

Prescription for the 21st Century Population Problem in Japan

Akira Uchino & Takahiro Kojima

School of commerce, Senshu University

2-1-1 Higashimita, Tamaku, Kawasaki

JAPAN 214-8580

Tel. +81-44-900-7953 FAX +81-44-900-7849

uchino@isc.senshu-u.ac.jp, kojima@isc.senshu-u.ac.jp

Abstract:

The rate of birth in advanced countries is decreasing while the aged population grows. In Japan, such tendency is distinctive. The birth number of 2.1 or more per each woman is said to be crucial to sustain the population in one country. This value in Japan is only 1.38, and this indicates a necessity of immediate response. We present a Japan-Population-Model to show what happens in the next century. Further, we propose the policy set avoiding undesired situations that can be appeared in the future, and introducing sustainability of a social system in the third millennium.

Not only calculating the change of population but also taking an account of feedbacks it was possible to utilize the power of System Dynamics. We included the following feedbacks in the model: labor force, social activities, and welfare. Decreasing labor population affects economics. Decreasing youth causes lack of social activities. Increasing aged people needs more care. Increasing workingwomen needs supporting systems such as nursery schools. These feedbacks make rich insights and can also present more effective policy set, the best prescription. As a result the model has an important social impact in Japan.

INTRODUCTION

Since Japan has the second largest GNP in the world, Japan's economic stagnation continuing since early 1990s, affects not only economies in the East Asian countries but also world economies. From following the World War II to early 90s, Japan's economic condition usually had been better than any other countries. Many persons wonder why Japan's stagnation continues so long. It is difficult to explain the reason. We can't treat it as one of usual economic fluctuations happened in each several years. It is very important for Japan in the 21st century that we think about the reason of the economic stagnation and take the actions to it.

There are many problems in Japan toward the 21st century. Population problem is one of severe ones, but there are many Japan has now. They are complicated and related with each other. We have never thought and the Japan's future in 50 years or 100 years time scale. But we are welcoming the new millennium, the new century, we must start to discuss about Japan's future and our policies toward the future in far long time range.

When discussing these problems, we can show the great potentials in System Dynamics models. It is a great chance to use it now. Our purpose of this paper is to begin the discussion of Japan's future and to introduce basic models we are developing now.

Before showing the models, we must explain how to understand Japan's situations and problems. So we discuss in following steps.

First, in order to understand how to seize the problems, we introduce discussion in Japan. Since the discussion has just begun, we don't reach a consensus. But there exists new report of the prime minister's commission. Using the report we are summing up the problems.

Second, we will introduce population forecasts in Japan, what will probably happen in Japan. Falling birthrates and increasing aging populations are not only for Japan but also for other developing countries. But Japan firstly and most severely experience them.

Third, we will show how to discuss policy making in the Japan's 21st century. It is awfully difficult to make decisions. But we can find how to treat the decisions that make enough sense if we take proper steps. So we write some scenarios that mean alternative options in the future. And we discuss the future along the each scenario and makes models about it. In this section, we show several basic scenarios in Japan.

Finally, if we can make the models along the scenarios above, and we can use them operationally, we can get much insight. We are struggling to think about what part of scenarios we can build in the models and how to build the models. The models must have ability to show the effective policy sets. These models should be important supporting tools when we really discuss the problems of Japan's 21st century and find the solutions. We can't show the models in this paper because of the complexity but we will show some of them at our presentation

You must know the basic information about Japan before talking these topics. We prepare brief introduction to Japan in the appendix. You can get information from geographical, historical and other point of views about Japan. You can easily understand when Japan starts her modernization and what has happened in Japan if you have minimum information. If you are interested in this paper, please look over the appendix first.

1. Problems in Japan for the 21st Century.

1.1 General Trends

All of us usually don't think much about the distant future. Long term usually means two or three years. We often use the word "dog year" in business, because changing pace is so severe that we can hardly make an effective long term plan. But greeting the new century and new millennium, it is a good chance for all the peoples, all the nations to consider the distant future carefully.

A report of the Prime Minister's Commission on Japan's Goals in the 21st Century shows us four global trends.

The major trends that the world faces in the twenty-first century are (1) globalization, (2) global literacy, (3) the information-technology revolution, (4) advances in science, and (5) falling birthrates and aging populations.

We don't need to talk about (1) globalization and (3) the information-technology revolution here. About (4) advances in science the report says as follows.

In the twenty-first century, science and technology can be expected to advance even more rapidly, grow even more mammoth, and produce even greater possibilities for changes affecting the very core of human existence. Along with these advances, civilization will also progress, and people's lives should become richer and more convenient.

