Japan: The First Demographic Transition
This paper is drawn from Economic Lessons from the Transition to be published by M.E. Sharpe, Armonk, New York.

Corresponding Author
Daniel R. Kazmer
Research Associate
Institute for European, Russian and Eurasian Studies
George Washington University
976 N. Madison St.
Arlington, VA 22205-1659
remzak@erols.com

Second Author
Michele Konrad
MBA and MSFS (Master of Science in Foreign Service)
Georgetown University
61 Cambridge Road
Twickenham TW1 2TJ
United Kingdom
michelekonrad@hotmail.com

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This paper argues that Japan's problems starting around 1990 are rooted in its demographic future. In the 1980s, Japan perfected and exploited the strategy of export-led growth. Around 1990, it became apparent that the Asian tigers and even China could copy the strategy successfully and compete with Japan on costs. This put a limit on demand for Japan's exports. Furthermore, demographic analyses showed that Japan's population was aging and would shrink as low birth rates and near-zero immigration failed to replace the dying. Thus, domestic aggregate demand will fall too. But the current value of a productive asset depends on the future stream of income it is expected to produce. With demand for the services of all Japanese assets declining into the future as the population shrinks, their expected income streams dropped dramatically, then so did their current prices. This explains the crash in Japan's stock and property markets. The short-run Keynesian loose monetary policy and expansive fiscal policy are not effective and have caused damage by wasting resources on nonproductive assets. We recommend two partially effective policies. First, Japanese households must diversify their assets globally into markets with increasing aggregate demand and therefore generally rising asset prices. Second, Japan must create markets that cater to the needs of their fastest rising demographic segment, the aging.

To this end, we develop a new concept we call 'sovereign governance' analogous to corporate governance. We argue that an essential role of the State is to create and enforce new property rights to improve the functioning of the economy. Our example is to solve the health care crises in most economies by turning patients into contract property (like professional athletes). The health care providers who 'own' them maximize their profit by helping them live longer and by maintaining their mental and physical capabilities longer. We close with speculation on the effects of this change in the economic incentive system.

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In previous chapters, we have focused on two major transitions in the 1990s: the transition from central planning and communism to market capitalism and the global integration of national financial systems. We have argued that failure of economic theory to fully understand these transitions has led to bad policies that made the transitions unnecessarily painful and costly. Yet another major transition has received attention in the 1990s: the demographic transition of the advanced economies from youth-dominated to senior-dominated societies.

Japan is of interest because it is a developed and wealthy economy in such a demographic transition. In this chapter, we argue that Japan's economic problems in the 1990's are due largely to its demographic future, not its current politics; that the aging of societies in advanced economies is not just a problem, but also an opportunity if managed properly; and that we are probably lucky that Japan is undergoing this transition first – perhaps they can show us the way.

Dire Stats

No one doubts that the Japanese economy is in trouble. Since 1990, Japanese banks have accumulated bad loans that may range from 7% to 15% of GDP. Government debt, about 60% of GDP in 1990, is now about 130%.

A real estate bubble has burst: urban commercial property is now worth 15% of its peak value. Peoples' homes are now worth much less than they were ten years ago,

perhaps much less than when they purchased them. A stock market bubble has also burst: the Nikkei 225 is now only 25% of its 1989 peak value. People who invested their savings in the stock market are suffering right along with those who invested in their homes.

Unemployment, as low as 2%, in 1990, has climbed steadily to over 5%. This plays havoc with a society which values long-term (even lifetime) employment and social stability. The 'Asian miracle' seems to be on the rocks: the Japanese economy, which in the late 1980's had a projected long-term average growth rate of 10%, has had four recessions since 1990. GDP is falling: the GDP deflator has registered average annual deflation of 1% since 1995. The currency is depreciating: the yen dropped 13% against the dollar in 2001.

Round Up the Usual Suspects

Who is blamed for this mess? Oddly enough, the same people and institutions who were credited with the economic miracle of Japan, Inc. in the 1980s. The society based on consensus, commitment to common goals, and teamwork, which executed zero-defect manufacturing and export-led growth so brilliantly in the 1980s, is now considered hidebound and resistant to change for the same reasons. In just ten years, Japan Inc.'s virtues have soured to vices. Politicians have been found to be corrupt. The Liberal Democratic Party dominates. Farmers have more electoral power than their numbers warrant. The government is trying to supplement aggregate demand by a massive campaign of road-building and other public construction, which is as much due to corrupt insider politics as to any economic benefit.

