Video Transcript for "Population Aging in Japan and Implications for Public Finance"
Online at https://spice.fsi.stanford.edu/multimedia/population-aging-japan-and-implications-public-finance

Karen Eggleston
Director, Asia Health Policy Program, Shorenstein Asia-Pacific Research Center

****

Japan has a large issue with its health and health system that is world renowned now because it is leading the world in a couple of transitions that have to do with population aging, demographic change, and change in health. As we know, they have a large population, 127 million, but now declining because of these changes in world-leading longevity, but also below-replacement fertility, which are the two proximate causes of a shift towards a much older age structure in the overall population. So about one-quarter of the Japanese are age 65 and older, so it is already a very old age structure, compared to most of the world. And in a sense, this is a triumph of longevity and success at controlling infectious disease, but also it has to do with changes for the whole social and economic structure going forward that Japan will have to adjust to, and maybe help teach the rest of the world about how to adjust to an age of longer and hopefully healthier lives.

So the transition I was referring to was the epidemiologic and the demographic transition. So, epidemiologically, Japan and other countries around the world are going through a transition where infectious and communicable disease was a large burden of health challenges for the society, and that is still true in many parts of the world. But gradual control of infectious disease and better nutrition and many other factors mean that you have much lower infant mortality and child mortality—people living longer lives. And, related to that is a demographic transition, where you go from high and fluctuating birth rates and death rates to low mortality and low fertility. And Japan has gone through this transition much more quickly than many of the other high income countries in the world, particularly in Europe, and is now, as I mentioned, leading the world in terms of population aging.

So if you can see the figure, I show median age in Japan in comparative perspective, and you can see that since around the seventies, Japan's median age of the whole population has been greater than 30, and in the next decade or so it's going to be higher than 50. So it's been higher than the U.S. for many decades now, and leading the world. Other economies that are rapidly aging in the region, such as Korea, are quickly catching up and can learn something from Japan's experience as well.

So one of the factors that leads to population aging as mentioned is not only longer life expectancy, but also very low fertility. And there was a dramatic reduction in the total fertility rate in Japan, which is the average number of children born per women, in the post war period—from four to two in just about one decade. So, it has been below two since around the 1970s. So since around two is replacing the parents, that's a below replacement fertility rate, currently around 1.4 and change. So the policy to try to increase total fertility rate back towards two is something that is very important for thinking about long-term demographic trends. But Japan is not alone in having below replacement fertility. It's a long term issue that is changing the structure of the population along with longer lives. And without a change in total fertility, Japan's population will continue to decline.

So there are many social and economic implications of these population changes. Many people talk about the demographic dividend, which is a one-time boost in GDP per capita or living standards when you have a large working age share of the population. And if it is productively employed, that boosts your GDP. And this, combined with better nutrition, better education and skills per child can help to sustain economic growth over a longer time period, in combination with urbanization, industrialization, catch up and technology, all of these things that Japan and other economies have gone through, particularly in the 20th century and after World War II, very quickly in Japan. But depending on the social institutions, and particularly how you finance pensions and healthcare and long term care, population aging may or may not be able to spur additional savings that contribute to what has been called a second demographic dividend. So we are still figuring out whether that will apply in Japan.

But there are many challenges associated with population aging, and you hear that discussed a lot. So it is pretty straightforward: when your total population is declining, your working age population is declining, and that can create many issues economically. So currently in Japan, about 1.6 worker per dependent, that's children and the elderly. By 2050, about one to one. One worker per dependent. So that is a very formidable ratio to try to support all of the children, and particularly the elderly, with fewer workers financing that.

And as can be shown in the figure that I am showing here, total dependency ratios in Asia in comparative perspective, you can see that at first it tends to decline because you have fewer children per worker and not as dramatic a growth in retirees per worker. But for Japan, ever since this period in the seventies, it's going back up again and leading the world in terms of having a total dependency ratio that is high and increasing. Much higher, for example, than in the U.S., although we talk about the challenges of financing the baby boomers' retirement.

So in some recent work with my colleague Victor Fuchs here at Stanford, we looked at new demographic transition and gains in life expectancy that are realized late in life, and

one metric to show this, Japan in comparative perspective, is using the share of increases in life expectancy that are realized not in young ages or working ages, but in traditional retirement ages. We used after age 65. And in this, research shows that that share of increases that are realized late in life was quite low at the beginning of the previous century, but is now very high. And Japan is leading the way. So it used to be around 20%. It is going up over 80% and is continuing to increase.

So as I show in this figure, it shows this metric of the share of gains in life expectancy at birth that are realized after age 65, going back to 1907 up to recent period. And you can see an average of 16 high income countries and how that ratio has increased dramatically 20 to 80%. But the two red dots that show Japan, you can see that in the post war period they went from below that average to higher than that average. So, dramatic change where a lot of the increases in longevity are now being realized in the traditional retirement years.

And what does this mean? That means that it shapes work lives and financing of social protection systems. If originally your improvements in health and longevity were saving children so they could live into the workforce and enjoy a full life, we are continuing to have that improvement, but much more of our health gains are coming older in life, which is a triumph of longevity and something to be embraced, but we maybe need to adjust our social institutions to this new longer, and hopefully healthier lives, particularly in thinking about sustainable financing for health insurance and long term care, which is something Japan is looking at.