At the same time, however, in the century ahead it is likely that even greater attention will be paid to the purposes of scientific and technological development, a question that can be expected to become a major political issue as well...

The science and technology of the twenty-first century must be used not to conquer nature but to support lives that are spiritually as well as materially affluent, accompanied by a sense that human beings themselves are part of nature.

Especially for Japan, (2) global literacy and (5) falling birthrates and aging populations are critical.

Globalization also means the advent of an age in which people will not be overly concerned with established systems, customs, and vested interests. They will have broad access to opportunities for new undertakings not limited by national boundaries.

To accomplish this, however, people must possess the ability to access and converse with the rest of the world, meaning that they can freely and immediately obtain information, understand it, and express their own ideas clearly. The possession or lack of this ability, which we may call "global literacy," will determine whether or not one will enjoy a better life in the world of the twenty-first century. And mastery of global literacy by the people of a country will determine whether that country's power in the international politics of the twenty-first century will wax or wane-and is also likely to determine whether the country rises or falls. Countries whose standard of global literacy is low will not attract superior human resources. Meanwhile, people will flock to those countries whose standard is high; this is a phenomenon that is bound to occur.

The basic components of this new literacy are the mastery of information-technology tools, such as computers and the Internet, and the mastery of English as the international lingua franca. In addition to these basics, communication skills-encompassing the ability to express oneself in two-way exchanges, particularly debates and dialogues involving multiple participants on each side, along with clarity in the exposition of ideas, richness of content, and persuasiveness-will also be important elements.

Today's Japanese tend to lack English-language abilities and their communication skills. A huge amount of information is translated into Japanese. It means Japan absorbs news and new knowledge from the world. But she sends too little to the world in comparison with her presence.

The decline in the number of children being born and the rise in the proportion of elderly in the total population are issues common to many industrialized nations. The aging of populations especially is an inexorable process, acting as a brake on economic growth and pushing up social costs; it threatens to have a major impact on sustained economic development and the distribution of wealth on a global scale. While it is conceivable that policies will be adopted to address the low birthrate, as long as the decline in births continues it will result in a relative rise in the proportion of the elderly and is thus certain to further accelerate the process of population aging.

The impact of this demographic shift on Japan's society and economy will be substantial. How Japan reflects young people's opinions in politics, how she reconciles the conflicting interests of different generations concerning costs, and how she maintains social vitality.

The peak total population would be 128 million in 2007. Since then it might decline. In the middle of the century it might be below 100 million and by the end of the century it might be almost half. We are talking about this problem on section 2.

The report shows five trends in the 21st century. Most of them are critical to every country in the world except falling birthrates and aging populations. Falling birthrates will cause many problems in developed countries though developing countries have been annoying by population expansion.

1.2 What is the fundamental problem in Japan?

Japan made a miraculous recovery after the World War II. She achieved amazing growth, quickly joined the economically developed countries. She has maintained peace, stability, and prosperity. By and large, the Japanese remember the postwar period as "a success story". The political, economic, and social systems built up then were also accepted as components of a "successful model". Indeed, they surely contributed to political and social stability. This model was, in a word, the "catch up and overtake" model, followed not only in the postwar period but ever since the beginning of her modern times in 1868.

The report says as follows.

Over a long history in a meager and harsh environment, we cultivated ethical norms extolling social and organizational harmony. Socioeconomic affluence and internationalization, however, made it difficult to sustain such ethical norms unchanged. And in the 1990s, before a national consensus on the ethical framework appropriate to an affluent society could be reached, Japan experienced a major setback and slid into the age of globalization.

This successful long-lasting Japanese model has been outdated now. Unquestioning belief in this model has been an obstacle that Japan can hardly surmount. Many of the vested interests and social conventions that grew up over a long period have made her economy and society rigid and stale.

Japan is now seeking a better model. But there is no ready-made model that she can adopt easily. Of course many nations face the same situations.

No model of immediate use to Japan exists. While studying cases from around the world, we must find solutions to such problems within Japan. In so doing, it is more important than ever to bring the latent mettle, talent, and potential within Japan into the open. Doing so is the key to Japan's future.

There is one more thing we need to think about. In the world of the twenty-first century individuals will possess incomparably more power than ever before. The Internet gives ordinary citizens easy access to the world. In addition, nonprofit-organization and volunteer activities have expanded people's scope of action. Varied networks are enhancing individual power. "Empowerment" is spreading. Exercising such power to the fullest is critical. At the same time, it should be used to revitalize government and society. It is important that the synergy of networks not only expands private space but also strengthens public space.

