extend the impact of its courses by distance learning techniques and the distribution of information packs of a practical nature in order to provide the necessary long-term continuity and support for individuals and groups in the developing countries. We are developing techniques of continued communication using the latest information technology in collaboration with a number of bodies in developed countries. Indeed, the Institute as a catalyst whose primary mission is to help implement the International Plan of Action on Aging particularly in the developing countries is always willing and able to collaborate with any governmental or non-governmental or business organization to undertake courses and other activities in this regard.

Over the past 10 years, we have accumulated a very considerable expertise and experience and a network of contacts in the developing countries, but in comparison to the urgent need we recognize that there is still a vast amount to be done.

The problems of aging, as they unfold with unprecedented rapidity in the developing countries, are not only humanitarian but have serious socioeconomic and therefore political consequences. It is therefore very much in the interest of the developed world both in terms of geo-political stability and indeed international trade to help to ensure as smooth a transition to the new demographic realities of life in the developing countries as possible.

The World Assembly on Aging in 1982 was largely due to the impetus and drive of the United States. In the year 2002, it will be 20 years since this very successful meeting. Much has happened since then and in particular the aging of populations of the developing world, particularly in the Pacific and Southeast Asia, will have taken off in earnest. I would, therefore, urge the United States, having in so many ways demonstrated its leadership and deep concern in the question of aging, to consider once again requesting the Secretary General of the United Nations to reconvene the World Assembly on Aging in the year 2002 to review the past 20 years and to focus particularly on aging in the developing world. Thank you.

[The prepared statement of Dr. de Bono follows:]

A.h.B. de Bono, MD.,
Director of the International Institute on Ageing - Malta

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The prime objective is to catalyse the interaction of the experience and expertise of the developed world, with the needs and aspirations of the developing countries to produce appropriate and sustainable responses. People who are most likely to be able to influence the development of aging polices and practice in their countries or communities are chosen for the courses. One advantage of the location of the Institute in Malta, quite apart from its excellent communications set-up, is that students from developing countries can see in practice what can be done in the field of aging in a country that is itself developing. Also it allows these courses to be run at very modest cost.

The in situ courses are always organized in collaboration with a local organization, either a government body, NGO or University. The demand for courses is tremendous, and seems to be growing as awareness of the impending tidal wave of aging dawns in countries that but twenty years ago would never have dreamt of aging as a national concern. The Institute has very limited resources and what is needed are more scholarships to be awarded to people from specific developing countries to enable them to participate in its courses.

The policy of my Institute is to enhance and extend the impact of its courses by distance learning techniques and the distribution of information packs of a practical nature in order to provide the necessary long-term continuity and support for individuals and groups in the developing countries. We are developing techniques of continued communication using the latest information technology in collaboration with a number of Institutes in developed countries. Indeed the Institute as a catalyst whose primary mission is to help implement the International Plan of Action on Aging, particularly in the developing countries is always willing and able to collaborate with any governmental or non-governmental or business organizations, to undertake courses and other activities in this regard. Over the past ten years we have accumulated a very

considerable experience and network of contacts in the developing countries but in comparison to the urgent need we recognize that there is a vast amount to be done.

The problems of aging is they unfold with unprecedented rapidity in the developing countries are not only humanitarian but have serious socio-economic and therefore political, consequences. It is therefore very much in the interests of the developed world both in terms of geo-political stability and indeed international trade to help to ensure as smooth a transition to the new demographic realities of life in the developing countries as possible.

The World Assembly on Aging (1982) was largely due to the impetus of the United States; in 2002 it will be twenty years since that very successful meeting. Much has happened since then, and in particular the Aging of the populations of the developing world, particularly in the Pacific and South East Asia will have taken off in earnest. I would therefore urge the United States having in so many ways demonstrated its leadership and deep concern in the Question of Aging to consider once again requesting the Secretary General of the United Nations to re-convene the World Assembly on Aging in the year 2002 to review the past twenty years and to focus particularly on Aging in the developing world.

The CHAIRMAN. Thank you, Dr. de Bono. Do you have any follow-up, Dr. Butler, before we ask questions?

Dr. BUTLER. No. I think you should proceed in the interest of time.

The CHAIRMAN. OK. Well, first of all, the issue that you brought up, Dr. Butler, about the possibility that the Social Security retirement age might be raised, I would like to say that I think we are going to have an opportunity next month in this Special Committee on Aging to have a hearing that is focused on raising the retirement age. The hearing will look into some of the implications of raising the Social Security retirement age including whether initiatives to encourage continuing employment past the normal retirement age will be a part of any initiative to raise the age of Social Security retirement. I think that we need to look at those together. Either one in the abstract is not very significant.

Also, more in the way of a statement than in the way of a comment, but for those of you from other nations who are here to testify, if there is anything different in your country I would like to have you tell me, and this is in regard to how we often in Congress and maybe in society as a whole talk about public policy issues that we have to deal with the problems of this or that, and too often I think we leave the impression that we are talking about older people that we are talking about dealing with this problem or that problem, the problem of Social Security, the problem of Medicare, this or that.

I want to make very clear for myself that I do not consider getting older and people living longer a problem. From a public policy standpoint, it does give us a challenge, but only the extent to which public policies have not really kept up with our changing society. I really want to see people growing older as a measure of the quality of our society, the improvement of our society, and also an opportunity to take advantage of people who have tremendous assets that not only they can benefit from but more importantly all of society can benefit from.

So I hope that your countries see these people living longer as an asset, not as a problem. Even though you might use the word "problem" and I might even use the word "problem," it really is a misstatement, and too often we should be careful how we say it because, just think, we even measure the advancement of medicine and consider that a very good measure of the advancement of medicine is people live longer. So unless there is something in your societies that is not seen that way, I wouldn't ask you to respond. I would want your silence that you see it the same way, but if you do not, I would expect you to speak up.

OK. Then I would like to then go to a question that I have for Dr. Okamoto, and that is in that—can I read the question, the full question, and then you interpret it? In different countries, there are vastly different percentages of population over 60 in the workforce. In your testimony, Dr. Okamoto, you mentioned that the level of work participation of the elderly in Japan far exceeds that of the elderly in the United States despite the fact that surveys indicate that there is little difference in the interest in work between the elderly of Japan and the elderly of the United States.

What can be done to help encourage healthy older Americans to remain in the workforce? I ask this from a standpoint of wanting to remain in the workforce and that there is not a public policy that you have to continue in the workforce.

Dr. OKAMOTO. [Interpreted from Japanese] This is relatively new also to view the aged population as the resources for the labor market. Not only as a source of labor in the labor market, but for the recent years because of the less conflict in the society, the benefits and resources that aged population can offer in the society will be even more appreciated in recent years. For example, who knows the value of youth best? The aged people. Therefore, the aged people are the ones who can give the most appropriate and valuable advice to the young generation.

In order to keep the older people in the actual labor market in active manner, I think we have several examples in Japan. If you could refer to this page of my text that I submitted, it is entitled "Promoting the Employment of Older Persons." For example, in Japan, up to about 10 years ago, if those people who are over 60 years old working and remaining in the labor, they did not receive the pension. However, starting 1992, those who are over 60 if they want to keep working, they can get paid as well as receive—with certain conditions—but keep receiving the salary as well as the pension.

By introduction of this new rule, those above 60, more of them decided to stay in the labor market. Another example would be the government encourages the corporations who try to employ the more aged population, they receive subsidies from the government. Also, there are many Silver Human Resources Centers in Japan, and these centers will make arrangement and coordinate the employment opportunities for the aged population.

The CHAIRMAN. OK. Thank you very much. Out of respect for a person who is on the next panel that has to get to a plane, I am not going to ask any other questions, but I specifically have some questions I was going to ask Lady Greengross and Dr. de Bono. I am going to submit those for answer in writing.

I also had previously arranged with you, Senator Glenn, that you would take over the meeting and adjourn the meeting.

Senator GLENN. Fine.

The CHAIRMAN. I have to go to a previous appointment. Now, I want to thank each of you on this panel and express my regret for not being here to host the second panel. As chairman, I should. But I will have an opportunity to read your testimony and may have questions for you in writing as well, and I am very happy that I was able to meet all of you in a private meeting previous to this open hearing. So thank you all very much for what you have contributed to the work of the Senate Special Committee on Aging. Senator Glenn, I will ask you to take over now. Thank you very much.

Senator GLENN. Thank you, Mr. Chairman. Dr. Butler, I was struck by the chart here on productive aging. Why are the French down at seven and four on that, way below? Is there a law that says you have to retire at a certain time in France? What is the reason for that? Because that is so different than it is in this country or in UK or in Italy. Very different.

Dr. BUTLER. Well, I probably should let Dr. Forette answer that question since she is here. My impression is that in 1981, when President Mitterrand became president, lowered the retirement age and increased the Social Security payments. Is that correct? That set the stage for increasingly lower labor participation rates in France. Dr. Forette might more appropriately elaborate, but I think that is the essence of it.

Senator GLENN. Well, is this enforced? Is this by law you have to retire at a certain age?

Dr. BUTLER. I think it was simply an encouragement. It was the law in the sense of lower retirement ages. For example, I think truck drivers; is it 55 years of age?

Dr. FORETTE. There is a compensatory age, retirement age, which is still 65, but at 60, since 1981, you are entitled to a full pension, and most people retire now at 55 because of the rate of unemployment. Many people think in France that getting people out at 65 will give jobs for the younger ones, and we know that is not true.

Senator GLENN. Yes.

Dr. FORETTE. So I think that is the reason.

Senator GLENN. OK. Thank you.

Dr. FORETTE. There has been a decrease.

Senator GLENN. There is such a striking difference here that I did not know what the reason. Thank you very much.

Dr. BUTLER. I think Dr. Forette's point has been reinforced now at the ministerial level at the OECD, and in the International Labor Office, that the idea that younger people lose jobs by virtue of older people staying in the workforce is not true. I think that is a very important point.

Dr. FORETTE. It is not true.

Senator GLENN. Thank you. Lady Greengross, I was interested to read you have an Aging Well Program where senior health mentors help other seniors, and you have TransAge Action which is an intergenerational mentoring program also. Now, I was curious about these as to whether they are run by the government or private funds. What kind of training programs do you have because if I meet with older people and I challenge them you ought to be active in your community and do things, 90 percent of them will say what can I do to help? Put me in the right direction. If they had a little training, maybe this is the way that a lot of these people could be used very productively. How do you do these programs? Is it government? Private? Are there training programs? How long does it take to get your people really working in these programs, both the seniors and the younger people in the TransAge Action?

Ms. GREENGROSS. Well, in the UK, there are a whole range of programs, Senator. The ones I illustrated are ones that my own organization runs. Therefore they are what you would call private sector. They are partly funded by the government, but they are run by the not-for-profit sector. However, there is a big welfare to work type program, which we call "The New Deal," which was introduced a little while ago, primarily to get young people into the labor market again, the ones who have been out of work for a long time, and that has recently, after a lot of campaigning from organi-

zations like mine, been extended to people of 50 and over because the situation of older people who are unemployed is bad.

The stigma is there. It is probably greater than amongst the younger generation, and there is a great deal of age discrimination in employment, which I was illustrating and which demonstrate the need for us to set up the employers forum. We do train people both for the voluntary sector and for training back to work. We train many hundreds of thousands of people every year back into the labor market, particularly into the care sector, which is labor intensive. So that is my own organization, and for all of those programs, we receive quite a lot of injections from the government to help oil this. We could not do it alone.

Senator GLENN. About how long does it take to train a person? Let us say I wanted to work in that program and I have no experience whatsoever, but I am old enough and I want to help other people. How long would it take to train me to do that?

Ms. GREENGROSS. Well, for ordinary volunteer programs like the Aging Well one, that is just a few weeks of being introduced into basic health messages and how to portray them, just a few weeks of training. For the accredited programs which we run, which give you a certificate so that you can go back into the labor market and be paid, then that is a bit longer. But they vary depending on the amount of skill you need to acquire. Sometimes they can take a year or two, sometimes just a few months.

Senator GLENN. Dr. Okamoto, you have a mandatory retirement age in Japan. What is that age?

Dr. OKAMOTO. [Interpreted from Japanese]. 60 years old.

Senator GLENN. 60. Is that mandatory if I am working for Nissan or Sony or somebody when I reach 60 I have to retire?

Dr. OKAMOTO. [Interpreted from Japanese]. There are various pathways for the mandatory retirement age. Most major corporations have affiliated smaller or affiliated companies, subsidiaries and so forth, that after the mandatory age, they go on to work in the affiliated companies, which would be until 64 or 65 years old.

Senator GLENN. So you downgrade from one company to another, and your age goes up as to how long you can be employed?

Dr. OKAMOTO. [Interpreted from Japanese]. That is correct.

Senator GLENN. Would their pay remain the same or does the pay go down as they go to a smaller company?

Dr. OKAMOTO. [Interpreted from Japanese]. It depends on the status of the companies you work for.

Senator GLENN. All right. But you still have in effect for much of the Japanese business world, though, if I understand it right, lifetime employment with a particular company; is that correct?

Dr. OKAMOTO. [Interpreted from Japanese]. The life employment in Japan, that concept is life employment, life long employment by this employer, but inclusive of the arrangement to go on to loan to or advance to other affiliated companies.

Senator GLENN. If people are required because of age to go to a smaller company, do they usually have to move then to a different part of Japan?

Dr. OKAMOTO. [Interpreted from Japanese]. In some cases, yes.