Before these well-known problems are given the blame for Japan's economic woes, consider this. We are trying to explain a huge change in Japan's economic performance from the 1980s to the 1990s. The change should be due to things that changed rather suddenly around 1990. The problems we have listed are certainly serious, but they did not suddenly get worse around 1990. They are not sufficient to explain the sudden reversal in Japan's economic performance and prospects.

Take almost any item from a list of Japan's internal problems and you will find that China is much worse off and has been for a long time. If bad debt, corruption and inefficient public works programs are the problem, then China's economic performance and prospects should be much worse than Japan's. Instead, the controversy about China is whether its GDP actually grew by over 7% in the last few years and will continue at this rate.

Even the most committed China cynics concede that China's growth rate is around 5%, even as they list economic, political, and social problems much worse than Japan's. So should Japan adopt the China model to achieve China's economic prospects? Don't answer: this last question is meant to be ironic.

What Changed Around 1990?

In the late 1980s and early 1990s, it became increasingly clear that the emerging Asian tigers were successfully copying Japanese manufacturing practices and the Japanese strategy of export-led growth. Even US auto companies were learning lean manufacturing. The whole world seemed to be competing with Japan for export markets and adopting Japan's successful strategies.

The limits to export-led growth for Japan became apparent around 1990. Japan's currency was too strong and its labor force too well paid to compete with Asia's emerging low-cost exporters except at the high-end of most product markets. And if exports don't grow fast enough, then domestic aggregate demand must grow faster to compensate.

But Japanese consumers were too thrifty. When economic trouble looms, Japanese have learned it's better to save than spend. In most cases, their small condominium apartments and houses on expensive small plots of land could not hold many more consumer durables. And Japanese households could not easily diversify into foreign assets, say US stocks and bonds. Instead of spending or investing in foreign assets, Japanese consumers invested in their mortgaged homes, the postal savings system, and domestic financial assets such as annuities, insurance policies, and shares in Japanese companies.

The problem was, and is, that the growth in value of all these assets depends on further growth in aggregate demand. Since export-led growth has been limited by copy-cat competitors, this is mostly domestic demand. Thus, household wealth was built on continuing growth in domestic aggregate demand. The mortgaged homes would increase in value only if more Japanese would want to buy more and better homes as they got richer.

Consumers were not the only ones relying on growth in domestic assets. The Japanese insurance companies used the premiums they received for insurance policies and annuities to buy domestic company stocks and real estate. But the values of Japanese company stocks would rise only if domestic and export demand for Japanese companies'

products would also rise. The high prices of Japanese real estate would continue to rise only if a growing Japanese population and economy increased demand for Japanese real estate.

Thus, the high and rising prices of almost all Japanese household assets depended on rising domestic aggregate demand. This is not new. For almost all economies, rising domestic asset prices depend ultimately on rising domestic aggregate demand.

And Japan's demographic projections clearly forecast falling aggregate demand. This is natural, as a large percentage of the population ages and passes on, but it means bleak forecasts for aggregate demand. And unlike most countries, there are no countertrends to this demographic trend. There is no Japanese Diaspora that might return home. Demographers do not predict a rebound in Japanese fertility rates. Even if fertility rates were to change, the increase in the working-age population would take two decades to begin to register.

Mass immigration is one option. But so far the Japanese have resisted this, for understandable reasons. They have a remarkably safe and stable society by world standards, and the mixed success of mass immigration into Western Europe and the US has not encouraged them to consider changing their social model. Further, opening their country to young immigrant dependents would exacerbate rather then offset a growing domestic population of aged dependents. And unlike the US and Western Europe, the islands of Japan are hardly vulnerable to unwanted immigration.

With good demographic data to work from and no countervailing trends, the demographic projections for Japan are probably quite accurate. These projections clearly point to declining aggregate demand as the population declines, and big changes in the

composition of aggregate demand as the population ages.