The report says that Japan and Japanese must seek for "a new model" by themselves within Japan. Japanese face the time when they must pay the price of long years success. So they must change everything that is suitable for the new century. There are many problems in Japan but fundamental problem is "everything is outdated". There are two historical eras in Japan's modern times. The First one is from the beginning of the modern age to the end of the World War II (1945-1986). The second one is from after the end of the World War II to the bursting of the economic bubbles (1986-2000). So just now Japan and Japanese should be deliberating upon the third one.

1.3 How to solve the problems.

The report shows many frontiers that need change (Table 1). And it shows alternatives that Japan should select. We don't need to show the details here.

Table 1 Japan's Twenty-first-century Frontier

1. Promoting a pioneer spirit
 - (1) Transforming education
 - (2) Enhancing global literacy
2. Making a strength of diversity
 - (1) Putting individuals in control of their lives
 - (2) Regional autonomy and self-reliance
 - (3) Energizing the nonprofit sector
 - (4) Establishing immigration policy
3. Strengthening the underpinnings of good governance
 - (1) Diversity and transparency in policy choices
 - (2) Lowering the voting age to 18

- (3) Strictly limiting the government's role
- (4) Promoting rule-based governance
- 4. In pursuit of enlightened national interest
 - (1) • Global civilian power
 - (2) A comprehensive, multi layered security framework
 - (3) Neighborly relations (*rinko*)

But we must show two ways to realize Japan's potential.

In exploring the twenty-first century, we must make tapping the latent strengths of Japan and the Japanese our first priority. How can we tap these strengths? How can the power of individuals be better utilized? Here we outline two essential changes. One is to change the methods and systems whereby citizens interact with society. This means defining the relationship between citizens, who entrust government with authority, and government, which is so entrusted, in the context of a new form of governance led by citizens as the chief actors. After World War II Japan established democracy in society. Although the form of society changed, not all its content did so. Notably, the traditional channels and organization of one-way (top-down, or public-sector to private-sector) transmission of decisions and demonstration of power remained embedded through force of habit. This needs to be changed to a contractual relationship between those "below" and those "above," or the private sector and the public sector, a more equal relationship. People must become more aware that government is their agent.

The other essential change is to redefine and rebuild the relationship between private and public space in civil society. This means first and foremost promoting individuality and individual initiative: unleashing sturdy individuals who are free, self-reliant, and responsible, individuals whose ability to empathize with others makes them inclusive. These tough yet flexible individuals will participate in and expand public forums on their own initiative, creating a dynamic public space. The public space thus cultivated will provide individuals with more diverse choices and opportunities. This will lead to the emergence of individuals and a society endowed with diversity and vigor, individuals and a society that take risks more boldly, address-pioneering challenges, and are more creative and imaginative. We should think, too, about developing a system to provide incentives to such individuals and a safety net for those who fail.

Building a new system of governance, empowering the individual, and creating a new public space require the fostering of a spirit of self-reliance and a spirit of tolerance, neither of which has been allowed sufficient latitude for expression in Japanese society so far. A society without a place for tough yet flexible individuals is fragile. The talent, drive, ethical mores, aesthetic sensibility, and wisdom of self-reliant individuals create the framework and dignity of a nation. They shape the future. It is the spirit of self-reliance that enables individuals to release their latent strengths. Society must also have the tolerance and inclusiveness to acknowledge individuals' differing characteristics and talents, enable individuals to develop these, and match the right person to the right place in society as a whole in the best way

possible. Otherwise society withers. It is the spirit of tolerance that enables society to tap its latent strengths.

2. Japan's Population Problem

Institute of Population Problems, Ministry of Health and Welfare in Japan, has been building "Population Projections for Japan" every five years. We think this institute is the only one that has been thinking about super long term period in Japan. Japanese life expectancy at birth has increasing gradually. Both male and female in Japan have the longest life expectancy now. While reproduction rates for females, or total fertility rate has been decreasing, it means that aging population has increased rapidly.

In Japan we use the Population Projections in 1995 now. Figure 1 (data from the Projections) shows the trends and prospects of total population in 100 years in Japan. It shows Japan's population peaks at the beginning of the 21st century, and decreasing nearly half at the end of the century. There are three prospects, high, middle, and low series.