Senator GLENN. I am not sure I think that is very good. Just at a time when they are getting old and getting less able to adapt is

when you require them to go from a big company to a small company and go from Akita to Kobe to some other place.

Dr. OKAMOTO. [Interpreted from Japanese]. There are not that many cases. Usually it does not require the relocation. However, in Japan, the early 60s are not considered old or too old to move yet.

Senator GLENN. Glad to hear that. [Laughter.]

Dr. de Bono, as I understand it, the people who come to your International Institute on Aging in Malta, are looking for training to help them provide for the elderly and do training on how this work in their own countries. Could you give us examples of the types of training you give them before you send them back to their countries?

Dr. DE BONO. Yes. There are several different aspects. One is in social gerontology. Another is in health care of the elderly. Others are income security. In other words, the financial infrastructure, and various courses of this type. There are short courses and long courses. The longer course is one academic year, and what we do is we try and choose people from these countries who already have experience in local administration or government or they might be attached to a ministry and so on.

Senator GLENN. Address that area of income security, if you will, because to some of the lesser developed nations in the world, the idea of income security is to have many children and hope that some of them will take care of you in your old age. I know they are getting away from that, but that used to be sort of the standard in some countries. Income security to these poor developing nations is a tough one. How do you deal with that because that is key to whether the elderly are going to have a decent life or not have a decent life? It is that basic.

Dr. DE BONO. I think that is absolutely right, and there in many, many of the developing countries there is absolutely no social security structure at all, and as you point out the security in the past has been the number of children, and that is, of course, one of the reasons why fertility rates have been so high for so long in the developing world. But now that is changing, and there is a tremendous will to try and put something in its place.

Now it is not easy. We can give them various examples of what has worked in various countries, but essentially this has to be a response which is tailored to the economic realities of their own countries. In other words, what we can do is to give them patterns which may or may not be appropriate and what we try to do is to visit those countries and see for ourselves, or our experts do it for us, what kind of social security scheme is likely to succeed. But if I can just mention an instance we were talking about quite recently, the investment in Indonesia of vast numbers of people in the middle classes and so on in enterprises which have virtually disappeared, and therefore they are going to be left without any security for their old age because the state system depended so much on the commercial sector. So it is not only the poor countries, it is the relatively rich developing countries that have the same enormous problem. But it is, as you say, the most difficult problem and solutions cannot be imposed from developed countries. It is a different ball game altogether.

Senator GLENN. Well, thank you all. Dr. Butler, do you wish to bring out any points you think we missed with this particular panel? If you wanted to question some of them here or bring out certain points, go right ahead, and then we will go on to the next panel.

Dr. BUTLER. I would be interested, Senator, in your reaction to Dr. de Bono's thought, that it might be useful to reassess global aging in the year 2002, which would be just 20 years since the World Assembly on Aging in 1982.

Senator GLENN. Yes.

Dr. BUTLER. Whether you think that the chemistry, so to speak, in our country might be such that we would wish to exercise leadership in thinking about such a profound, incredibly profound demographic revolution.

Senator GLENN. Well, we are going through a whole profound worldwide revolution in this area which is the point of the meeting today, third of our Graying of Nations hearings. I think we are going to have more meetings like this. I guess the first step toward doing something about this, is to realize what the problem is and make people aware of it. I do not think most Americans or probably most people around the world are as aware as they should be of the fact of how our average age is going up. I think it was in the time of caesars which goes back a little ways, granted, but a couple of thousand years ago, the average age was in the upper 20s in the life expectancy. Then it took almost two centuries up until 1900 to get it up into the 40s, and all at once in this last century we have just gone sky high. It is going up exponentially. So it is a problem that we are going to have to deal with. It is something that I think the more we talk about and make people aware, the more likely we are to do something about it.

But the question of what we do about it, that is different. I do not think we have settled on that yet. I do not know what I would suggest right now. If somebody wanted legislation in the Senate of the United States, I am not quite sure what I would suggest at the moment. I think the first thing is to find out from all you people what is working in Japan or UK or Malta or wherever and then try and put together the best of this. That is the reason I am glad that this hearing today had a multinational flavor to it because I think everybody is beginning to face the same challenges and maybe if some of us learn how to deal with this in one country, we can pass it on to others to help out.

Dr. BUTLER. In effect that is, of course, one of the objectives of the International Longevity Center in having autonomous relationships with other nations. I think perhaps I might thank our panel. They have been wonderful, coming from various parts of the world to be with us, and since we know we have to get Dr. Forette to the airplane by 4 o'clock, maybe it is time to move into the next panel.

Senator GLENN. Thank you all very much. As Chairman Grassley said, we hope you would answer as expeditiously as possible any written questions that we submit to you. Thank you.

Dr. BUTLER. It is, of course, obvious, but nonetheless, bears repeating that in order to have productive, active older people who continue to contribute, society either through paid or unpaid activities, they have to be in robust good health. For that to happen, we

certainly have to invest in high quality, first rate biomedical research, and that is the purpose of our next two representatives. I will begin with Dr. Francoise Forette, who is president of the International Longevity Center-France, also a professor of the University of Paris V, and runs a wonderful unit in long-term care at Hospital Broca in Paris. She will address the issues of productive aging and biomedical and clinical investigations. Dr. Forette.

STATEMENT OF FRANCOISE FORETTE, M.D., DIRECTOR OF THE INTERNATIONAL LONGEVITY CENTER-FRANCE

Dr. FORETTE. Thank you. It is a high privilege to be here today, Senator Glenn, and it is the second time to testify.

Senator GLENN. Yes.

Dr. FORETTE. It is a high privilege also to meet you again, Senator Glenn. You know that you a hero in France, in fact a world hero, but I think that you are lucky not to have to fly Air France to go to the moon. [Laughter.]

Senator GLENN. Not today anyway. I do not know whether they have settled or not; do they? I do not think they do.

Dr. FORETTE. France, as all western countries, is facing an extraordinarily longevity revolution, and we do think it is also a very great privilege. Then the political challenge we have to address is how can we maintain equity and promote quality of life of all generations living together? The second one is how can we guarantee that economical pressure does not compromise the rights of the expanding aging population?

The main determinants of quality of life besides health status on which I will focus are financial autonomy, or the right to work as you underlined awhile ago, family links, positive image, social role and personal responsibility.

Healthy aging, healthy and productive aging may be enhanced by three approaches which are closely linked. First, prevention of age-related diseases. Second, promotion of an optimal physiological status. Third, progress in basic research on cellular, molecular and genetic mechanisms of aging. But I believe that Professor Svanborg is going to focus on that.

I will focus my presentation on the prevention of age-related diseases because the tools of prevention are already in your hands. A declining incidence of most conditions leading to disability is observed in Europe as well as in the United States due to the fact that most of the age-associated diseases are now accessible to some sort of prevention. Cardiovascular diseases, strokes, dementia, and for the future Alzheimer's disease, arthritis and osteoporosis, hip fractures, diminished hearing and vision and cancers—they are all accessible to prevention.

I will focus a little bit on strokes because strokes represent a very good example of an invalidating disease, the decline of which is multifactorial and not totally explained. However, it is clear that better control of the identified risk factors such as hypertension, arrhythmias, smoking, dyslipidemia will strengthen this trend.

Control of hypertension has been highly effective as demonstrated by all the controlled studies run since the 1970's and you see that the first study was a study run by the Veterans Administration study in 1972. The most recent studies that were dedicated

to elderly patients and the American SHEP trial has proven that the benefit was also observed in patients over 80 with isolated systolic hypertension. The last European studies SYST-EUR, published last September in the Lancet, has shown that the new classes of drugs were as effective as the older one in preventing all cardiovascular events. So the conclusion of SYST-EUR was that stepwise antihypertensive treatment could reduce incidence of strokes and cardiovascular complications in elderly patients.

If you are interested in the pharmaco-economic side of the question, in fact, we have to treat 1,000 patients for 5 years to prevent 29 strokes and 53 major cardiovascular endpoints.

Moreover, the SYST-EUR Vascular Dementia Project, which was associated to the main trial, has demonstrated that antihypertensive treatment could reduce by 50 percent the incidence of vascular and Alzheimer's type dementias in older patients with isolated systolic hypertension, and there again treating 1000 patients for 5 years could prevent 19 cases of dementias. This beneficial effect is in addition to the 53 major cardiovascular endpoints similarly prevented by the active drugs used in the SYST-EUR trial.

I would like to focus on dementia because dementia of all causes still represents the most striking factor of impairment of quality of life after 60, and there again progress in research may radically change the painful fate of a number of elderly patients. Up to recently, there was no treatment for AD. Today, the patients may benefit from symptomatic treatments such as cholinergic drugs. But more interesting and more stimulating, the preventive approach as shown by Dr. Hodes, is being developed/linked to the identification of risk factors such as besides age and gender low level of education—that is very important—mild cognitive impairment, which is highly predictive for the development of a dementia process years later, genetic factors and vascular factors.

The future preventive therapies include estrogens, anti-inflammatory agents, antioxidant, anti-hypertensive treatment, maybe particularly calcium channel inhibitors, amyloid deposition suppressors and probably some innovative molecules. All these preventive approaches have to be confirmed by large prospective, randomized trials, but they do represent a serious hope for the future.

Prevention opens very large fields of progress in many conditions. But I would like to elaborate now on a last point which concerns the links between health status and highly skilled medical care. It is well known that health status depends on various factors: genetic and biological factors, but there again level of education, socioeconomic level, social security system, access to prevention and care, and quality of care based on specific geriatric programs.

Specific geriatric programs based on specific geriatric assessment may be performed in various types of units according to the personal needs of each patient; specific acute care units, highly skilled rehabilitation units, outpatient clinics, evaluation and management of the hospitals. These units have been evaluated and the studies have confirmed that they not only decreased early mortality but improve the functional status of the patient, they reduce the frequency of placement, they reduce the rate of hospital readmissions, and they have been proven to be cost effective over the long term.

It is clear that it is the key, one of the keys to better health for our aging population and also a key to a better quality of survival for the frail elderly. This underlines the high interest of departments or divisions of geriatrics which associate comprehensive geriatric care, broad teaching activities, and outstanding research programs, which remarkably fill the needs of the aging citizens and their expectations of healthy and productive aging. The Department of Geriatric and Adult Development founded by Dr. Butler, former founder of the National Institute on Aging, has been a model for many countries to achieve our goal. I repeat that our goals are the prevention of age-related diseases, the promotion of an optimal physiological status, and the progress in basic research.

In conclusion, I think we know now what to do and how to do the right thing, but we need a strong political will to promote the ideas that healthy and productive aging is a challenge we can take up in our developed countries. This is the objective of the International Longevity Centers established by Dr. Butler in the United States, in Japan, in Europe, France and UK, and soon in Latin America.

But I must say that, on the other hand, we need to change, at least in France, our own attitude toward aging in order to drastically eradicate some sort of racial prejudice against the frail, handicapped, demented, incontinent, invalid elderly. It is a human right to age well and healthily. It is a fantastic challenge, but it is also a human right to be taken care of with an outstanding competency and a compassionate tenderness if, in spite of the fantastic progress which has been accomplished, a number of us nevertheless are victims of devastating conditions. All human beings are equally important and they are all part of our humanity. Thank you for your attention.

[The prepared statement of Dr. Forette follows:]

HEALTHY AND PRODUCTIVE AGING :

ROLE OF RESEARCH AND PREVENTION

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"The Graying of Nations"
United States Senate
Special Committee on Aging
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France, as well as all western countries, is facing an extraordinary Longevity Revolution. The mean life expectancy is now 73 years for men and 82 years for women. Around 20% of the population is over sixty years of age. In 2015, 40% of the population will be over fifty. In 2025, 800 millions persons will be over 65 worldwilde.

Then the political issue we have to adress is : How can we maintain equity and promote the quality of life of all generations living together in our countries.

Determinants of quality of life

The main determinants of quality of life over sixty are satisfactory health status, financial autonomy, family links, positive image, social role and personal responsability. The ethical challenge of our societies is to guarantee that economical pressure does not compromise the rigths of this expanding population to highly skilled medical care if necessary (particularly in preventive areas), to fair retirement pensions or access to work, to a political influence, to a social role including access to culture and entitlement to productive life in aging.

All medical data demonstrate that a vast majority of the aging population is going to grow older in remarkable conditions of health, autonomy and productivity. This rising tide of candidates for a bursting longevity will rapidly expand with the baby-boomer generation.

On the other hand, two critical issues must be considered: First, a minority of elderly people remain at risk of invalidating chronic diseases leading to a devastating dependance. Research and prevention should progressively decrease its proportion Ethics and morale require a particular vigilance towards this small minority of the elderly, victims of chronic

diseases often associated with unfavorable sociological conditions which may lead to a "no care zone".

The second critical issue is that there is a growing number of persons who happily reach a very advanced age, ninety, ninety-five even a hundred years. There are around 6000 centenarians in France but they will be 150.000 in 2050. These nonagerians and centenarians, though often healthy, remain a frail population, the autonomy of which must be often assisted.

These two phenomena must find innovative answers but they are marginal when compared to the increasing number of dynamic, healthy and productive aging individuals.

Health status, research and prevention

Healthy aging may be enhanced by three approaches which are closely linked : Prevention of pathological aging, ie prevention of age-related diseases, promotion of an optimal physiological status and progress in basic research on cellular, molecular and genetic mechanisms of aging.