First, we'll discuss the problem of declining population. As we noted in Chapter Nine, the unique feature of assets is that their current value depends on the stream of income they are expected to earn in the future. When the expected future income stream of an asset declines, the price of the asset drops immediately.

We suggest that the primary driver of the collapse of share and real estate prices in Japan in the 1990s is the growing realization that these assets will generate much less income than was earlier believed.

As noted above, the limits to growth in export demand can already be seen. Our attention therefore is focused on the prospects for long-term growth in domestic aggregate demand.

It is clear that there will be fewer Japanese families to buy homes, so home prices in the future will fall. We have already noted that when an asset's price is expected to fall, the expectation brings the price decline from the future back into the present. The price of the asset falls immediately. Similarly for all other assets whose values depend on the income stream from producing and selling future goods and services in Japan. Their current values and their stock prices drop immediately for the same reason.

Japanese stock and real estate prices have been declining for a decade. The decline has continued for so long because it has taken a decade or more for the population to realize that the primary driver for asset prices is lower future income streams from a declining and aging population.

The realization still hasn't hit Japan's policymakers. Japanese economists are applying standard Keynesian remedies: expansionary monetary and fiscal policies

designed to correct short-term cyclical declines in aggregate demand. But the fact that these remedies have not worked for a decade is strong evidence that the problem has been misdiagnosed.

Assuming our diagnosis is correct, what effects would Japanese economic policies have on aggregate demand?

We start with a declining and aging population that has just seen its household wealth and, therefore, its expected future income streams cut dramatically and made much more uncertain.

This should sound familiar, for it is similar to the situation that households in the transition in the former USSR and Eastern Europe found themselves in. We apply again our modified permanent income hypothesis, which states that when future expected income drops and becomes more uncertain, households will save more out of current income against the uncertain future. In the extreme, if they save 100% of their income beyond some minimal basic consumption level, both the fiscal and monetary multipliers drop to one and expansionary monetary and fiscal policies become much less effective. This resembles Japan's situation, where monetary policy has failed to stimulate demand even at very low interest rates and government spending programs also have little effect.

What have been the effects of Japanese policy on household expected permanent income? Loose monetary policy has reduced household interest income on their savings. Government guarantees on yen bank deposits are being cut back just as those banks' problems are making the headlines. Insurance companies are threatening to default on annuities and life insurance policies and asking the government to let them get away with it.

One recommended policy remedy for Japan is similar to what we suggested for the economies in transition: put a floor under household permanent income and make household permanent income more secure and predictable, not less. The more secure households feel about their future income, the more they will spend now, adding to aggregate demand and raising the level of the fiscal and monetary policy multipliers.

Some Western economists have even suggested that the central bank should increase the money supply to turn the deflation into inflation to force households to spend their money before it loses too much of its purchasing power. However, we believe that debauching the currency in Japan will do no more good than it did in the former Soviet Union and Eastern Europe.

The threat to debauch the currency did have one important effect. Japanese consumers decided they had better ensure their savings would hold value. Lacking the ability to buy foreign financial assets (such as U.S. Treasury bills), they chose gold as the next best thing. Japanese gold purchases were credited with driving gold prices over $300 per ounce in 2001 and 2002. Gold hoarding is a classic response to bad economic policy. Japanese policy makers and their Western economic advisors should take note.

With domestic assets declining in value, Japanese households should have been, and should now be, diversifying their asset portfolios globally. Diversification of household portfolios increases permanent income and reduces its uncertainty. This both increases domestic aggregate demand and increases the marginal propensity to consume, raising the income multiplier, making monetary and fiscal policy more effective. In addition, the outflow of yen to buy foreign assets will weaken the yen, helping Japanese

exports.

Instead, Japanese economic policies have wasted money on unwanted public works projects, failed to stimulate aggregate demand and now increase the risk to household savings by reducing deposit insurance. To add insult to injury, aging citizens who have worked hard and saved for their retirement can now open the financial pages and regularly read the statistics on the heavy and growing burden they are on the working-age population.

What Is Not To Be Done?

We start with what is not to be done. Short-term Keynesian monetary and fiscal policy will not work in Japan's case. Even zero interest rates will not encourage the purchase of assets whose prices are declining. Expansionary fiscal policy, in this case government-financed production of unwanted physical assets, will not work either. It wastes resources and creates an obligation to pay for the labor, capital, and material inputs used in their production. And these obligations cannot be met because the physical assets will not produce an income stream in the future. The physical assets have near zero value as soon as they are built.