Figure 2 shows the trends and prospects of population aged 65 or over. In low series,

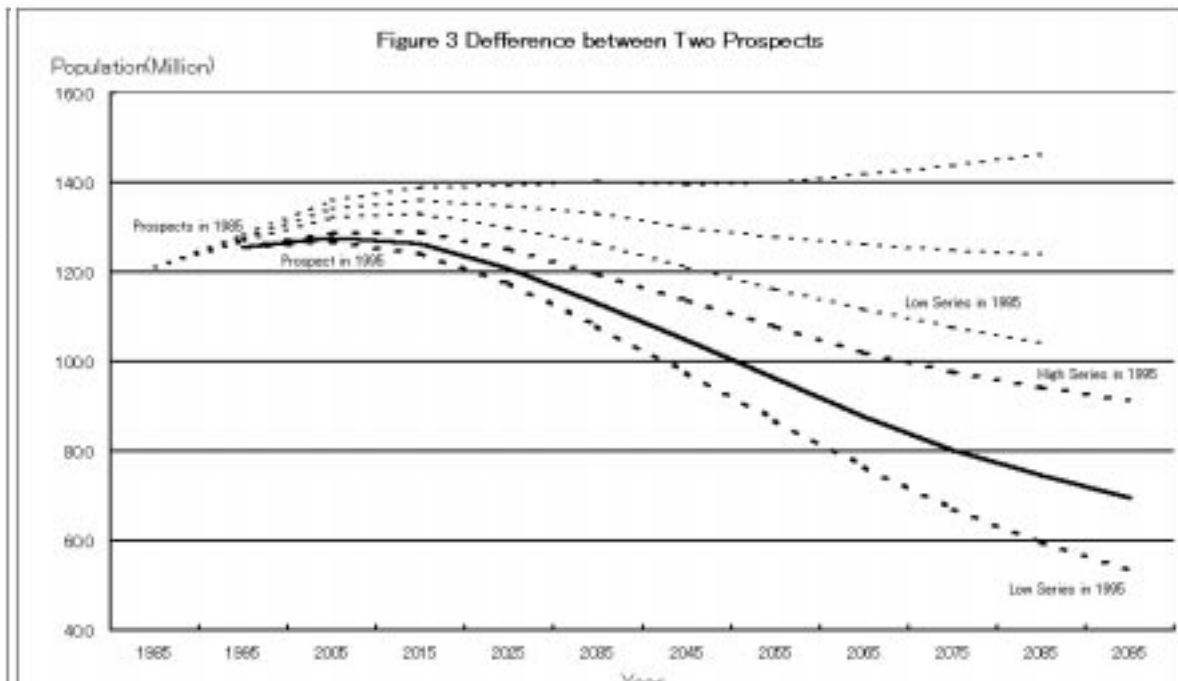
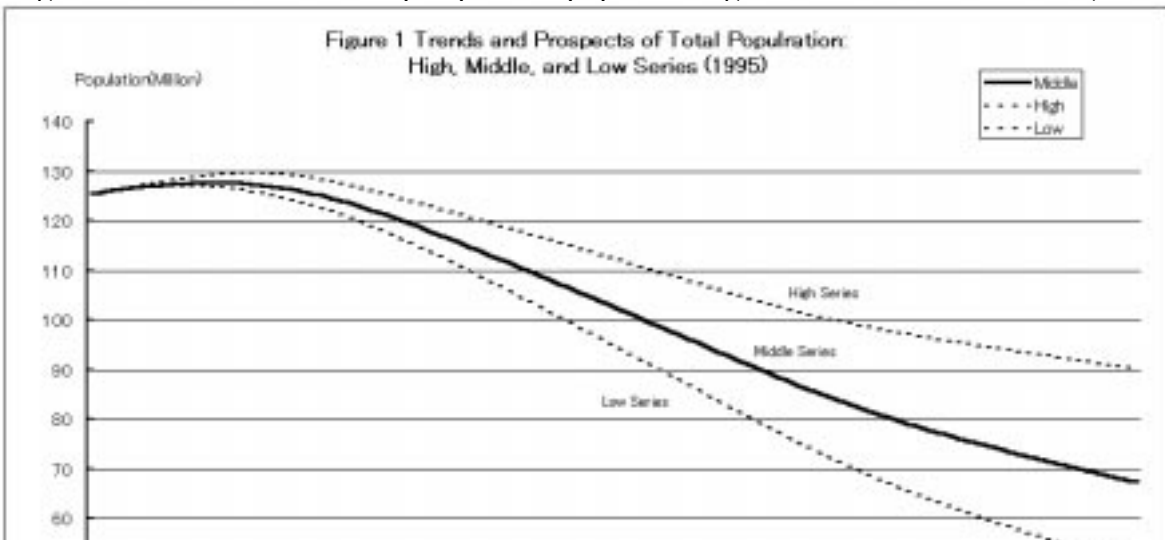


Figure 3 shows the differences of the two series of trends and prospects between in 1985's and 1995's projections. 1995's series start below the lines of 1985's. It means mainly the reproduction rates for females, or total fertility rate has been decreasing rapidly than expectations.