I will focus my presentation on the prevention of age-related diseases because the tools of prevention arealready in our hands.

Indeed, the compression of morbidity into the last few years of life hypothesized by Fries is no longer out of reach. The disability-free life expectancy is increasing more rapidly than the mean life expectancy as shown by Robine and Ritchie.

The self-reported prevalent morbidity is still high in elderly persons. In a recent French study run on i a representative sample of people 65 and over, the mean number of self-reported diseases is 7.6 per person. The number is more important in women, 8.4 per person than in men 6.8 (Sermet).

But a declining incidence of most conditions leading to disability is observed in Europe as well as in the US (Manton) due to the fact that most of the age-associated invalidating diseases are accessible to prevention : Cardiovascular diseases, strokes, dementia, particularly Alzheimer's disease, arthritis osteoporosis, orthopedic problems, particularly hip fractures, diminished or lost hearing or vision and cancers.

The example of strokes

Stroke represents a very good example of an invalidating disease the decline of which is multifactorial (Whisnant). However, it is clear that a better control of the identified risk factors, hypertension, arythmias, smoking, dyslipidemia will strengthen this trend.

Control of hypertension has been highly effective as demonstrated by the controlled studies run since the seventies.

The most recent ones were dedicated to elderly patients and the SHEP trial has proven that the benefit was also observed in patients over 80 with isolated systolic hypertension.

The last European study, SYST-EUR published last September in the Lancet, has shown that the new classes of drugs calcium-channel inhibitors and ACE inhibitors were as effective as the older ones in preventing all cardiovascular events. The conclusions of SYST-EUR was that stepwise antihypertensive treatment starting with nitrendipine significantly reduces the incidence of strokes and cardiovascular complications in elderly patients with isolated systolic hypertension. Treating 1000 patients for five years may prevent 29 strokes and 53 major cardiovascular events.

Moreover the **Syst-Eur Vascular Dementia Project** associated to the main trial has demonstrated that the treatment could also significantly reduce by 50% the incidence of vascular and Alzheimer's type dementias and that treating 1000 patients could prevent 19 cases. The potential

reduction by half of the incidence of dementias may have important public health implications in view of the increasing longevity of populations worldwide.

The problem of dementias

Dementias of all causes still represent the most striking factor of impairment of quality of life after 60. There again, progress in research may radically change the painful fate of a number of elderly patients. Up to recently there was no treatment for AD; today, the patients may benefit of symptomatic treatments, such as the cholinergic drugs.

But a preventive approach is being developped. The preventive approach is linked to the identification of risk factors such as, besides age and gender, low level of education, genetic factors (family history of AD or genotypes as ApoE4), vascular factors such as hypertension and prior minor cognitive impairment which is highly predictive for the development of a dementia process years later. Checking these risk factors allows identification of high-risk patients.

The **preventive therapies** include estrogens, anti-inflammatory agents anti-oxydants, antihypertensive agents, calcium-channel inhibitors, amyloid deposition suppressors and other innovative molecules. All the preventive approaches have to be confirmed by prospective, randomized large trials but they represent a serious hope for the future.

Prevention opens very large fields of progress in many conditions. Besides cardiovascular diseases and dementias, osteoporosis and fractures are a leading cause of death, disability and institutionalization. In women, one of the most effective preventive measures is estrogene replacement after menopause. In France the total percentage of treated women is less than 10%. But if you look at the recently menopaused women, the percentage

rises up to 30%. Progress has been done but tremendous progress remains to be done. As underlined by Manton, "disease prevention, a delay in age at onset, or a disease cure all can cause morbidity prevalence to decline... For example, slowing the development of most diseases and increasing the age at which they appear by 10 years, would reduce their prevalence by half..."

Progress in Geriatric Care

The last point concerns the links between health status and highly skilled medical care. It is well known that health status depends on various factors : genetic and biological factors, socio-econonomic level, education, social security systems etc... But it has also been proven that access to specific care and quality of care are major determinants for improving the health status of older people and particularly, the frail elderly. Specific geriatric programs have been set up in the US and a number of countries. They are based on Specific Geriatic Assessment which may be performed in various types of units according to the personal needs of each patient.They have been evaluated and most of the studies have confirmed that they not only decrease early mortality but also improve the fonctional status of the frail elderly, reduce the frequency of discharge to institutions for long term care, decrease the rate of hospital readmission. This is probably the best way to promote quality of life.

While nearly all countries have to face increasing pressures for cost containment, it is interesting to point out that specific geriatric care does not inflate care cost and is proven cost-effective over the long term (Rub 95 Aging). It may even induce a significant reduction in the cost of hospitalisation (Naughton). It is clear this is the key to better health for our aging population, therefore a key to a better quality of survival for the frail elderly.

Departments of geriatrics which associate comprehensive geriatic care, broad teaching activities and outstanding research programs remarkably fill the needs of the aging citizens and their expectation of healthy and productive aging. The Department of Geriatric and Adult Development founded by Robert Butler, former founder of the National Institute on Aging, has been a model for many countries to achieve our goals : the prevention of pathological aging, the promotion of an optimal physiological status and the development of basic research on the cellular, molecular and genetic mechanisms of aging.

In conclusion, we know, now, what to do and how to do the right thing. But we need a strong political will to promote the idea that healthy and productive aging is a challenge we can take up in our developped countries. This is the objective of the International Longevity Centers established by Doctor Robert Butler in the US, Japan and Europe and soon in Latin America.

But, on the other hand, we need to change our own attitude toward aging in order to drastically eradicate a sort of racial prejudice against the frail, handicapped, demented, incontinent, invalid elderly.

It is a human right to age well and healthy. It is also a human right to be taken care of with an outstanding competency and a compassionate tenderness if, in spite of the fantastic progress which have been accomplished, a number of us are neverthless victims of devastating conditions.

All human being are equally important. They are all parts of our humanity.

Senator GLENN. Thank you very much. Dr. Butler.

Dr. BUTLER. Perhaps given the fact that Air France is unpredictable and United is apparently going to transport you back to France, maybe you should ask any questions of Dr. Forette——

Dr. FORETTE. It is OK.

Dr. BUTLER. You are all right?

Dr. FORETTE. Yes.

Dr. BUTLER. OK. Then it is with pleasure that I introduce Dr. Alvar Svanborg, whom you know, because he has been present at all three of the hearings on "The Graying of Nations." He is the Professor Emeritus of Geriatric Medicine at the University of Gothenburg in Sweden, at the University of Illinois in Chicago, and now works at the Heinz VA hospital. He remains an indomitable and great contributor and will talk on the role of biomedical research in postponing age related disability. Dr. Svanborg.

STATEMENT OF ALVAR SVANBORG, M.D., PH.D., PROFESSOR, UNIVERSITY OF GOTHENBURG, SWEDEN AND UNIVERSITY OF ILLINOIS

Dr. SVANBORG. Thank you and thank you, Mr. Chairman, for inviting me again. I am going to talk about something that I think we very seldom have talked about, namely how is aging in itself distinguished from disease influencing our vitality, to what extent would it be possible to postpone at least certain negative functional consequences of aging in itself?

The main reason for the ongoing increase in total life span in many industrialized countries is no longer a decrease in child mortality but an extension of further life expectancy when we are already old.

Why is it so that pediatrics has taken responsibility not only for the care of sick children but also for children's growth and maturation, but adult medicine has not in a similar way been responsible for understanding aging and the ways to postpone when possible aging related functional decline? Well, the main reason was the difficulties to differentiate manifestations—of aging from symptoms of disease. I used to refer to what Sophocles said: "One must wait until the evening to see how splendid the day has been." One cannot just examine an old person once and make sure if this person is healthy or not.

This is one reason why we have used a combination of longitudinal studies and also compared age cohorts of, for example, 70-year-olds that have had a different life situation than the cohort approaching the same age 5 or 10 years later. In many situations in order really to study causative relationships, one need also medico-social interventions, to do something with them and their living situation in order to see to what extent that intervention really influences their health and vitality.

Through these studies, we know today that the rate and functional consequences of aging are not only genetically determined. We have for a long time believed in a more or less total domination of genetic factors. There is however, more and more scientific documentation that many factors—our personal lifestyle, living circumstances, and also, of course, availability of medical care—are influencing manifestations of aging themselves.

In other words, we have data indicating that certain negative consequences of aging can be postponed. For example, the decline in muscle strength. Several different groups have shown that, something we thought at the beginning could not be true, but has been confirmed, that the increase in muscle strength that one can obtain also in old, very old people, proportionally is of similar relative order as in young persons. But, of course, the olds cannot reach the same level of strength.

There are also as far as skeleton is concerned, demonstrated exogenous effects. The figures on the slide above one mean a negative influence. The figures below one mean a positive effect. A few examples: you know, of course, already that smoking really lowers the stability of the skeleton. In Scandinavia, a smoking 70-year-old person has approximately 20 percent less skeleton left than a nonsmoker, and of course a much higher risk of, for example, hip fractures. But, on the other hand, walking, and only something in the dimension of 30 minutes twice a day has been reported to have significant effects in postponing fragility of the skeleton. There are other factors like obesity involved. I used to say the only really good thing I know about overweight is that you keep your skeleton a little better.

As far as blood pressure is concerned, we know that the blood pressure goes up to around 70–75 years of age and then goes down. It is not necessarily so in every person in the world. These are studies in Italy where they have compared the aging-related change in blood pressure in nuns with women of similar age working in a conventional professional situations. These aging-related changes in blood pressure do not occur in the same way in nuns as in others. I am not recommending the ladies here to become nuns in order to avoid blood pressure increase, but such observations show that factors that we did not know about earlier really are influencing also manifestations of aging.

I think this is one of the most positive slides I can show you. Namely, when we compared 70 year olds born in 1901 with 70 year olds born 5 and 10 years later, we found that, at least in Sweden, it was at that time an ongoing trend to a lowering of blood pressure. Dr. Forette earlier today talked about treatment of blood pressure. But what we observed was a trend, spontaneous trend to an ongoing decline, and we all know that blood pressure is a real risk factor for many health problems.

Shortly also, I would like to say something about what we can do with the heart. The pumping function, the strength of the myocardium, goes down when we grow older, and it has been indirectly shown that not only skeletal muscles but also the myocardium can be trained also when we are old. On the other hand—we should not be too optimistic and say that we can postpone all functional manifestations of the aging heart. There are certain important functions for which there are no evidences for today that they can be postponed. One example is the neuro-conductive system, the in situ pace control system of the heart, starting with initiation of contraction in the right atrium and then spreading all over the heart. This is something that is accompanied, when we grow older, by higher risk of arrhythmias. To my knowledge we have no evidence that one through physical activation can influence that problem. So, this

is an example also of the need to know more in order to understand the full picture. One cannot just be very positive and say: Activate old people and they will then improve cardiac function. We must be aware that there are also functionally important factors that one might not be able to influence.

I am going over to another more international aspect. That concerns the question of longevity in different countries, and to what extent difference in longevity is due not only to difference in the occurrence of disease and their treatment but also to the fact that people grow old at different rates in different countries. I think it is disturbing to know that, for example, a male in Hungary today lives more than 10 years shorter than a male in, for example, Sweden. The trends in many East European countries have been different from most other parts of the world, namely that longevity goes down at the same time as it goes up in other countries. And why?

History shows that aging and health varies between populations with similar availability of basic medical service. If we compare, for example, the Nordic countries Denmark, Finland, Iceland, Norway, Sweden, you will find some remarkable differences in longevity also between these countries with very similar social standards, availability of medical care.

The reported reasons for dying in these countries are very similar. So our conclusion at least preliminarily, might be that some differences, not only between nations but also within sub-social settings within many nations are due not only to differences in occurrence of disease but also to differences in the functional consequences of aging.

When we see curves illustrating aging, we see mainly the average for population, i.e, a curvilinear smoothly declining curve. But if one looks into our future, and the present trends persist one can predict that the majority of people will go downhill stepwise. One of the problems here is that even in countries with good medical care, too many frail older patients are not helped to regain functional performance after events threatening their vitality. Even when a disease can be cured, patients are sent home before they have reached a state where their own reserves would allow them to recover strength and reasonable function.

I have called this regaining of function "reactivation." We are just now working on a project at Heinz VA hospital in Chicago in order to see what can be done to reach a more ideal—situation, as you see illustrated in this slide. Namely, that reactivated older people will have another and slower future rate of functional decline.

To my final comment. Would it be possible to avoid socioeconomic stagnation when people live even longer in the future? If longevity will increase even further, would that imply a social-economic stagnation? With the use of already existing knowledge about what can be done to prolong the period of vitality would that mean that one could balance, the risks of social-economic stagnation by helping us to keep our vitality over a longer period? This is, of course, a crucial societal question. To my knowledge, there is no real scientific study proving to what extent such a balance would be possible, but it is, of course, a challenging question. I know that also the World Health Organization in their program for elders' health has taken

that perspective into consideration, namely what can we do to prevent not only disease, but also to postpone functional decline during aging? Thank you.

[The prepared statement of Dr. Svanborg follows:]

THE ROLE BIOMEDICAL RESEARCH HAS, AND WILL PLAY, IN POSTPONING AGING RELATED FUNCTIONAL DECLINE.

Alvar Svanborg , MD, PhD.
Professor Emeritus of Geriatric Medicine at University of Gothenburg, Sweden and at University of Illinois at Chicago, USA.