So, in the table here, I summarize this longevity transition in Japan, compared to other countries in Asia. In particular, you can see that Japan leads the world in terms of this metric. And also, if you think about what are the implications of the percentage of your whole life expectancy that you plan to be in the workforce, and you can see that in Japan around 54%. So if we're getting longer lives and we're only spending around half of it in the workforce, maybe we need to rethink that. You can see, in lower income countries it is more like 60%. And their longevity gains are still what you see currently in Japan, is much higher in those countries, like India and Bangladesh. It is what you would see in the current high income countries a century ago. Still a lot of infant and child mortality to show the disparity in the world.

So, what are the implications for a Japan population from this? You could think that maybe people, if they are very enlightened, foreseeing their living longer lives, they might choose to work longer life, plan for a longer work life, save more for their retirement knowing they are going to have a chunk of leisure towards the end of their lives, invest in human capital in sufficient amounts and creative ways to spur new kinds of innovation. But it remains to be seen to what extent Japan and other economies will do so.

And in thinking about this, I like to quote a beloved mentor here who has now passed away, Masahiko Aoki, and he wrote on the 70th anniversary of the end of World War II about how Japan needs to embrace the economic implications of demographic challenges that it is facing and think about the importance of human capital investments and shifting institutions. Particularly, he talks about increased labor force participation and productivity are needed for sustained economic growth in Japan and elsewhere.

And one important factor of that in Japan, as people may know and embraced by policy makers now, is to increase women's labor force participation in Japan. Also to extend work lives and maybe to raise the legal or customary retirement age. Although, Japan has a higher proportion of older people working than many other countries, such as in Europe. So they are already going in that direction.

Also, it is very important to promote innovation and raise multi-factor productivity, although much easier said than done. And perhaps to think about immigration policy. We know only about 1% in Japan percentage of foreign workers; whereas, in Germany, closer to 9, 10%; U.S. more than 15%. That's a touchy issue.

But with the embrace of, say, women's labor force participation increasing, that also has implications for the broader social and economic structure, because to enable the career embracing attitudes towards women in the labor force, you need to have quality affordable childcare and long term care for the elderly, and maybe a shift in attitudes that a career woman can be just as loving and supportive mother as a father who is a career person. So a lot of those social changes are implied in this broader demographic change.

And I wanted to talk briefly about the public finance implications from the field I am most familiar with, which is healthcare. Japan has had universal coverage for decades now, under a social insurance system, but there are many challenges from this population aging. And you can think about financing that is currently in Japan from health insurance premiums and taxes and out-of-pocket payment is pretty low. On top of that, a long term care insurance system that has been developed, and think about how sustainable that financing is going forward when you have a much higher proportion of the elderly using a lot of medical care services and needing long term care.

And we did some research thinking about projecting healthcare spending and the health needs of the older population in Japan. We know that some of the determinants of healthcare spending growth are simply when living standards go up, a higher proportion of your money tends to go to medical care – that's a trend. Longer lives of course means the spread of insurance and dynamic moral hazard kinds of effects, relative increase in the price of labor. But probably at base is technological change. And we just have much more capabilities of medicine to replace every organ in the body, to extend lives, make people live healthier, and that—unlike, perhaps, pension policy

where you can adjust a few parameters here and there—no policymaker in Japan is going to say well, we can't afford this new kind of medical treatment. It is something that people expect, of course, and need to find a sustainable way to finance that.

In work jointly with Jay Bhattacharya and other colleagues, we have predicted a future elderly model for Japan, and that, in a figure I show here, is a microsimulation model that tracks individuals over time, and this can help to figure out what are the health needs of the future, older adults in Japan, age 50 and older. And what we find of course is not only there is a much higher proportion of 80 year olds and older among this older adult population, but they are going to have more health needs and more disabilities. Over 27% who think limitations in instrumental activities of daily living, which are like managing their own finances, almost 1 in 4 with basic activities of daily living, such as eating, bathing, dressing themselves. Not surprising if you have many more 80 year olds and 90 year olds in your population, but then your institutions need to adjust to serve this population.

So I have some figures here that show some of those trends. You can see increases in chronic disease like heart disease, diabetes, and so on. Not so much for cancer because it continues to be a fatal disease. But you can use these kind of microstimulations to say, what if we could effectively treat some kinds of cancer? Or what if we could get Japanese men in particular to stop smoking? What would the health needs in the future look like based on that technology?

So in conclusion, I wanted to say that population aging, as we know, will lead to much higher prevalence of chronic disease and disability in Japan. And although they have enjoyed healthy aging to a considerable extent, and leading the world in that respect, there will be many challenges regarding sustainable healthcare spending and long term care spending, and many issues that they can try to address with that, such as issues more in pensions having to do with funding, a pay as you go. But technology enabling longer working lives is very important also in terms of medical care, innovations, and prevention, and for health systems to think about rewarding better value for money in the way we structure our medical care.