Table two shows the estimated these figures between two projections. In 1985's projections, fertility rate would record minimum around late 1980s and would recover. Finally they would be 1.85 (low series) to 2.15 (high series) after 2025. But in 1995's projections of the lower series the fertility rate never recover from the starting figure. It would be only 1.381 after 2035. In high series it would be only 1.854.

The difference between 1985's and 1995's is very large, however, the difference 1990's and 1995's is very close. We don't show the 1990's projections because of the closeness to 1995's. It means the fertility rate is stopping to fall down and that 1995's projections are useful in our model.

| Table 2 Reproduction Rates for Females | | | | | | |
|--|-------------------|-------|-------|-------------------|-------|-------|
| Year | Prospects in 1985 | | | Prospects in 1995 | | |
| | Middle | High | Low | Middle | High | Low |
| 1955 | 2.369 | 2.369 | 2.369 | 2.369 | 2.369 | 2.369 |
| 1965 | 2.139 | 2.139 | 2.139 | 2.139 | 2.139 | 2.139 |
| 1975 | 1.909 | 1.909 | 1.909 | 1.909 | 1.909 | 1.909 |
| 1985 | 1.764 | 1.764 | 1.764 | 1.764 | 1.764 | 1.764 |
| 1995 | 1.946 | 2.039 | 1.810 | 1.422 | 1.422 | 1.422 |
| 2005 | 1.969 | 2.105 | 1.863 | 1.426 | 1.655 | 1.281 |
| 2015 | 1.984 | 2.127 | 1.842 | 1.557 | 1.819 | 1.342 |
| 2025 | 2.000 | 2.150 | 1.850 | 1.606 | 1.852 | 1.379 |
| 2035 | 2.000 | 2.150 | 1.850 | 1.610 | 1.854 | 1.381 |
| 2045 | 2.000 | 2.150 | 1.850 | 1.610 | 1.854 | 1.381 |
| 2055 | 2.000 | 2.150 | 1.850 | 1.610 | 1.854 | 1.381 |

We can summarize this section now. Thinking about 21st century, Japan's population would be about 128 million at the peak at the beginning of the century and decline nearly half at the end of the century. In the most serious prospect, population aged 65 over would be over 35% at the middle of the century. Three series of prospect in 1995 make sense in a way. But the future would never need to belong to the prospect if we take action to something about the birth controls.

3. How to design in 21st century in Japan?

If Japan would change, modify, improve many social structures, for example, economic reform, political reform, administrative reform, educational reform, and so on, that are outdated now, she still has much potential. Japanese are beginning to discuss about these changes. We, Japanese surely need to think about ground design of the super long time period. Should we leave the population problem to the natural tendency? Do we need to prepare something when the population is declining?

Table 3 shows rough sketch of the elements of the designing blocks. Table 3a shows some basically needed reformation in Japan. Some of them are now undertaking. How we revitalize Japan depends on how profoundly they reform. Table 3b shows two sets of assumption that one set is about increasing productivity in general, and the other is how much increasing of female worker. Of course these are rough assumptions that helps us think about the future.

Table 3.a Basically needed reformation in Japan

| |
|---|
| <p>Economic Reform (include relaxation of the regulations, and newly organized rules) Political Reform (excluding the vested interest) Administrative reform (removing inefficiency from public organization) Educational reform (cherishing young generations who have dreams)</p> <p>Good environment for female worker (making daycare facilities, nursery schools) Increasing movability of workers (especially between industries) Provision against increasing aged population</p> |
|---|

Table 3b Possible Improvement of finishing basic reformation

| |
|---|
| <p>50% increasing of productivity in general 25% increasing of productivity in general 3 times increasing of female worker (on the supposition that 25% female work now) 2 times increasing of female worker</p> |
|---|

Table 3c and 3d are about conceptual framework of population and GNP in Japan. We must decide whether we accept natural population in the future or they take action in order to increase fertile rate. How much population we expect and think about the future. We can really adopt immigrants? We should keep current population level with every effort?

Table 3c Population Polices

| |
|---|
| <p>Nonintervention Extremely decline of the population Low series of prospect in 1995 Low series of prospect in 1995 + efforts to minimize the fertility rate Middle series of prospect in 1995 Middle series of prospect in 1995 + efforts to minimize the fertility rate High series of prospect in 1995 High series of prospect in 1995 + efforts to minimize the fertility rate Efforts to maintaining current population Adoption of immigrants</p> |
|---|

Table 3d GNP (Gross National Product)

| |
|---|
| <p>Nonintervention (excluding regular economic policies) Gaining around 4% increasing per year Gaining more than 2% increasing per year Gaining around 2% increasing per year Maintaining current GNP</p> |
|---|

Accept gradual declining GNP

Accept declining GNP relative to the declining population

How we think about GNP? We have thought bigger GNP is better. But is it true? We should accept gradual declining GNP, or declining GNP relative to the declining population? What is natural and makes sense? Or we should seek further increasing GNP? And how much is suitable for Japan? Why?

