



ENERGY SECURITY
PROGRAM



IMPLICATIONS OF JAPAN'S CHANGING DEMOGRAPHICS

A REPORT BY
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Japan has the third-largest national economy and is the tenth most populous country in the world as of late 2012. However, due to a range of factors—a decreasing birth rate, increasing life expectancy, and unchanging net immigration—the demographic makeup of Japan is undergoing a series of dramatic changes. According to the Ministry of Health, Labour and Welfare, Japan's population will decline by one million people every year for the next several decades, and by 2060 more than 40% of the population will be over 65 years old.

As part of its ongoing Trade, Economic, and Energy Affairs program, NBR invited key stakeholders in economics, security, and energy to participate in a roundtable discussion with Nicholas Eberstadt (American Enterprise Institute) and Richard Katz (*Oriental Economist Report*) on how Japan's changing demographics are affecting the country's economic outlook, health and welfare systems, and relationships with the Asia-Pacific.

ROUNDTABLE

October 10, 2012
Washington, D.C.

FEATURED EXPERTS

Nicholas Eberstadt

American Enterprise
Institute

*Henry Wendt Chair in Political
Economy at AEI and advisor to
The National Bureau of Asian
Research*

Richard Katz

Oriental Economist
Report

Editor-in-Chief

Photo credits: Tokyo skyline by Flickr user Kabacchi; power lines over train tracks by Flickr user tsuna72

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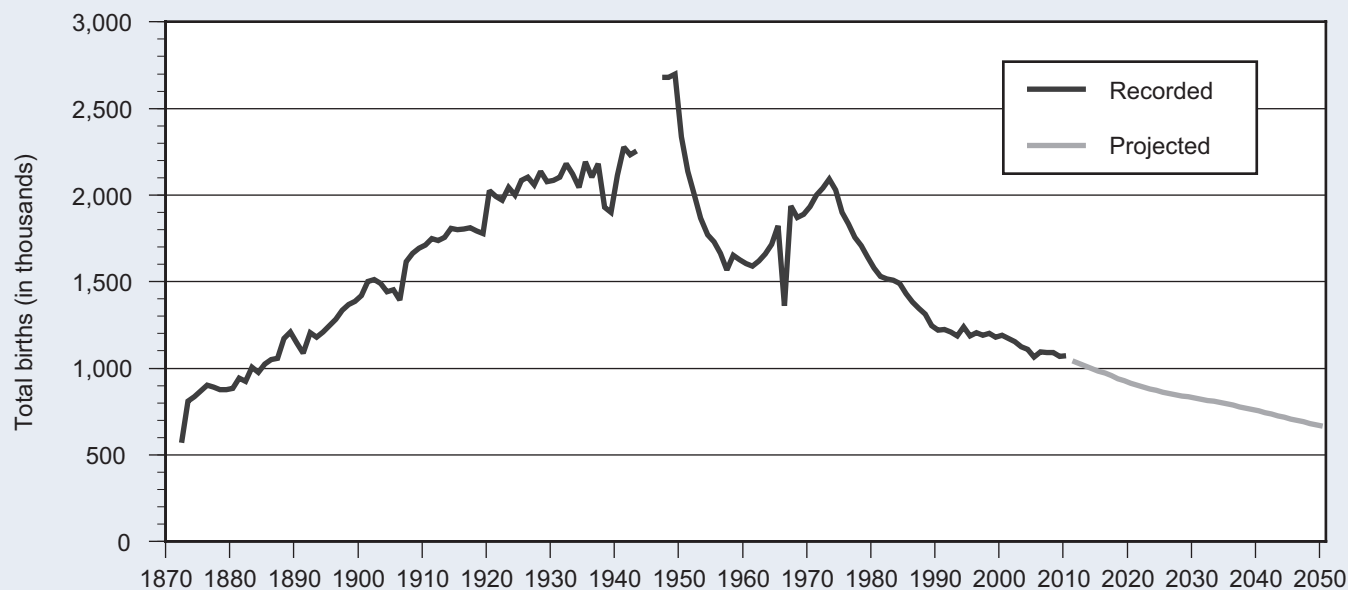
BACKGROUND

The projected shifts in Japan's demographics over the next several years are staggering. Significantly, the population is expected to drop from 128 million in 2007 to only 95 million in 2050. While roundtable participants debated the origin of these trends, the group agreed that the driving forces are changes in health, migration, and birth patterns.