This predicament is so difficult to comprehend, and its consequences so dire, that the Japanese financial sector and the government have spent a decade devising accounting tricks to prevent asset prices from falling further and registering the true value of the assets for all to see.

Deflation is not a problem. It is simply a price signal that says you are producing the wrong things. If the thermometer in your house drops, it means the furnace is not

producing enough heat. The correct policy is to fix the furnace, not put a candle under the thermometer so it fails to register the cold that makes you shiver. Unfortunately, Japanese policy, often encouraged by Western advisors, has been to try to prevent the deflation from registering on the various financial thermometers, such as the stock market indexes and real estate prices. The government is the homeowner who doesn't know how to fix the furnace, so he has busied himself with what he does know: construction projects around the house. As he builds one thing after another, the house just gets colder.

The wife and kids (Japanese citizens) know that his construction projects will not warm the house. They have what economists call 'rational expectations'. They know that the candle under the thermometer does not make the house warmer even if the thermometer says it is; that the furnace needs to be fixed; and that the construction projects are just creating worthless clutter and running up bills for construction materials. Someone has to focus the homeowner on the problem and explain how to fix it.

Then What Is To Be Done?

If the problem is an aging population and getting more young people is not a feasible solution, then only one solution remains. The aging population must live longer and during their longer lives continue to be vigorous producers and consumers.

Economic theory strictly limits government's role in the market system to correcting market imperfections, collecting taxes to supply public goods, and (if you interpret the Coase Theorem as pro-government) maintaining legal institutions to define property rights and reduce transactions costs. The result is a social dichotomy, with democratic government and the market economy operating separately from each other

where possible, and in uneasy conflict where the two must coexist. We would like to make a case for "sovereign governance:" the design, construction, and use of markets by democratic governments to achieve important goals.

We have chosen the term "sovereign governance" as an analog to "corporate governance." "Corporate governance," still largely unmentioned in basic economics texts, became familiar to economists involved in transition when privatization and marketization failed to spontaneously generate the desired behavior by firms. It refers to the rules and norms, both inside firms and in their external relations, which insure the proper response to market incentives.

To demonstrate how "sovereign governance" might work, we turn to one of the more intractable problems in modern economies, health care. Health care is fraught with economic problems. It is both age and income elastic – that is, as we get older and richer, we want more of it. (In the U.S., the share of health care has risen from 7% of GDP in 1970 to 15% in 1999. This statistic is usually presented as a problem. We view it as the proper response to our aging and prosperity.)

Health care benefits from rapid technological progress, mostly via patented drugs and devices. There is often a third party payer for health care: either the government or employer. This reduces patients' concerns about costs. The equality issue arises because health care is considered an entitlement, not a consumer good to be foregone if the patient cannot pay.

Health care also involves many public goods: communicable diseases, vaccinations, and basic science, for example. (Basic science is a public good since it cannot be claimed as intellectual property. The distinction is arbitrary but useful.)

Insuring health care is difficult because of moral hazard (overuse by patients who don't have to pay and overcharging or overuse by health care providers to increase their incomes), adverse selection (The young and healthy don't buy insurance.), and asymmetric information (Patients, doctors, and insurers may not share information with each other. Information hidden by patients may even be protected by privacy laws.). Lack of knowledge and the difficulties associated with being unwell often impair patients' ability to exercise consumer sovereignty. This is why there are strict codes of professional ethics for health care providers. Of course, these same ethics codes pit health care providers – who want the best care available – against their employers and third party payers – who have to respond to economic incentives to keep costs down.

One answer to the health care puzzle is the health maintenance organization (HMO), which reduces costs by limiting access to health care. There is a problem with HMOs however – personified by the brand new MBA graduate, sitting in her limo on her cell phone, deciding whether you will get the expensive health care your doctor says you need. Patients are understandably concerned when economic incentives begin to affect the quality of care available to them. There are numerous cases in the courts trying to resolve instances of failure in this type of system. These, taken together, are a sure sign of systemic failure. Another sure sign of systemic failure is that the HMOs are now lobbying for special legislation to protect them from being sued.