We can hardly select which way is right elements in table 3. Japanese must discuss about it spending time and should select them. Designing the 21st century in Japan, we should make some scenarios that make sense in each set. We must decide which scenario is better one and which way we go forward.

If you do not think about the future, you cannot have one. (John Galsworthy)

A talk is a voyage with a purpose, and it must be charted. The man who starts out going nowhere generally gets there. (Dale Carnegie)

It isn't that they can't see the solution. It is that they can't see the problem. (G.K. Chesterton)

If you are able to state a problem, then the problem can be solved. (Edwin Lland)

In this section we usually use the words "Japanese" and "we" as the subject of sentences. If readers aren't Japanese, imagine how hard it is to think about the future. Population problems are similar to the developed nations. Japan faces the problem as a top runner just like environment problem late 60s.

4. Our Presentation

We show in this paper that what are the current problems Japan has now. One main problem comes from declining population in 21st century. When we design the super long-term plan, we can only talk about the scenarios of the future. In our presentation we will show you the Japan Population Model that constitutes one basic unit of 21st Century Model in Japan. And we will also show other basic units in the whole models. We are beginning to discuss the ground design to the 21st century Japan. Comparing what kind of model is effective is our next step challenge. In our presentation now is the beginning of the discussion. We are struggling to find a clue to start.

Note:

We can't show our models in this proceedings' paper. If you are interested, please visit our website after October 2000. We will rewrite the paper and show our models there.

<http://www.senshu-u.ac.jp/~thc0417/index.html>

References

Institution of Population Problem, Ministry of Health and Welfare, Japan (1987).
Population Projections for Japan: 1985-2085, Health and Welfare Statistics Association,
in Japanese.

Institution of Population Problem, Ministry of Health and Welfare, Japan (1992).
Population Projections for Japan: 1990-2090, Health and Welfare Statistics Association,
in Japanese.

Institution of Population Problem, Ministry of Health and Welfare, Japan (1997).
Population Projections for Japan: 1995-2100, Health and Welfare Statistics Association,
in Japanese.

You can get excel file that we have used to make figures from the web site below
in Japanese.

You can also find "*Selected Demographic Indicators for Japan*" in English in the
web site below. Go to the site, select "In English", select "Population", and select "
Selected Demographic Indicators for Japan".

<http://www.ipss.go.jp/>

Kawai, H. (2000). ed. supervisor, *Japan's Frontier Within, Individual Empowerment and
Better Governance in the New Millennium*, Kohdansha in Japanese. (Published Report)

The Prime Minister's Commission on Japan's Goals in the 21st Century, *Japan's Goals in
the 21st Century, The frontier Within: Individual Empowerment and Better Governance
in the New Millennium*.

You can get original report as html or pdf files from the web site below.

<http://www.kantei.go.jp/jp/21century/report/pdfs/index.html>

<http://www.kantei.go.jp/jp/21century/report/htmls/index.html>

Appendix: Introduction to JAPAN

Japan is next to China and Korea in the East Asia. She is an island country. Many
people live there, so population density is very high. She is one of developed nations. She
exports cars, watches, cameras, and other audio and electrical appliances to the world.
Many people understand Japan on this level. These understanding are in the affirmative
but obviously not enough. We need more information to understand Japan.

Geographical Understanding:

The size of Japan (377,802 square km, 144,870 square miles) is a little bit smaller than
California State (410,896 square km, 158,648 square miles). The population
(126,420,000 in 1998) is about half of the United States (263,030,000 in 1995). More
than eighty percents of the land are mountains, so you can imagine the density of the
population in suburbs and urban area is quite high.

Japan is an island country. Strictly speaking there are four big islands and more than 3,900 of islands. The Japanese islands are strung out in a great arc along the coast of East Asia, cover the same spread of latitude and the same general range of climate as the east coast of the United States. The northern island of Hokkaido parallels New England; the heart of the country from Tokyo west to the Inland Sea Area corresponds to North Carolina; and Kyushu, the southern big island parallels Georgia. Okinawa, the most south prefecture in Japan parallels Miami areas in Florida.