First and foremost, the character of Japan's declining birth rate is in many ways without precedent. "Japan has had a lower childbearing level for longer than any other society ever tracked in history," said Eberstadt. Since the 1950s, the birth rate in Japan has been below population-

replacement level (that is, the number of births needed to maintain current numbers). In addition, Eberstadt observed that in almost every year the birth rate has dropped further below this level. Factoring this trend into long-term projections, the Japanese government estimates that over half of all women born in 1990 will not stay married to age 50. About 25% are on track to never marry, and 38% of that group will never have babies. That means that over half the women in this birth cohort will not have grandchildren. If these current patterns continue, Eberstadt noted, each generation will be 35% smaller than the previous one.

Total Births in Japan, 1872–2050 (projected)



SOURCE: Ministry of Internal Affairs and Communication, *Japan Statistical Yearbook 2013*, chap. 2, <http://www.stat.go.jp/english/data/nenkan/1431-02.htm>; and National Institute of Population and Social Security Research, *Population Projections for Japan: 2001–2050*, <http://www.ipss.go.jp/pp-newest/c/ppfj02/top.html>.

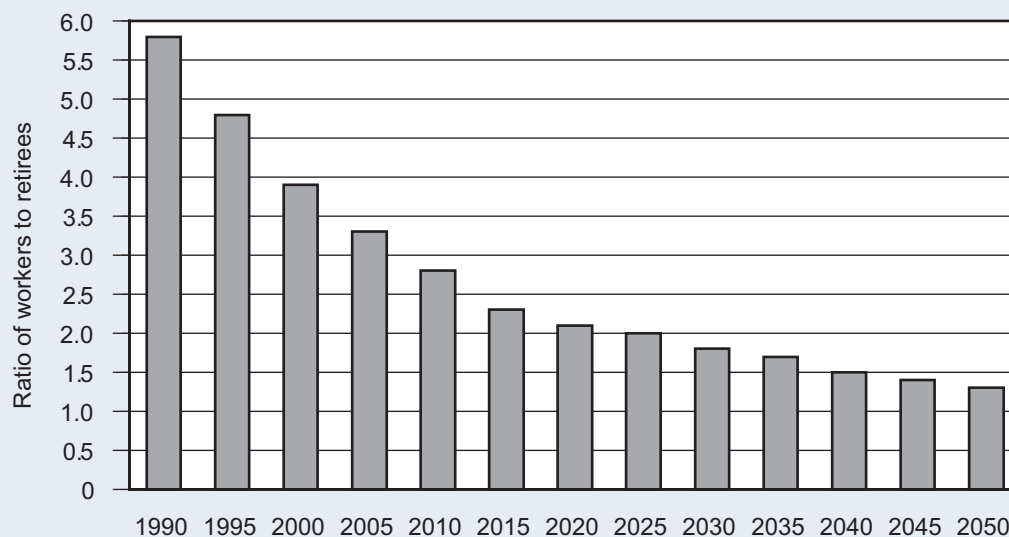
NOTE: No reliable data is available for the World War II era.

Contrasted with this decline in the birth rate is the fact that Japan's existing population is also living longer. In general, the country has one of the healthiest populations in the world and one of the longest life expectancies. Life expectancy in Japan is projected to increase from 86 to 90 for women and 79 to 84 for men by 2055.

To put this in perspective, discussants noted that twenty years ago there were six working people in Japan for every retiree. That number is now less than three, and it is estimated that by 2025 the ratio will be below two workers for every retiree. Moreover, Katz and others highlighted that an absolute decline in the number of working-age people suggests an expected decline in tax revenue, which will then affect resources available to provide social safety nets for the growing number of elderly citizens. Consequently, with Japan's working-age population decreasing and fewer children to take care of elderly parents, welfare and medical issues will place an increasingly larger strain on family and society.