This presentation will give EXAMPLES on how a combination of basic and clinically oriented research has contributed to a better understanding of AGING in itself, and also at ages when disability and morbidity (i.e. ilness) might mask manifestations of aging, or vice versa. Mainly through longitudinal population studies, manifestations of aging have been better distinguished from symptoms of disease. As a consequence diagnostic and treatment criteria of morbidity have been sharpened, and manifestations of aging in itself analyzed and followed.

Such research shows how not only genetic but also many exogenous (external) factors, such as our life style, living circumstances and availability of adequate medical care, are influencing many important functional consequences of aging in itself. Measures to prolong the life period with productive vitality exist, but the applications differ between populations, environments and social settings. Certain aging related changes in organ or organ system functions can be markedly influenced, exemplified by skeletal muscle strength, psychomotor speed, balance and the rate of the development of a fragile skeleton.

One example on possibilities to postpone functional decline in everyday clinical programs is illustrated by the fact that too many older people don't receive enough help to regain functional performance after events threatening their vitality, e.g. an acute but treatable disease, loss of a spouse, periods of social isolation and inactivity, etc. A disease is treated, but the old and frail person is sent home before she has reached a state when her own reserves would allow her to recover strength and reasonable function. Much more can be done to avoid such stepwise functional declines.

Some aging related functional declines seem, however, to be mainly genetically determined, and might not, according to current

knowledge, be significantly influenced by external factors. When "trainability" exists for certain organ functions but not for others, risks for side effects by generalized activation of the whole individual have to be considered.This illustrates the need for teachers, coaches, psychologists, and medical personnel (e.g. physical therapists) with specialized knowledge about aging. In general, realistic information on aging per se and possibilities to prolong fitness has to be introduced to young and old, and not only risk factors for disease.

More and more aging research indicates that variations in the LONGEVITY between nations, and also between segments within a population, are caused not only by differences in the occurrence of disease and availability of medical service, but also by differences in the functional consequences of aging in itself caused by exogenous factors. Examples are variations in longevity between countries and social settings in the industrialized world with similar morbidity distribution and availability of medical care.

In already long living populations a fear has developed for a socioeconomic stagnation accompaning a predicted even further increase in longevity. Speculations of to what extent measures to postpone aging related decline instead would allow a societal progress might also be relevant. The hope might be unrealistic that more old, experienced and still at old age productive members of our societies would mean the avoidance of stagnation - even if their aging related "dysfunctions" would cause both individual and societal burdens. Future biomedical, social, etc, research will hopefully show how/if an extension of the period with professional contributions, in itself, would imply a post-ponement of the aging related decline in functional performance in already long living populations.

THE ROLE BIOMEDICAL RESEARCH HAS, AND WILL PLAY IN POSTPONING AGING RELATED FUNCTIONAL DECLINE

Short introductory Statement at the Senate Hearing on "Graying of the Nation" , Washington DC, June 8 , 1998.

By Alvar Svanborg

1. The main reason for the ongoing increase in longevity in many industrialized countries is no longer a decrease in child mortality but an extension of FURTHER LIFE EXPECTANCY when we already are old. Figure 1 gives an example from the Swedish population where national population registration has existed since the 18th century. This figure illustrates that further life expectancy at age 65 has been increasing for many decades , and since the 1960s more for women. Such increases are predicted also for the turn of the century.

2. Pediatrics has taken responsibility for many decades not only for the care of sick children , but also for understanding and promoting their GROWTH AND MATURATION.
Adult medicine has not in a similar way been responsible for understanding AGING and ways to POSTPONE, when possible, AGING RELATED FUNCTIONAL DECLINE. The main reason for such a neglect was the difficulties to differentiate manifestations of aging from symptoms of disease. Especially at ages when manifestations of aging really take their toll, and disease commonly occurs simultaneously.

3. Today it is known, and for the human species especially through longitudinal population studies, that the rate and functional consequences of aging are not only genetically determined. PERSONAL LIFE STYLE, LIVING CIRCUMSTANCES AND AVAILABILITY OF MEDICAL CARE influence not only the state of medical health but also the functional consequences of aging per se.

4. Certain negative consequences of aging are influenced by exogenous/

external factors and can, therefore, be postponed/reactivated.

- One example is the decline in strength of the striated muscles. Most studies of possibilities to influence functional decline have been performed on the leg, arm and trunk muscles, less on the heart muscle (myocardium) and even less on the smooth muscles. Studies on extremity muscles indicate that even in very old people trainability exists. This implies not only that muscle strength decline due to aging can, to a certain extent, be postponed, but also that retraining - REACTIVATION - can occur also in really old persons(e.g. 80+ years) after episodes threatening their vitality. For persons reaching the very end of their genetically determined life span, such reserve capacities might become minimal. But the fact that retraining has been reported to be meaningful still at ages around 90 years has had great impact on the geriatric treatment programs. This exemplifies one reason for a conclu-sion that, in certain respects, much more can be made to help older persons against dysfunction than was generally considered possible earlier.

- The density and stability of the skeleton due to osteoporosis is another example of aging related changes that can be delayed. Osteoporosis is an aging related phenomenon that contributes to, e.g. , back pains and immobility, decline in body height and increasing risk of fractures, e.g. In the back and hips. Postponement of skeletal fragility exemplifies a multifactorial attempt with a lifelong perspective from building up the skeleton during childhood, to attempts to stimulate the skeleton during old years. Adequate nutrition in general and especially of intake of vitamin and calcium, and the avoidance of tobacco smoking, which has been repeatedly reported to accelerate the development of osteoporosis, are examples of exogenous factors influencing the stability of the skeleton. Furthermore, lack of stimulation of the skeleton by reasonable physical loading, which seem to stimulate the skeleton and postpone the development of osteoporosis still in very old people, is another example on life style factors that commonly can be changed and contribute to a postponement of skeletal fragility.

- In general the blood pressures increase during aging up to around age 70-75 years and then decline (fig.2).. There are certain indications that even those relatively limited blood pressure changes, which in many individuals in the industrialized world accompany aging, might have negative impacts on our health. They seem to be a consequence of aging

related changes that might be influenced. Table I shows a comparison of representative population samples of individuals born with 5 years interval, either 1901/02, 1906/07 or 1911/12. The age cohort differences showed a positive trend implying a successive decline in blood pressures, especially in women. The reason for those changes is obviously multifactorial, and indicate that life style and living circumstances play a role also for mechanisms influencing age related changes in blood pressure. Overweight and lack of physical activity are examples of factors that can increase blood pressure.

- Also certain changes in the functions of the heart seem to be influenced by exogenous factors. The heart undergoes marked changes during aging, some of them illustrated in figures 3-5. The good messages are that the pumping-out function of the heart, the stroke volume, is trainable. That aging related decline can be postponed - and reactivated after periods of inactivation.

- Another example of an important aging related function that is reported to be influenced by exogenous factors is the lowering of psychomotor speed - our intellectual function becomes slower when we grow older, even when other measurable cognitive parameters are unchanged or even improving. Intervention studies indicate that stimulation through cognitive activation can postpone/reactivate psychomotor speed, to a certain extent, still in old persons. Exogenous influences on cognitive function are also indicated by observed changes in cognitive ability between generations at the same age, i.e. age cohort differences.

5. There are also important functions declining during aging that seem to be UNINFLUENCED by exogenous/external factors.

- One functionally important example is the neuroconductive system of the heart - and the increasing risk of rhythm disturbances with increasing age. Aging in itself lowers the number of pacemaker cells in the initiator of heart beats , the sinus node in the right atrium of the heart, and lowers also the number of fibers extending the neurogenic impulses to the walls of the heart chambers/ventricles (fig.5). There seem to be no research reports indicating that exogenous factors are influencing aging related changes in this neuroconductive system.

- Another common aging related change influencing not only morphology of organs but also function is the increasing tissue stiffness. Organ compliance/elasticity is going down in many structures, causing wrinkles in the skin, stiffer heart and vessels (fig.4), and stiffer and less well functioning chest and lungs. These changes are partly due to a change in the relative amount and composition of the connective tissue, important for the structure of organs. But also to a change in the content of water in many organs, which become dryer in the old person. Certain recent reports indicate that a life with reasonable physical activity might mean that the more elastic fibers in collagen, an important component of connective tissue, survive longer, and studies in experimental animals seem to indicate that the metabolism in collagen is stimulated by physical activity also in old animals. To what extent factors like physical activity level really have functionally important impacts on the aging related changes in organ tissue stiffening in humans remains to be further studied.

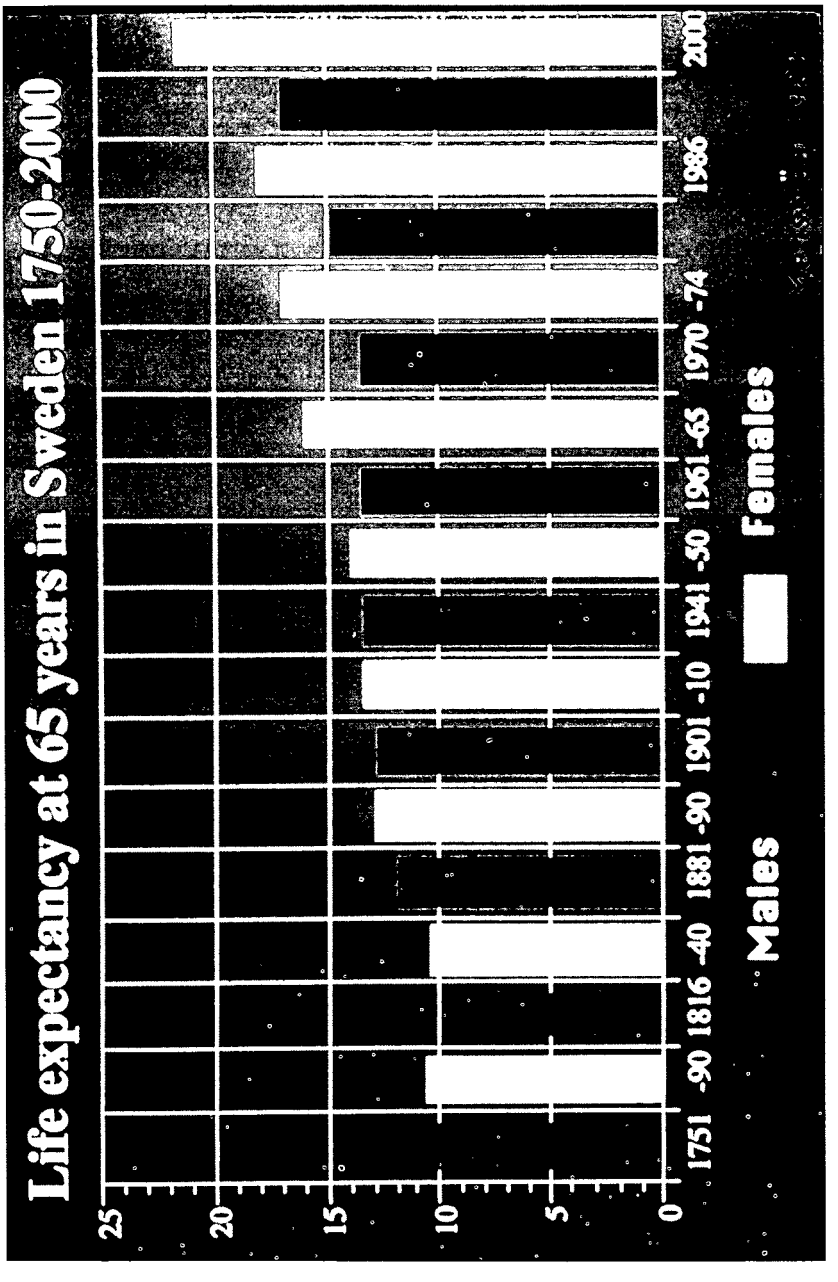
In general, the message is that we can do more than we generally thought possible before in order to postpone aging related functional decline. At the same time these combinations of positive effects on certain organ and organ system functions with lack of obvious positive effects on others, illustrate the importance of societal responsibility for the dissemnation of information about aging not only to social planners and care givers, but also to the man in the street. Measures to postpone functional decline must take into consideration the risks involved in an unskilled, uninformed attempt of activation of the whole individual, especially of a frail old person.

6. In the medical field augmented knowledge of manifestations of aging versus symptoms of disease have improved diagnostic and treatment criteria. The increasing availability of non-invasive examination and treatment techniques have further contributed allowing also very old and frail people to utilize the remarkable advances of modern medicine. Even in countries with good medical care, too many frail older patients are, however, not adequately helped to regain functional performance after events threatening their vitality. Figure 6 illustrates age related growing and functional decline for the population in general, implying that different functional performances start to decline at different ages, some of them already shortly after the end of the growing period. But for the individual the functional performance usually shows not a smooth linear

curve decline but a step-by-step decline (fig.7). Such a step downwards is common also after an event of curable illness. Their medical condition is treated, but they need much more help than they can mobilize themselves to regain function, and are thus threatened by unnecessary "premature" functional aging. Under ideal conditions reactivation might change their downhill step-by-step decline into a curve illustrated in figure 7.