The seasons, temperature, and rainfall are comparable to those of the Americans east coast, except that Japan, located some hundreds of miles out in the ocean, experiences somewhat less extreme temperatures in both winter and summer and receives considerably more precipitation. Especially areas from Tokyo to the west part of Japan along the Pacific are far milder than the east coast. It is sure that snowfall is far fewer and less volume there.

Americans have often tended to overemphasize the smallness of Japan, contrasting it with vast stretches of their own country and Canada or other geographic giants like China and Russia. Japanese also recognize Japan is small. But a more reasonable comparison would be with the countries of Western Europe. Japan is smaller than France, or Spain, but it is larger than the British Isles or Italy. You might be surprised when you find Japan is the same size as Germany but surely a slightly larger than Germany (357,042 square km, 137,854 square miles). Can you imagine Japan is bigger than Germany?

Historical Understanding:

It is critical to understand Japan that Japan closed her own nation from the 17th century to the end of 19th century, for more than 200 years. In 16th century, Central Government (*Ashikaga Bakufu*) was so weak that Japan was a period of anarchy. Especially during this anarchical period many Japanese went abroad and made Japan towns in the East Asian countries. People living on the coast of China and Korea were afraid of Japanese pirates (*Wako*). So at that time Japanese might have somewhat openness to the world.

Spanish and Portuguese introduced guns and Christianity to Japan in the 16th century. New rulers, *Hideyoshi Toyotomi* and *Ieyasu Tokugawa* thought Christianity was very dangerous for their authority and they suppressed Christian in Japan. The new Government (*Tokugawa Bakufu*) took national isolation policy for long years. From the System Dynamics point of view, national isolation is very effective to protect external disturbances and pressures and keep inner conditions stable. In fact the Government (*Tokugawa Bakufu*) had made many systems to keep their power, and they did pretty good jobs. *Tokugawa Bakufu* had been continuing for more than 270 years, having 15 *Shogun*. Comparing the populations between the beginning and the ending, the growth rate was only 15 % in nearly 300 years. Japan has been completely sleeping for long years.

Imagine that one nation made national isolation from the 17th century to the end of 19th the century, what happened in the Western countries and the world. The discovery of new continent had already done but colonialism, people's revolution, industrial revolution, and

democratization were done or established during Japan's national isolation. When the last *Tokugawa shogun* gave up power and *Meiji* Emperor came into power, Japan located far behind Western countries, because during the national isolation Japan stood still and didn't walk a step practically. Japan began her modern times in 1867 two years after the end of the Civil War in the United States.

Japan began to start her modern times, from extremely underdeveloped situations. Following the Western developed countries; Japan had expanded too fast and too extremely. Eventually nation was destroyed completely by the end of World War II. Japan started again in 1945. You know Japan's economic growth very well. In 40 years Japan gets the remarkable success in her economy.

Japan Race and Japanese Language:

Japan race has made by amalgamation, means mixed. Several natives lived in Japan prehistoric times except *Yamatos* that formed Japanese. Of course not only cultural effect but also people came from China and Korea. Totally Japan race belongs to the Mongolian, the same as Chinese and Korean.

In Japan nearly 99% people are Japanese that means they have Japanese nationality. Except only a few people that changed their nationality and some foreigners, there is Japanese that speak Japanese language in Japan. Of course there are many regional dialects in Japanese language and some regional characteristics in Japanese race. But it is true that Japanese are very homogeneous than any other nations in the world.

While the *Tokugawa Bakufu* governed Japan, no compulsory education existed. But reading, writing and calculating have been considered very important on the grounds that it is essential for living. So a literacy rate might be beyond 70% then. Five years after beginning Japan's modern times, a compulsory education system was fixed and literacy rate became virtually 100%.

Japanese language may be more similar to Chinese and Korean than any other languages. It is said that Chinese word order is similar to English. But Japanese Language has a very different word order.

By the way, it is the very common usage that "Japanese don't speak English well". We are afraid to say that it is quite true in a way. Japanese TOFEL test score last year was one of the worst in the Asia countries. There are three reasons.

The first one is the difference of Japanese language from English.

The second one is the failure of English education system in Japan. Following Western countries, Japanese people needed to translate Western knowledge into Japanese. So they made much of reading and grammatical skill than speaking. In Japan they can get any book they want in Japanese language because most of the famous books are translated into Japanese. They don't need foreign textbooks even in undergraduate courses. They have enough textbooks in Japanese. In a way every Japanese can get any knowledge by his or her native language. It is good for Japanese knowledge level but in

reverse they don't need to use foreign language. In Japan 99% people speak Japanese as a native language!

Getting and translating everything, Japan can catch up other countries' information. But they can't send the same amount of information from Japan. So foreign people encounter many difficulties to understand Japan well. Japanese language barrier adds the problem more severely.