How would "sovereign governance" resolve this problem? To make up for the jibe at MBAs above, let us define "sovereign governance" for practical purposes as the way that a good MBA would organize the health care system starting from scratch. We chose a good MBA over an economist because the MBA will not limit herself to the rules

of the competitive market in designing a well functioning system.

The first task before our young MBA is to define the goal of the new health care system: to increase length of life and maintain the basic physical and mental capabilities to enjoy it. (The current system focuses on length of life, even if the quality of life is poor. Even the rights of patients to end their lives, and the basic roles of health care providers, are poorly defined and vary across jurisdictions.)

The most direct way to achieve this goal – taking the liberty of unconventional thinking – would be to make healthy people valuable fiat property. If we did this, then organizations would maximize their income by maintaining them and their mental and physical abilities.

Nikolai Gogol, a great Russian writer, first introduced us to this idea. In his unfinished novel, Dead Souls, Gogol describes how, in nineteenth-century Russia, the state census counted serfs every ten years. Those serfs that died after the last census stayed on the tax rolls until the next census. A character in the story recognizes these "dead souls" as bogus fiat property that could be used to perpetrate fraud. He begins purchasing them from estate owners, who are glad to be rid of the tax liability, and then using them to populate empty estates. Gullible rich nobles then buy the estates sight unseen, trusting the paperwork which shows they are being worked by officially registered serfs. (We are adapting from Gogol the concept of state-created fiat property, not the concept of fraud!)

In Gogol's honor, we'll call our healthy old people "health souls." Our system would work as follows: a health organization would be paid by the government for each health soul who has consented to draw his/her health care from that organization. The

key feature of our system is that the payment would be tied to the age of the health soul and to his or her performance on basic mental and physical tests given by government-regulated third party testing organizations. The older and healthier the health soul, the greater is the payment to the health organization .

Note the change in incentives. The health organizations would be paid for results, not just for procedures and treatment. The increased payments for age and performance would provide incentives for health care that maximized the length and quality of life – not just to avoid legal penalties for poor care, or to prolong length of life, regardless of quality. Preventive care, early diagnosis, and healthy life-style changes would become important elements of health care for the health organization. The conflict of interest between the doctor who wants to provide care and the health care organization maximizing profit would be reduced, if not eliminated.

What about those with genetic or other chronic health vulnerabilities? In the current U.S. system, they may be denied insurance. In our new system, they would carry a higher payment for their health organizations. One way that a health organization could 'hit the jackpot" would be to collect health souls with a specific disease which carries a large extra payment for each health soul. It could then discover a cure or treatment to ameliorate the effects of the disease, and collect the enhanced payments for the disease, as those suffering from the disease began to live longer, or at least to live better, lives with less mental or physical deterioration.

This is very different from the current system in which the health "jackpot" depends on patenting a new drug or device that many sick people require and then charging a monopoly price for it from third party payers. Fiat intellectual property rights,

as currently defined, apply only to new things: to new drugs or medical devices, but not to new treatments or new uses for already-existing drugs or medical devices. Hence, pharmaceutical companies spend billions to search for new drugs, but not to find new uses for old drugs or combinations of old drugs for which the patents have already expired.

The health organization under our new system could capture profits from treatment, health regimens, early diagnosis, new uses for existing drugs, or by collecting health souls with a specific malady and then becoming specialists in treating it. People with health care problems, rather than hiding them as sometimes happens now, would have a strong incentive to get them documented and become a higher-paying health soul, recruited by a health organization specializing in their malady. Researchers, doctors, and other health care personnel would also gravitate toward health organizations that specialize in maladies in which they had a particular interest or aptitude.

For example, if a specialized physical therapy or mental training were found to be helpful in reducing the disability caused by some disease, specialist therapists and trainers will gravitate to, and be recruited by, health organizations focused on that disease. The organizations would also pay bonuses to therapists or trainers whose patients performed exceptionally well on their regularly scheduled mental and physical tests. Nursing homes would cease to be "warehouses" for those waiting to die. Instead, they would become "gold mines" for those who have the patience and ability to slow mental and physical deterioration among the aged.