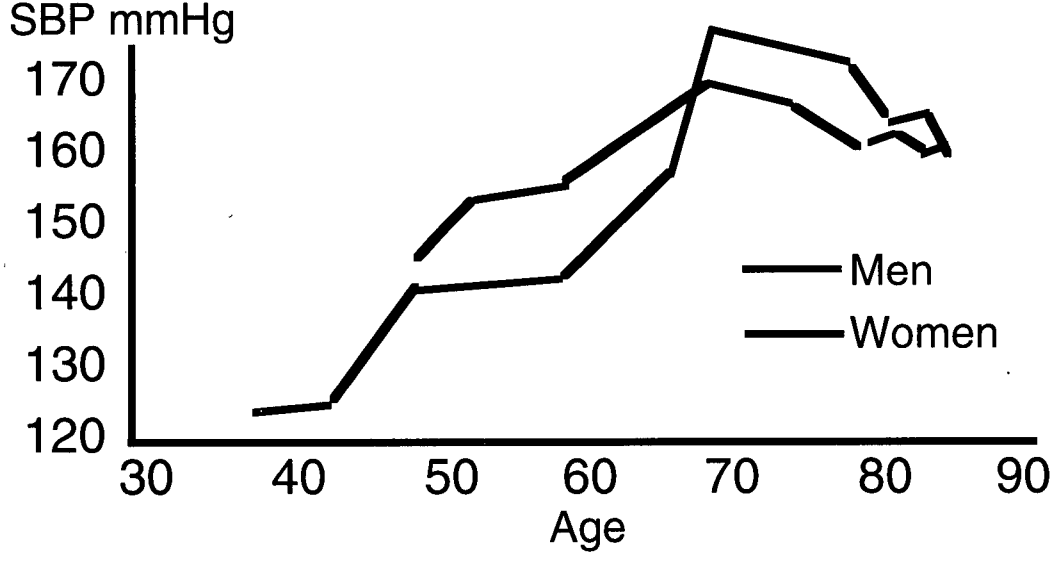
7. Indirect evidences have been observed for the conclusion that certain of the differences in longevity between nations, and population groups within a nation, may not only depend on the occurrence of disease and availability of medical service. There are reasons to consider that populations might grow old at different rates , a possibility supported by the fact that in countries like Denmark, Finland, Iceland, Norway, and Sweden - where the social standard, availability and quality of medical care , and the distribution of diseases causing death, as well as the rules to register such causes of death, are rather similar, significant differences in longevity exist (Tables II, and III).

Both more basic and clinically oriented biomedical research has, thus, markedly improved understanding of aging also at ages when manifestations of aging are commonly mixed with symptoms of disease. One of the most important consequences is the observations showing that also at really old ages, and sometimes even more so at ages when frailty becomes common(!), changes in factors like lifestyle and living circumstances might have a great impact on vitality and rate of functional decline. Future urgently needed biomedical research, and research on aging in general, will obviously show more about means to postpone functional decline. One challenge would be to understand if a prolongation of meaningful societal professional contributions also would postpone negative manifestations of aging. The USA was a pioneer in introducing a law eliminating compulsory retirement age!


Life expectancy at 65 years in Sweden 1750-2000
25
20
15
10
5
0
1751 -90
1816 -40
1881 -90
1901 -10
1941 -50
1961 -65
1970 -74
1986
2000
Males
Females

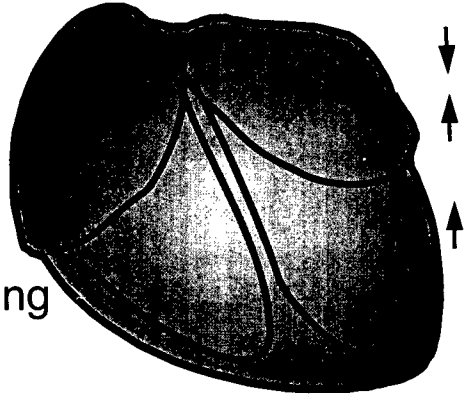
Cross Sectional Comparison of SBP without Hypotensive Treatment H70

1986



Aging of the Heart

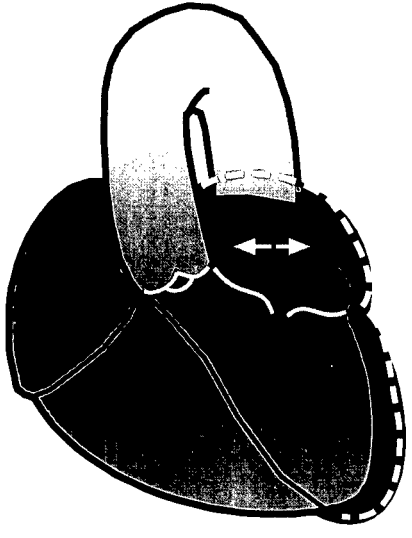
- ↓ Strength
- ↓ Speed of contraction
- ↓ Tissue H_2O
- Diastolic filling prolonged



- ↓ Muscle fiber #
- ↑ Average myocyte size
- ↑ Connective tissue proportion with collagen

Aging: Gross Anatomical Changes

↓ Compliance of heart tissues

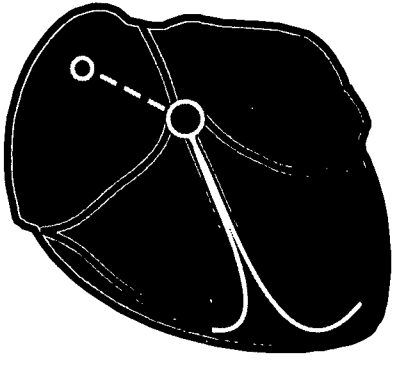


Stiffer valves and aorta

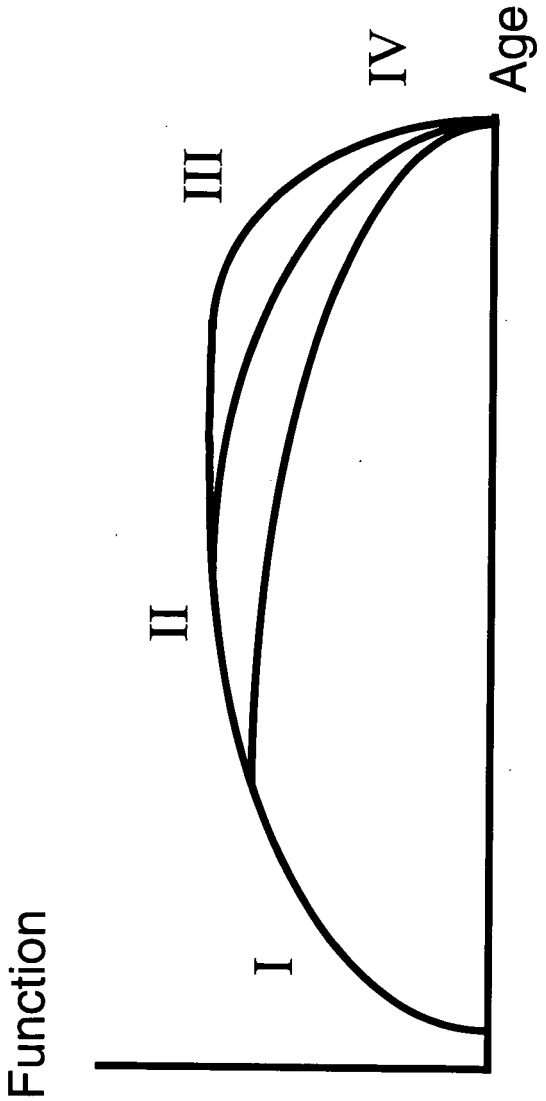
Aging of the Heart

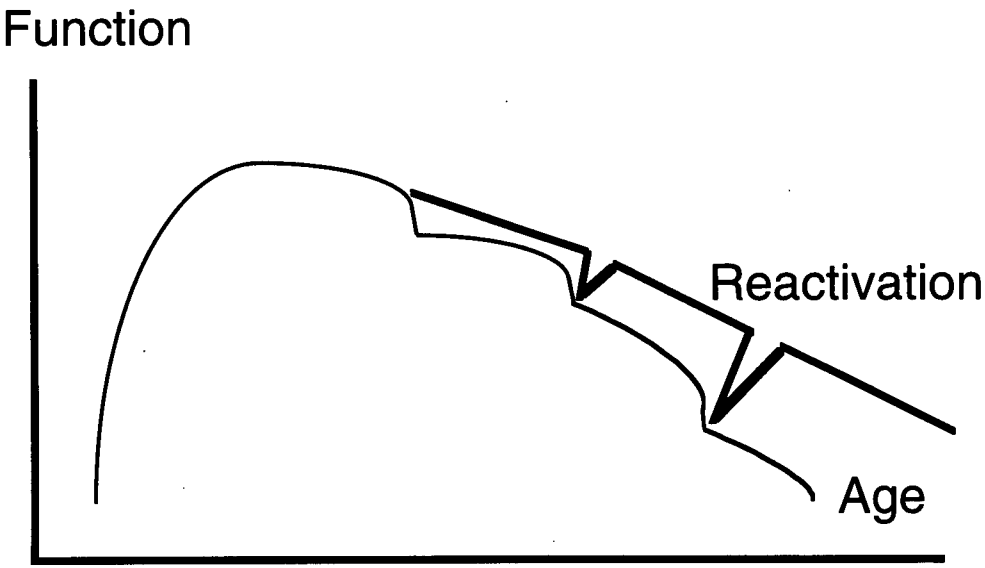
Neuro-conductive System, Pace Control

- S.N. Pacemaker cell # ↓ (to 40-10%) shell thickness ↑
- A.V. delay in transmission



- B. Hiss Purkinje fibers ↓ especially left bundle (50%)


Function
I
II
III
IV
Age


Function
Reactivation
Age

Arterial Blood Pressure by three cohorts of 70-year olds in Gothenburg

Cohort	#1	#2	#3	
		Women		
SBP	168	166	160	p<0.000
DBP	93	90	85	p<0.000
		Men		
SBP	159	160	157	p<0.361
DBP	96	92	84	p<0.000

Comparisons were made in subjects not receiving treatment for hypertension (β-Blockers, diurectics, and/or antihypertensive drugs).

Svanborg, A. 1988

Life Expectancy at Birth, age 65, and age 75 yrs in the Nordic Countries; Females

	Year	0+	65+	75+
Denmark	1995	77.8	17.5	10.8
Finland	”	80.2	18.6	10.9
Iceland	”	80.0	19.0	11.2
Norway	”	80.8	19.1	11.6
Sweden	”	81.4	19.7	11.9
Max difference		3.6	2.2	1.1

Life Expectancy at Birth, age 65, and age 75 yrs in the Nordic Countries; Males

	Year	0+	65+	75+
Denmark	1995	72.7	14.1	8.4
Finland	”	72.8	14.5	8.7
Iceland	”	75.9	16.2	9.8
Norway	”	74.8	15.1	8.9
Sweden	”	76.2	16.0	9.4
Max difference		3.5	1.9	1.4

Senator GLENN. Thank you very much, both of you, very interesting. In your paper, Dr. Forette, you stated the disability-free life expectancy is increasing more rapidly than the mean life expectancy as shown by Robine and Ritchie, which is interesting. In other words, whatever frailties of old age we have are being compressed into the last few years of life.

Dr. FORETTE. Two years of age, yes. There are some studies showing that, that the life expectancy without disability is increasing more than the life expectancy. So that is very important.

Senator GLENN. But in the Scandinavian countries, Dr. Svanborg, would that be the same there? Do you think as we learn more how to take care of strokes and dementia and things like this, that your frailties are being compressed into a smaller period of life at the end?

Dr. SVANBORG. Well, we have compared age cohorts and found a positive trend there, but, on the other hand, these people live longer at the end of the life, so to really prove that we today have reached compression of morbidity, that is not settled. But, of course, theoretically, if we learn how to keep our vitality, and approach maximal genetically determined life span sooner or later a situation with compression of morbidity might occur.

Senator GLENN. Then what happens? We are compressing things down. Now in this country, we have a lot of discussion about how much of our medical expenditures should go to that last year of life or last 6 months of life or whatever. I do not recall the exact figures, but maybe you can give them to me. It is something like over half of your total medical expenditures for your life on average in this country, more than half of your medical expenditures for your whole life normally come in the last what is it—10 months or year of life, something like that.

Dr. BUTLER. But the catch is, of course, naturally more money is spent on the occasion of illness. As Bruce Vladeck, the former administrator of the Health Care Financing Administration, pointed out, more than half of the individuals who account for those costs not only get well but have an extended period of good life following their illnesses. So, we doctors have not gotten skilled enough to make the prognostication as to who will, in fact, survive well and who will not.

Senator GLENN. We have a reputation in this country, whether deserved or not, that people want to go to heroic measures in the last few days or few months of life and quite often it is—I will not say it is wasted, but it is not successful in prolonging life for any extended period of time. Is that the same way in France? Do you do the same thing in Sweden, and what is your experience in other nations of the world?

Dr. FORETTE. Well, it is more or less the same way, but I do not think it is really true. I think we do not most of the time do extravagant things to prolong life. You know people want to live. When you see a gentleman who is 80 and who has a stroke, most of the time, he does not want to die. He wants to live. So it is very difficult to say that we have measures which should not be undertaken in some situations. It is an ethical problem.

Senator GLENN. Well, a lot of times I think it is the relatives or the family who are pushing this.

Dr. FORETTE. Not really.