The third reason is Japanese people's characteristics. I explain it as the following topic.

Japanese Characteristics:

Implicit communication.

If I write, "Japanese tend not to express their opinion in their own words", I am afraid that you misunderstand the meaning. Of course, it doesn't mean that Japanese never express their opinion in their own words. It means that in Japan we don't need so much time and so many expressions to express their opinion. In very homogeneous society and their historical tradition, Japanese can communicate more implicitly than Western countries' people.

For example, in the United States we must communicate by words because so many races or ethnic peoples are living, and they are using their native languages their everyday life. Without using English and expressing by words we can hardly communicate each other. But in Japan it is not.

Getting rid of discussion.

Japanese are shy and they don't like to discuss. Cooperation and group consensus are respected in Japan. They like coordination and dislike to express too much personality. They tend to be afraid to express the differentiation from others. In general they are not good at negotiation. These characteristics lead to group-oriented decision making. When making a decision, it takes time because they need group consensus.

Japanese Management:

In 1980s many practices of Japanese management were introduced to the Western countries. Small group activities and quality controls had some meaningful affection. Here are four topics that have been used in Japanese companies. But please take notice that recently the situations are greatly changing. So you had better treat these were practices in Japanese companies historically and situations are now changing rapidly.

Lifetime employment and Seniority system

Especially after World War II, Japanese big companies employ both white workers and blue workers from fresh university or high school graduates. In the early years they are trained and worked through a variety of jobs. Their salaries are relatively cheap as they work. But throughout their careers, their ranks and salaries are increasing. Usually they don't want to move another company because they can get more if they continue to work the original company for longer years.

The steady rise of his wages with age fits his economic requirements as he progress through the various stages of life-marriage, having children paying for their education, and, finally, preparing his retirement.(Reischauer, 1988, p.324)

Lifetime employment for executive persons is common in mostly military organizations and in civilian branches of government in many nations. But lifetime employment with the seniority system of pay acts as a build-in spur to economic growth.

Enterprise unions

Most unions are not craft unions spread throughout several companies. They are limited to a single company, but not "company unions" which are an artificial creation dominated by the company. Reischauer (1988, p.328) call Japanese style of unions "enterprise unions".

The average worker in most private industry is fundamentally interested in his own enterprise union, not in the national federations. Both he and his union realize that his own well-being depends on the success of the company. Knowing that the company will retain him for a new job if his old ones become outmoded, he and his union put up no opposition to technological advances, which sometimes cause costly losses in the West... Though bargaining stubbornly for their share, they remain reasonable in their demands, tailoring them to fit the financial conditions of their company.

Ringi System, Nemawashi

In *ringi* system or *ringisei*, documents about important decision making are widely circulated, usually from the lower level echelons to higher ones, and officers at each level affix their seals as a sign that they have seen the document and are not actively opposed to it. It takes time to decision making but if it is decided, everybody is ready to carry it out. Reischauer (1988, p.328) wrote about it.

This brings us to the Japanese decision-making process in business and the bureaucracy, which foreigners often find puzzling. Americans, accustomed to a relatively dictatorial top-to-bottom style of decision-making, are surprised to see in Japan decisions that appear to come from the bottom up... What is indeed special in the Japanese decision-making process is the system of careful and thorough consultations before a decision is arrived at by general consensus. This is called *nemawashi*... all persons concerned are made fully familiar with the decision in advance and are in a position to carry it out much more effectively than if they were suddenly handed it without previous warning.

Not only in Japanese management but also in behavior and thinking of Japanese, there is so-called "group-oriented".

References for Appendix

- Reischauer, E. O. (1965). *Japan, Past and Present*, Alfred A. Knopf, Inc.
- Reischauer, E. O. (1970). *Japan: The Story of A Nation*, Alfred A. Knopf, Inc.
- Reischauer, E. O. (1977). *The Japanese*, The Belknap Press of Harvard University Press.
- Reischauer, E. O. (1988). *The Japanese Today, Change and Continuity*, The Belknap Press of Harvard University Press.
- Reischauer, E. O. et al. (1995). *The Japanese Today, Change and Continuity*, Enlarged Edition, The Belknap Press of Harvard University Press.

Smith P. (1997). *Japan, A Reinterpretation*, Pantheon Books.

Acknowledgements

One of Authors, Akira Uchino, stays as a visiting scholar, at the Department of Social Science and Policy Studies, Worcester Polytechnic Institute (WPI), from 1999-2000. I thank every colleague at my department, especially the department head, Prof. Khalid Saeed. I have enjoyed excellent environment studying system dynamics. I began to think about Japan because I watched her objectively from outside.