Since older souls would earn more for their health organization, they would get the attention of the best nutritionists, therapists and trainers – rather than being cared for

by minimum-wage, less skilled caregivers. Furthermore, health organizations specializing in the elderly could even develop relationships with health organizations that specialize in the previous age group, much as major league sports teams support minor league feeder teams.

While we cannot guess how the health industry would organize itself in the long run, the incentive system would go a long way to ensure that its goal - and the individual goal of every organization related to health care – would be to maximize the length of life and basic mental and physical fitness of the "health souls." Our system would also pay for individuals who even suspect that they could qualify as a bonus health soul to get tested and certified. This would ease the work of the Centers for Disease Control and other emergency and public health organizations substantially. Epidemics of communicable diseases would be discovered earlier, an important external benefit. One can even imagine a special kind of 'bounty hunter' organization developing, which would test people for free for a whole range of 'bonus' conditions and then supply their names to specialist health organizations for a fee. The ever growing standardized database generated by the regular testing of all the health souls would be an important external benefit for statistical research.

But what about the politics of this new system? It would be worthwhile to identify and recruit people suffering from the same malady, who would then lobby for the highest possible bonus rents to be paid on these health souls. A group with the same malady could conceivably even relocate to be near the same specialist health organization, come to dominate neighborhoods, or even become a political force within a congressional district. Politicians would be serving their health constituencies, and

would gauge their political power against that of other constituencies when deciding whose interests to vote for, lobby for, or trade favors for. The key difference is that the health organizations, their health workers, and all their suppliers and support organizations, would be united in maximizing the length of life and basic mental and physical fitness of their health souls, not only on the job, but in their political activity as citizens. One can imagine that these would become formidable political pressure groups.

What about the long-term economic and demographic effects? People would no doubt live longer, and also be healthier and able to work to older ages, especially part-time. The whining of the young could change from having to support a large number of retirees with high payroll taxes to having to compete for jobs with still energetic and capable older folks.

What about the health care "burden?" The share of GDP going to health care could conceivably rise above the current 15% in the U.S. It certainly would, if the more efficient new health care system succeeded in lengthening life and improving quality of life. It would be up to the political system to make a decision on how much GDP to feed into this efficient health care system. The gains to society are obvious, and there would be indirect economic gains as well. Of course, we have not even mentioned gains from cross-national cooperation, or even globalization.

This kind of system – based on clear goals to benefit society, consistent incentives for all participants in the system, and government creation of the proper fiat property rights – is what we mean by "sovereign governance." Our current system of cutting costs by rationing health care, the objective currently espoused by economists for most national health care systems, is a very short-sighted economic goal and a tragic welfare loss.

There is also a practical human capital efficiency issue that is not yet recognized in economics. Advanced societies now invest between 18 and 26 years of training and education in each worker/consumer for 39 to 47 years of productive life (assuming retirement at 65) followed by about 13 years as a burden on society waiting for death. That is at best 1.5 years of productive work life for each year of expensive dependence. (47 working years divided by the sum of 18 years of childhood and 13 years in retirement)

If people were treated like other capital equipment, teams of engineers and MBAs would be working feverishly to extend the working and consuming life of such expensive equipment. We would see MBAs in human resources management and in marketing doing double degrees in geriatric studies. They aren't doing so now only because nobody can currently 'own' the human capital equipment and make a profit by maintaining them. Our proposal aligns market incentives with making their human capital live longer and healthier lives with maximum retention of mental and physical capabilities. Once again, this is what we mean by 'sovereign governance.'

How would society change when the productive life of human capital equipment rises to 60 years and beyond and the 'unproductive' (to the economy) death-watch period drops to near zero? It would certainly change the mix of aggregate demand, an issue that we mentioned earlier. We leave these fascinating and important questions for further research.

We suggested at the beginning of this paper that the rest of us are fortunate that Japan faces this demographic crisis, this combination of problem and opportunity, first among the nations of the world. This is because all those virtues that Japan displayed and

used so successfully in the 1980s are still present, and will be needed for this major advance in sovereign governance. The society to lead the way must be stable, able to commit to a common goal, able to cooperate, and able to work creatively to solve the many problems that will arise in the design and execution of such a complex national strategy. Japan is the best hope for all of us.