Dr. BUTLER. Most recent data shows that perhaps no more than 1.5 percent of the Medicare budget is spent right near the end of life. As I was trying to say earlier, usually most of the expenditures turn out to be worthwhile, and it is very difficult to make that decision. Also, there has been a kind of mythology, as Dr. Forette points out, that we are spending outrageous amounts of near the end and using outrageous amounts of technology. Some of that technology actually is also very helpful to people who are in the process of dying, for example, oxygen that may relieve their air hunger, and the administration of medicines to ameliorate pain. Some aspects of end of life issues have been visited by the Alliance for Aging Research. They have a very interesting report called "The Seven Deadly Myths of the End of Life," which perhaps we should add to the record today because it helps, I think, address this problem.

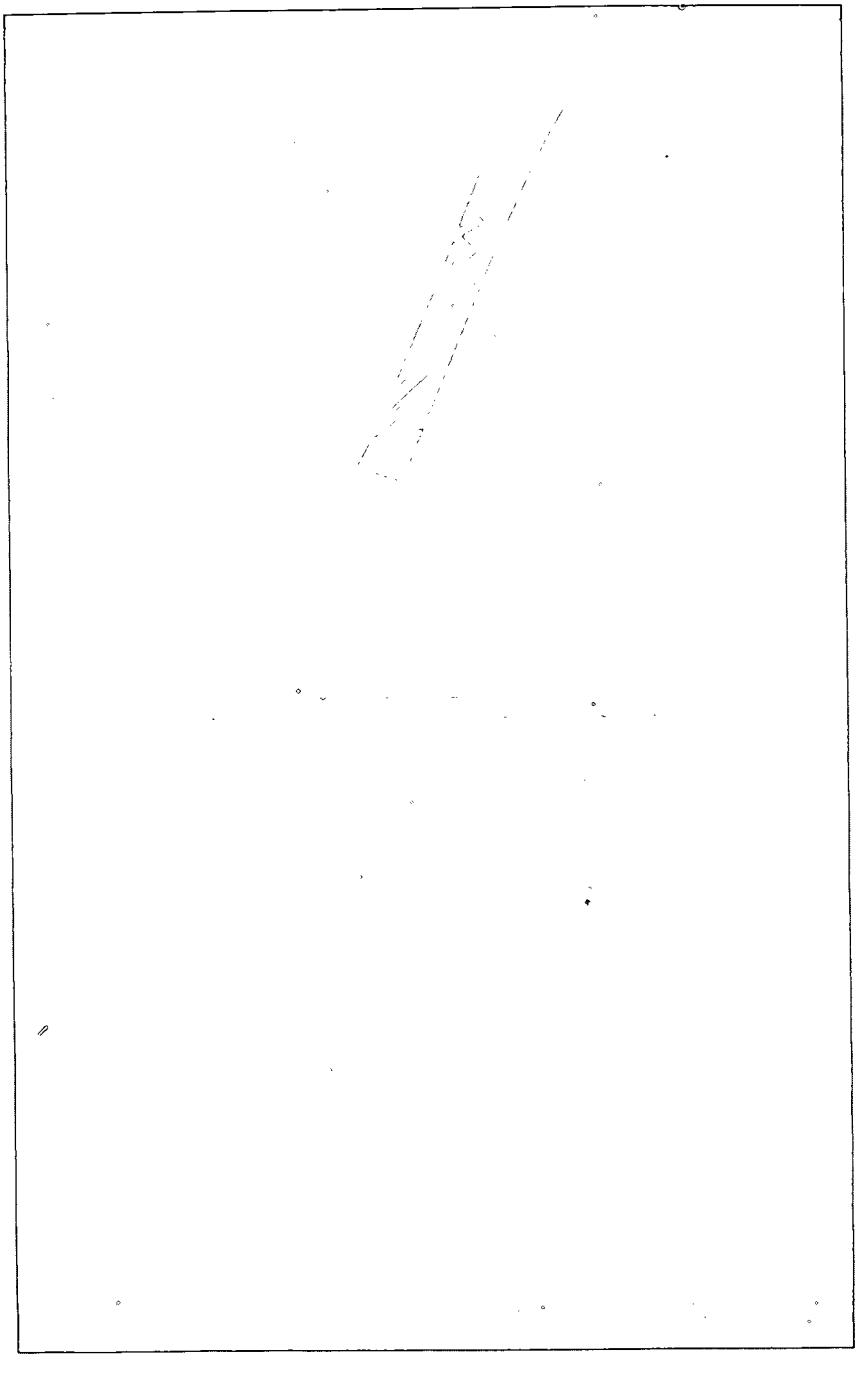
Senator GLENN. Could you supply for that committee?

Dr. BUTLER. Yes, I would be very happy.

Senator GLENN. If you would, we will enter that into the record of the committee.

Dr. BUTLER. Be very happy to do that.

[The report "The Seven Deadly Myths of the End of Life" follows:]



The Alliance for Aging Research gratefully acknowledges our expert advisory panel for their contributions in developing our report on uncovering the facts about the high cost of the last year of life. We greatly appreciate the support of the Project on Death in America of the Open Society Institute and the Retirement Research Foundation.

Our gratitude is also extended to Caroline McNeil for her help in preparing this report; Lynne Beauregard for her editorial contribution and Deborah Goldsmith for her graphic design.

For additional copies contact the Alliance for Aging Research, 2021 K Street, NW, Suite 305, Washington D.C. 20006, (202) 293-2856 (phone) (202)785-8574 (Fax).

The Truth About the High Cost of Dying in America

Aggressive hospital care for the elderly is [illegible] the money [illegible]

Many older people [illegible] receive [illegible] care [illegible] for an extended period.

If all elderly patients [illegible] living wills or other kinds of advance directives, it would resolve [illegible] of how aggressively to provide care.

Even when patients have advance directives, they often have little impact on [illegible] to end-of-life decision making.

Putting [illegible] health care for [illegible] at the end of life would save Medicare significant amounts of money.

Limiting health care at the end of life would save only a small fraction of the nation's total health [illegible].

The growing number of older people has been the primary factor driving the rise in America's health care expenditures over the past four decades.

Population aging does not [illegible] appear to be [illegible] contributor to the rise of rising health care costs.

As the [illegible] health [illegible] costs for the elderly [illegible] and [illegible].

Population aging [illegible] if we start now to [illegible] on the [illegible] health care at the end of life.

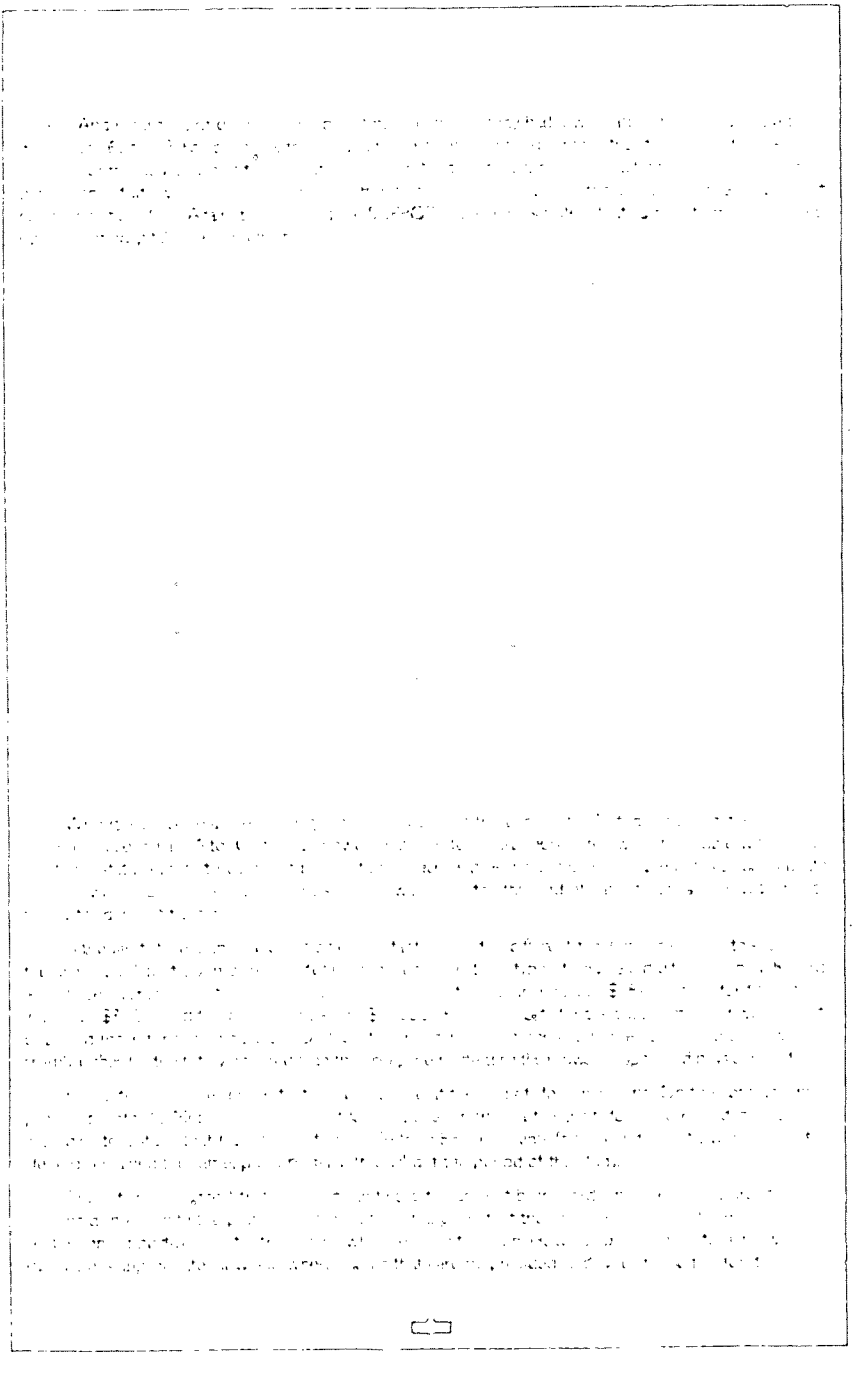
The facts are summed up in the [illegible] Dr. [illegible] director of the National Institute on Aging and [illegible] chairman for this report. [illegible] support for the [illegible] that age alone is not a reliable predictor of medical care outcomes or expenditures [illegible] health care at advanced ages, usually characterized by [illegible] futile and expensive [illegible]. [illegible] common assumptions about health care costs and the elderly should be [illegible].

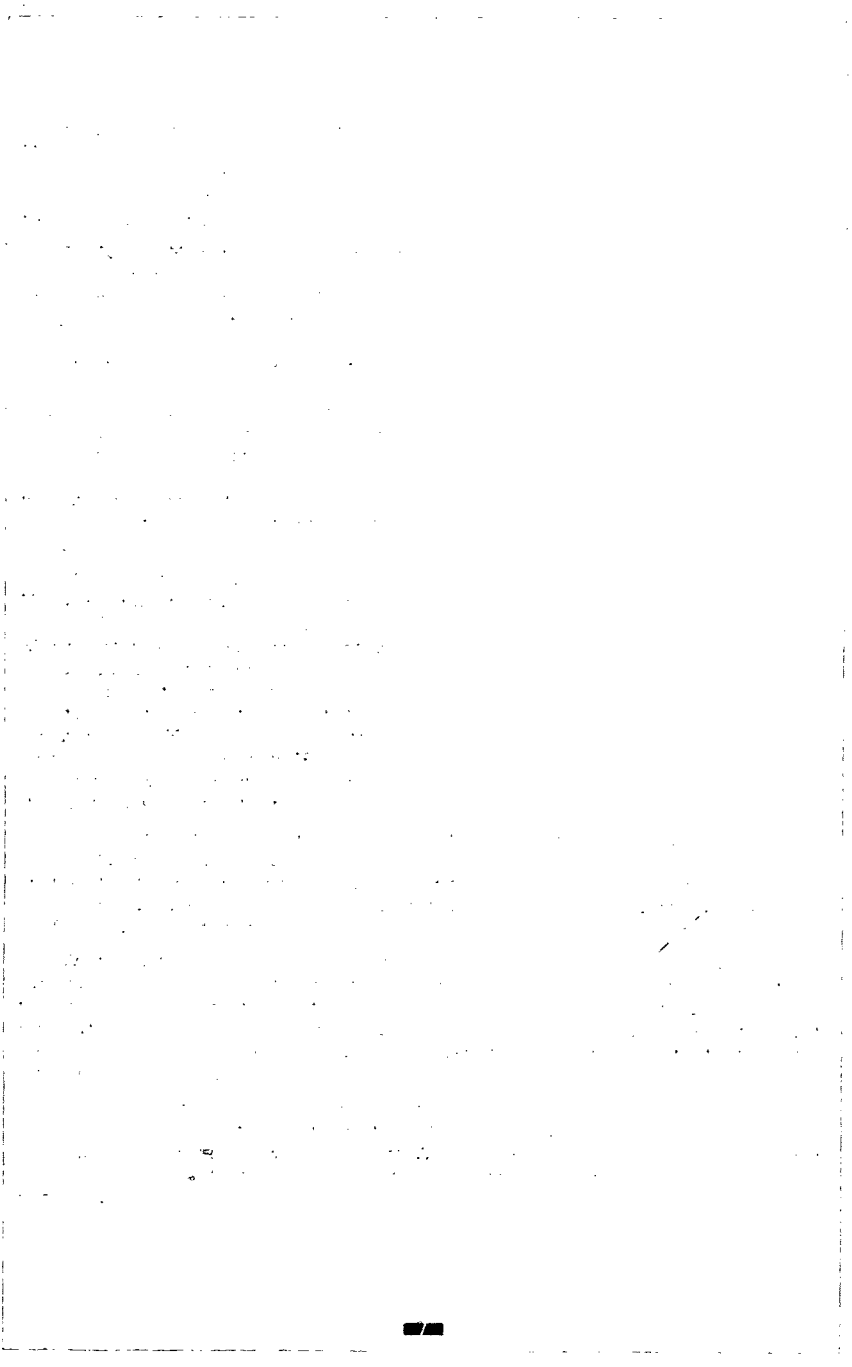
This report concludes with recommendations made by the independent panel of experts and [illegible] by the [illegible]. The recommendations [illegible] for [illegible] research on supportive care at the end of life, including studies into [illegible] develop [illegible] methods to [illegible] families and physicians, and [illegible] emphasis on [illegible] U.S. [illegible].

The aging of America's population [illegible] one of the great success stories of the 20th century [illegible] productive life beyond [illegible] of a good and just society. The greater numbers of people who live into and beyond their 80s and 90s [illegible] achieving a good death when the time comes. The purpose of this report is to examine [illegible] about the cost of dying among older Americans [illegible] for [illegible] real questions [illegible] health care [illegible] of life.

It is common for older people to receive heroic, high-tech treatments at the end of life.

Only a fraction of people over age 65 receive aggressive care at the end of life. The older people are, the less likely they are to receive aggressive care when dying.



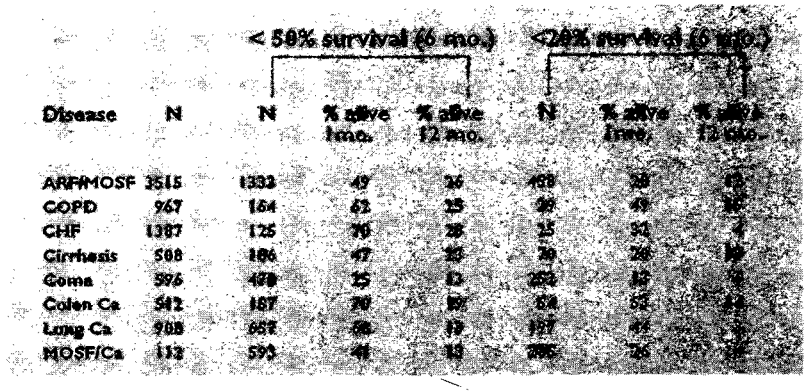


The majority of older Americans die in hospitals.

The majority of older Americans do not die in hospitals and the older people are, the more likely they are to die in nursing homes.

Aggressive hospital care for the elderly is futile; the money spent is wasted.

Many older people who receive aggressive care survive and do well for an extended period.



Disease	N	< 50% survival (6 mo.) N	% alive 1 mo.	% alive 12 mo.	<20% survival (6 mo.) N	% alive 1 mo.	% alive 12 mo.
ARF/MOSF	3515	1393	49	26	408	28	6
COPD	967	164	62	25	29	48	10
CHF	1387	125	70	28	25	52	4
Cirrhosis	588	186	47	23	39	28	10
Coma	596	429	25	13	252	15	7
Colon Ca	542	187	70	50	54	52	24
Lung Ca	988	668	38	17	327	19	3
MOSF/Ca	132	593	41	13	286	26	10

Age alone is not a good basis for making prognoses, and the outcome of aggressive treatment is hard to predict.

Compounding the problem of prognosis was the markedly different likelihood of surviving two months that emerged for different illnesses and conditions in this study.

One clear fact that does emerge from studies of prognostic models is that age alone is not a good predictor of whether treatment will be successful. Both the APACHE III and the SUPPORT model include age as one prognostic element, along with physiologic and other variables. In neither case does age appear to play a major role, compared to other variables.[4]

In summary, the common assumption that intensive care for the elderly is futile is not borne out by the evidence. Age alone is not a good basis for making prognoses, and the outcome of aggressive treatment is hard to predict. One of the pressing needs in end [illegible] the development of better models to enable physicians to give patients and their families [illegible] to let them know when further aggressive treatment will indeed be [illegible]

Myth 4

If all elderly patients had living wills or other kinds of advance directives, it would resolve dilemmas of how aggressively to provide care.

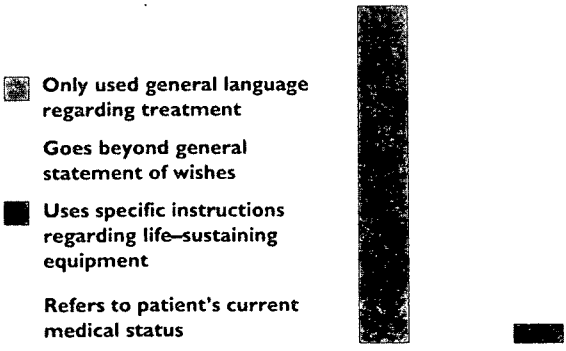
Fact Even when patients have advance directives, they often have little impact on or relevance to end of life decision making.

Faced with escalating technology and costs and pressure from high-technology care, many people have turned to advance directives, such as living wills, to guide decisions about the use of such care in the event they are unable to make their wishes known at a later date. The Patient Self-Determination Act (PSDA) of 1991 mandated that health care facilities inquire about and document existing advance directives at the time of hospital admission.

Have advance directives fulfilled their promise? Not so far, say researchers, who have identified at least some problems in their use.

One of these problems appears to be that advance directives are still not well integrated into our health care system. Despite the PSDA's passage, living wills, durable powers of attorney for health care, other kinds of instructions, and "do not resuscitate" orders often do not find their way into patients' medical records. There is not as yet any one system that has had any effect – SUPPORT investigators found that following passage of the bill, documentation of existing advance directives in seriously ill patients' medical records rose from six to 35 percent of records. An education and communication effort at the time of hospital entry further boosted this rate.

However, even when advance directives and "do not resuscitate" orders are placed in medical records, they appear to have little impact on care. SUPPORT researchers found, for example, that patients' preferences regarding cardiopulmonary resuscitation (CPR) often were not translated into practice. Among those who said they preferred not to have CPR, nearly half did not have "do not resuscitate" orders written


Only used general language regarding treatment
Goes beyond general statement of wishes
Uses specific instructions regarding life–sustaining equipment
Refers to patient's current medical status

MYTH 5

Putting limits on health care for the very old at the end of life would save Medicare significant amounts of money.

***Fact:* Limiting acute care at the end of life would save only a small fraction of the nation's total health care bill.**

Even if physicians and hospitals could predict which patients were near death, limiting acute care would not save the amount of money that many people assume.

Consider Medicare expenditures at the end of life. It is a widely publicized finding that they consistently account for 27 to 30 percent of all Medicare expenditures. But a closer look at the figures shows that an extremely small fraction of beneficiaries have high costs — the kind that suggest aggressive care. Moreover, eliminating care for these few high-cost users would save the country relatively few dollars.

> ***For instance, only about three percent of older persons who died in 1978 cost Medicare more than $20,000, and they accounted for only six-tenths of one percent of the nation's total health care costs.***
>
> ***"Moreover, eliminating care for these few high-cost users would save the country relatively few dollars."***

For instance, only about three percent of older persons who died in 1978 cost Medicare more than $20,000 and they accounted for only six-tenths of one percent of the nation's total health care costs. Similarly, [illegible] the 3.5 percent of Medicare [illegible] who were high-cost users in 199[illegible] and who died in that year [illegible] only slightly, from $9.3[illegible] to $8.4[illegible] [illegible] percent of total [illegible] health care expenditures for that year.

Even if physicians [illegible] very short life expectancy [illegible] suggest that [illegible] According to [illegible] older who died [illegible] to only 6.[illegible] percent [illegible] Medicare expenditures [illegible] care expenditures.

[illegible]

The growing number of older people has been the primary factor driving the rise in America's health care expenditures over the past few decades.

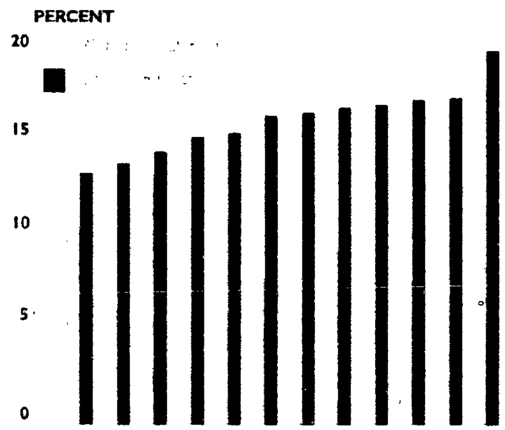
Population aging does not so far appear to be the principal determinant of rising health care costs.

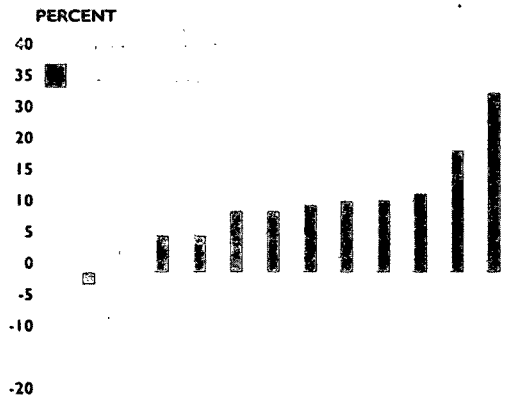
As the population ages, health care costs for the elderly will necessarily overwhelm and bankrupt the nation.

Population aging need not impose a crushing economic burden, especially if we start now to conduct the necessary research and develop policies on health care at the end of life.

One image that [illegible] the public debate on health care costs is that of the [illegible] wave of baby boomers [illegible] 65 [illegible] 2030 people [illegible] 65 and over will constitute 20.2 percent of [illegible] population. [illegible]

Without doubt the [illegible] of the baby boom [illegible] many people assume.

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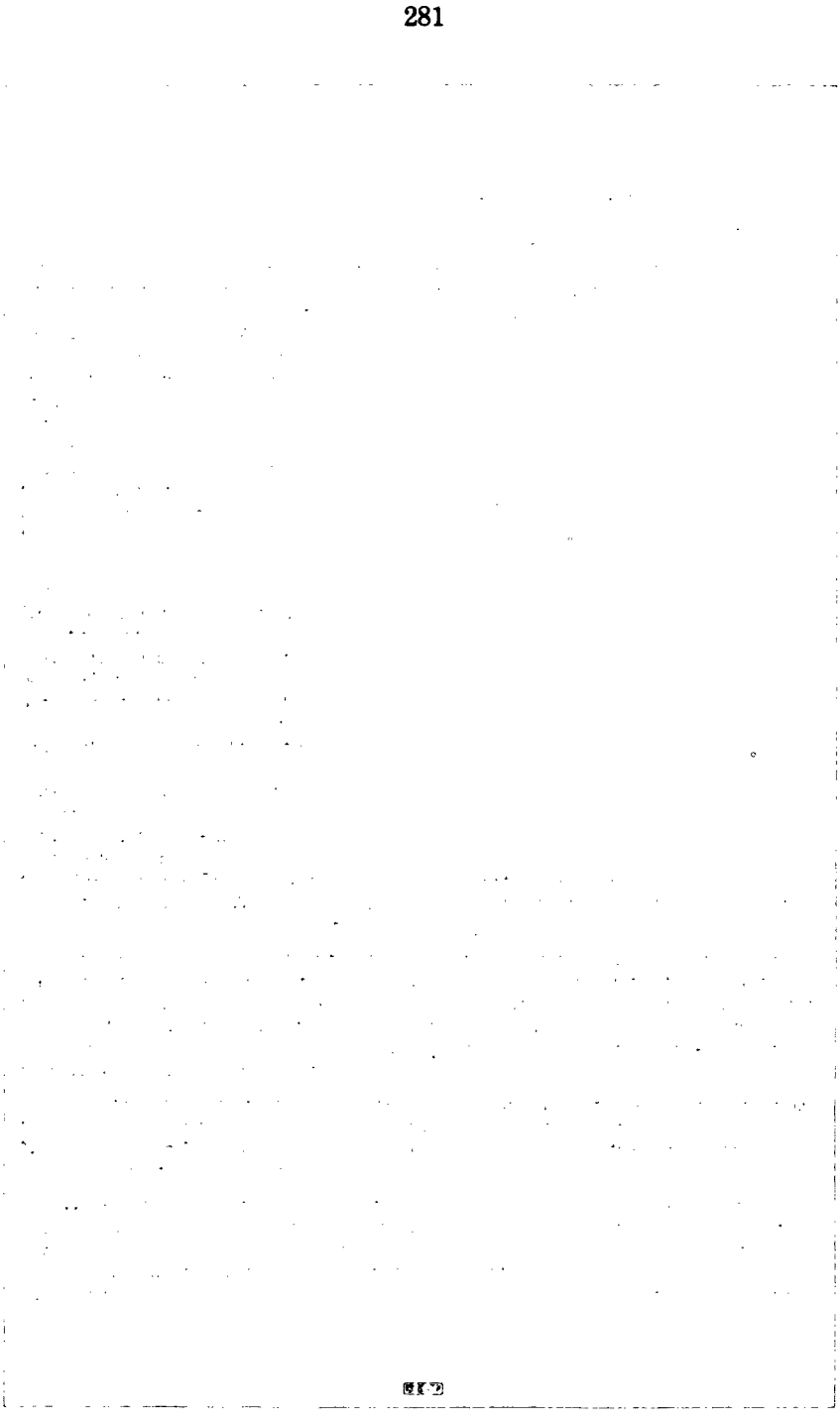

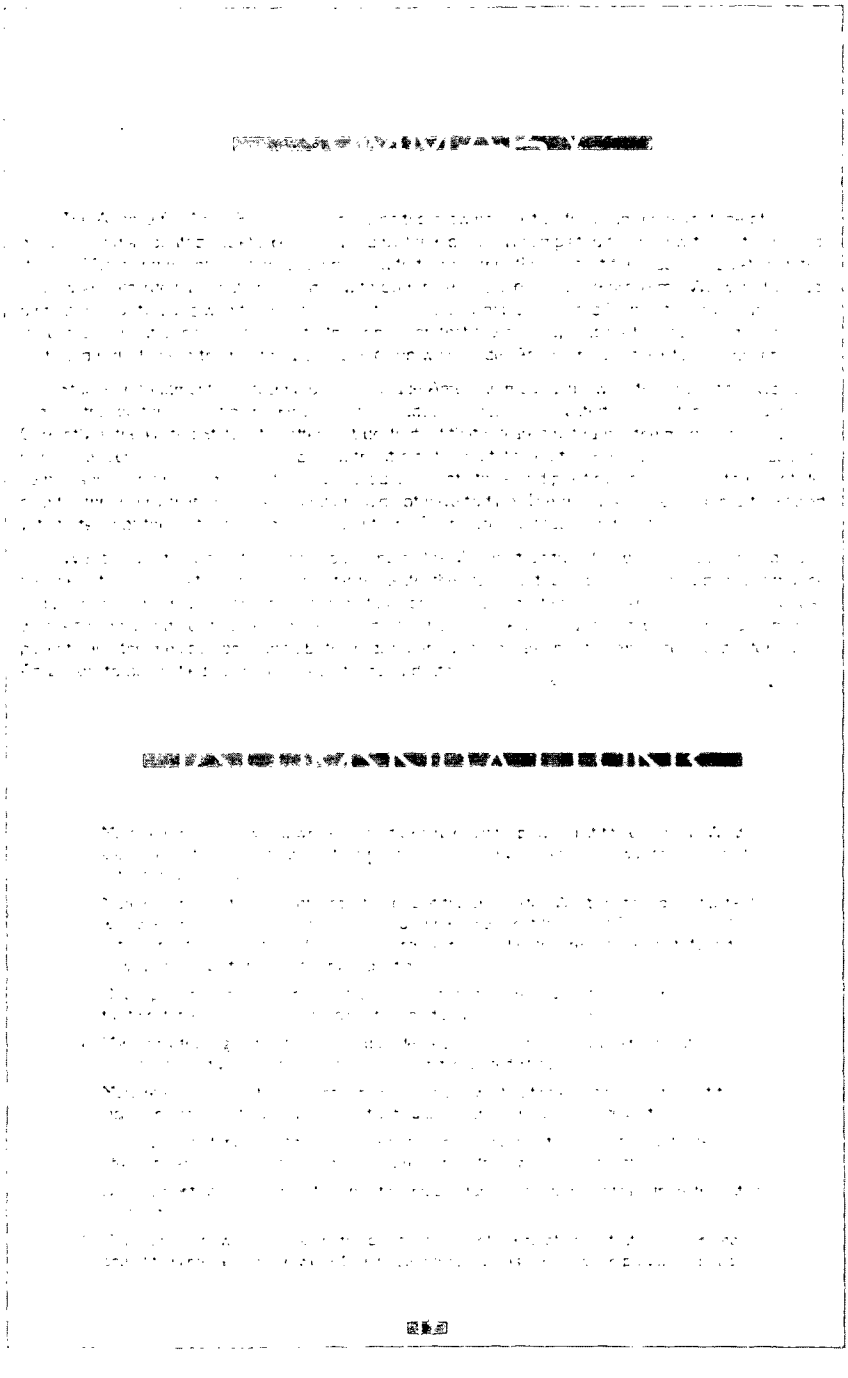

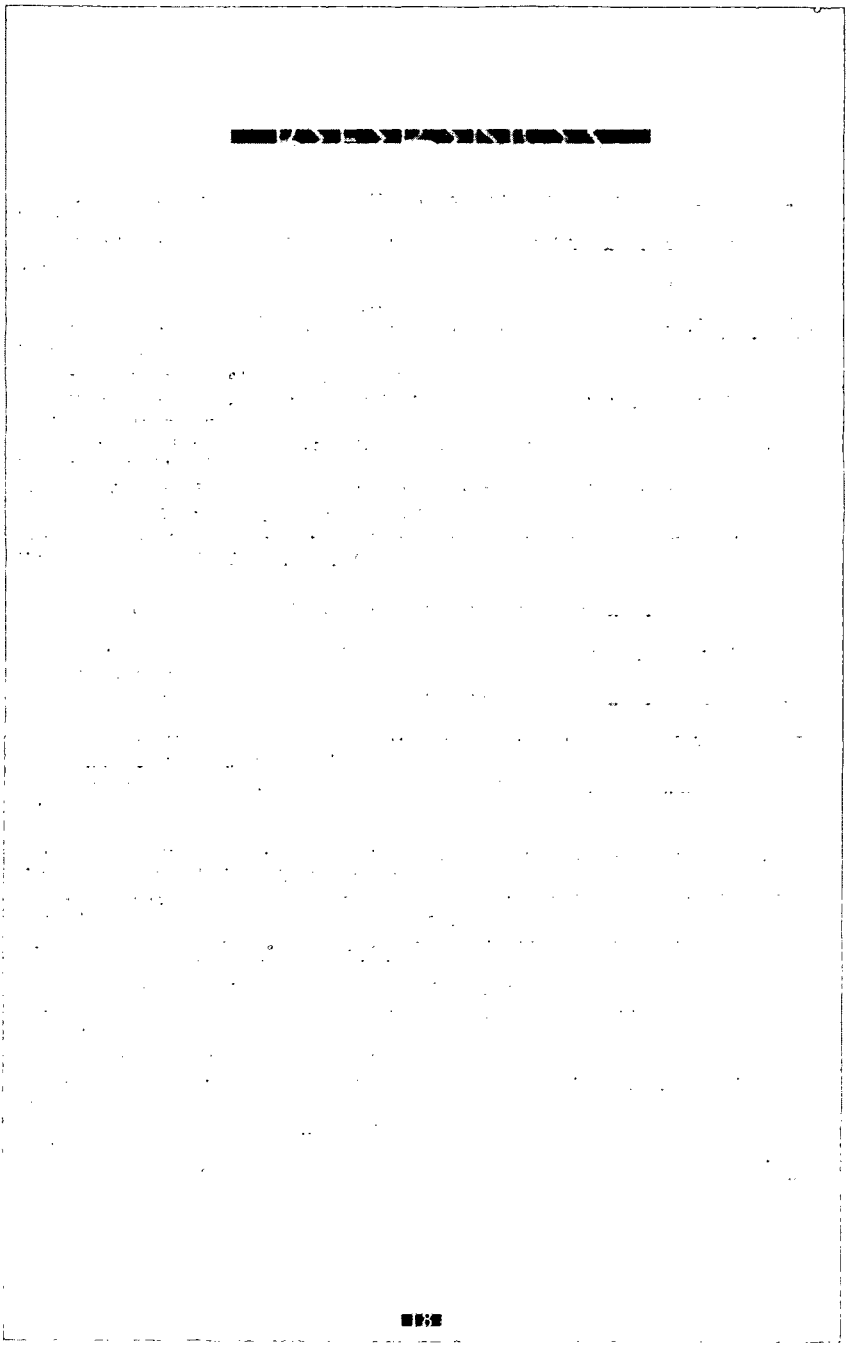

(References cont.)

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National Chairman:

National Vice Chairman

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Senator GLENN. Dr. Forette, are the geriatric assessments you mentioned, what do you do? You have multidisciplinary teams? Do you have a physician, a nurse, a social worker? Do you have everybody involved with this?

Dr. FORETTE. Yes.

Senator GLENN. How do you do that?

Dr. FORETTE. Well, it has been done first in the United States, you know. It's the U.S. Geriatric Assessment. You do not only assess the disease for which a patient is hospitalized, for example, but you assess his cognitive functions, his functional status, his muscular strength, and so on, to pick up various risk factors, and if you can eradicate some of risk factors, then you improve the functional status of the patient. So it is very important, and you need, as you said, a multidisciplinary team, nurses, physical therapists, neuropsychologists, doctors and so on, and social workers.

Dr. BUTLER. I think it is a very interesting example of how countries learn from each other.

Dr. FORETTE. Yes.

Dr. BUTLER. Thinking back on Dr. Svanborg's studies of those three generations, he taught us that muscle strength can still be remobilized. In our country, Dr. Maria Fiatarone at Tufts demonstrated how actual use of weight resistance training can move people from being unable to ambulate to being ambulatory again. So I think it is a wonderful example of how——

Dr. FORETTE. Yes.

Dr. BUTLER. France has similar findings. It is a good example of how we learn from one another.

Senator GLENN. Dr. Svanborg, in 1985, we had "The Graying of Nations" hearing, and we had a discussion at that time about the very high life expectancies in both Sweden and Japan. Is there a study continuing on that? I notice these things change from time to time, but we were concerned, we were trying to pin down at that time what the differences in lifestyle or genes or diet or whatever were? Have you continued those studies?

Dr. SVANBORG. Yes. It is the same trend still. Swedes—but also some other nations live very long, and Japanese live longest. The reasons for living long are so multifactorial, Senator Glenn, and I would hesitate to pinpoint one or two or three things. But, you know, there are differences in life span even between groups within societies like Japan and Sweden. People living on the island of Okinawa live longer than people who live on the mainland according to reports. Also Japanese living in Hawaii are reported to live longer than Japanese living on the mainland, but Japanese living in Hawaii are probably a selected group, to a certain extent, that have moved there relatively recently. So there are also, as I said, within the Japanese populations marked differences in longevity.

Reports from Sweden show also variations in longevity between regions and city area, e.g., in Gothenburg, where our longitudinal studies are going on. Again the reasons for those variations are so multifactorial. It is necessary to understand them better. We do not know enough now. I mentioned that it is more than 10 years difference today in longevity between Hungarian males and Swedish or Japanese male. Why?

Senator GLENN. So you are not prepared yet today to give us the final answer on whether it is heredity or environment, I guess. Is that right?

Dr. SVANBORG. I am afraid you will have to invite me at least one more time. [Laughter.]

Senator GLENN. One more hearing. One more "Graying of Nations," and maybe we can get it. Have you worked closely with the National Institute on Aging's Baltimore Longitudinal Study that Dr. Hodes is involved with? Are you familiar with their work and does their work—basically substantiate your own studies?

Dr. SVANBORG. Yes.

Senator GLENN. Or are they substantially different in any way?

Dr. SVANBORG. We have very similar results—in general. The difference is mainly that it is easier to find a population representative sample in a small country like Sweden than in a country like the United States. But otherwise in general as far as aging is concerned, we have very similar results.

Senator GLENN. Dr. Butler, do you have anything else you want to bring out as part of our record here before we close?

Dr. BUTLER. Well, I was just thinking about the family registration data in Sweden, Denmark, and also in Japan. This data provides us with opportunities to look at genetic as well as dietary and cultural factors, and so it speaks again to why it is so important to have international comparative studies. The homogeneity of Japan and of Sweden and the other Scandinavian countries makes undertaking various studies particularly promising.

The last thing I want to mention is that next year is the United Nations International Year of Older Persons, which I believe we should be thinking about in the broadest sense. We should do what you mentioned earlier, that is, build consciousness and awareness of this remarkable demographic revolution, and at the same time also move toward solutions, because we really do have to have solutions. We have to identify the challenges, but now we also have to mobilize our social care systems, our social security, our family life, in a variety of ways that help us meet this wonderful challenge of added life.

Senator GLENN. This goes hand in hand with so many other changes that are occurring right now. We are a global community now whether we want to be or not.

Dr. BUTLER. Right.

Senator GLENN. We could not be in isolation in America if we wanted to. We have tens upon tens of billions of dollars go around the world overnight to Hong Kong and follow the Hang-Seng index, through Europe, and back here again overnight to get an advantage of 1/50th of a percentage point of something that is going to make some money. We have the computer revolution that has tied the whole world together in ways we could not even have begun to foresee and the vulnerabilities not only opportunities—but the vulnerabilities that go along with that computerization. Our economies are tied to each other around the world, and this is one more area where we are tied together in similar concerns about what happens as we all age and how we are going to take care of that.

Dr. BUTLER. You remind me of one other important point for which I have always given great credit to Japan. They have seen

this remarkable gain in life as also a new market and they call it the "silver industries." Here perhaps, we are talking more about the senior market. In other words, we cannot just see the fact of this increasing number of older persons as a drain. We also have to view it in terms of major industries, financial preparation, financial services industries, pension funds, health care, pharmaceuticals, travel, recreation. We have to see the positive economic side in terms of a global market.

Senator GLENN. We are going to be dependent not just on government on this, but on the media and the private sector to make everybody aware of this longevity revolution and on what we are going to do about it. Well, thank you all very much. I hope you would respond promptly or reasonably promptly to any questions that are submitted to you so that we can have those for the record. I appreciate very much your being here today. The hearing will stand in recess subject to call of the chair. Thank you.

[Whereupon, at 3:55 p.m., the committee was adjourned.]

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