Ratio of Working Age to Retirees



SOURCE: Richard Katz, "The Mutually Reinforcing Crisis of Trust, Taxes, Joblessness and Demography" (presented at "Implications of Japan's Changing Demographics," Washington, D.C., October 10, 2012).

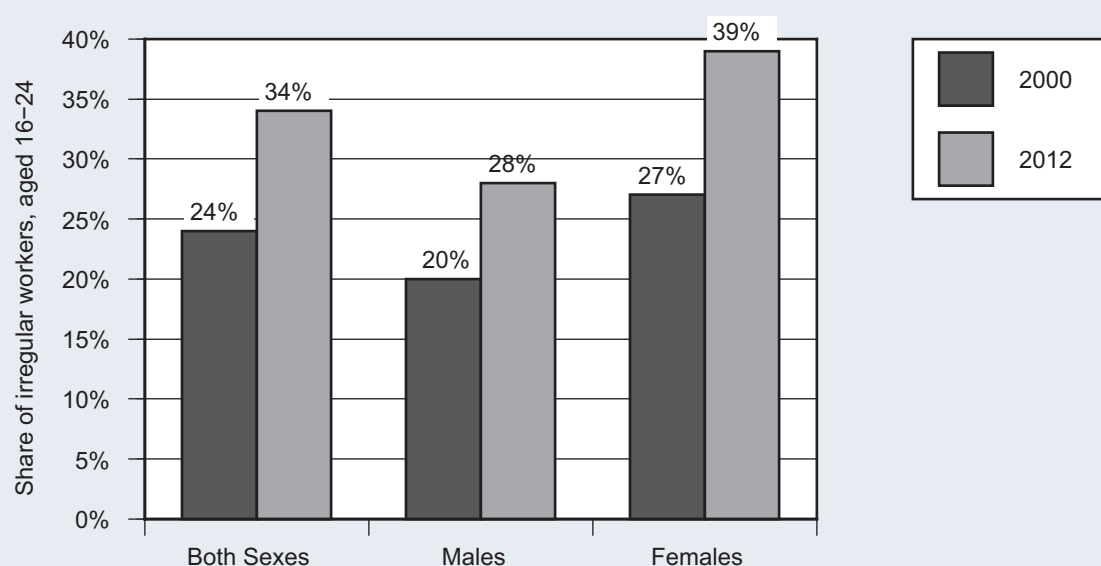
ECONOMIC OUTLOOK

Japan's shrinking population will have an adverse affect on the country's economic outlook. Japan already has the second-slowest per capita growth among G-7 countries since 1991, with an annual growth rate of only 0.7%. For comparison, the United States had a growth rate of 1.6% over the same period.

Furthering the slowdown of GDP growth in Japan are unemployment and irregular employment in the working-age population. Irregular employment is not only hurting Japan's growth but also damaging its birth rate. From 2000 to 2012, the percentage of Japanese men with irregular jobs increased from 20% to 28% among those who are 15–24 years old and from 9% to 18% among those who are 24–34 years old. Irregular

employment pays 40% less per hour, and employees are not entitled to benefits. Many of the men with irregular jobs do not develop skills that employers want by the age of 30, and 76% fail to get married by age 39, compared with only 31% of regular male workers. At the same time, more women in Japan are obtaining advanced degrees—40%, according to figures from the Organisation for Economic Co-operation and Development (OECD)—and many of these women want to marry a partner with an equal level of education or salary, partly because men in irregular jobs cannot afford to support families. These trends have led to an overall low marriage rate. Japan has only 5.8 marriages per year per 1,000 people, compared with 9.8 in the United States.

Looming Skills Crisis: 15- to 24-Year-Olds with Only “Irregular” Jobs



SOURCE: Richard Katz, “The Mutually Reinforcing Crisis of Trust, Taxes, Joblessness and Demography” (presented at “Implications of Japan’s Changing Demographics,” Washington, D.C., October 10, 2012).

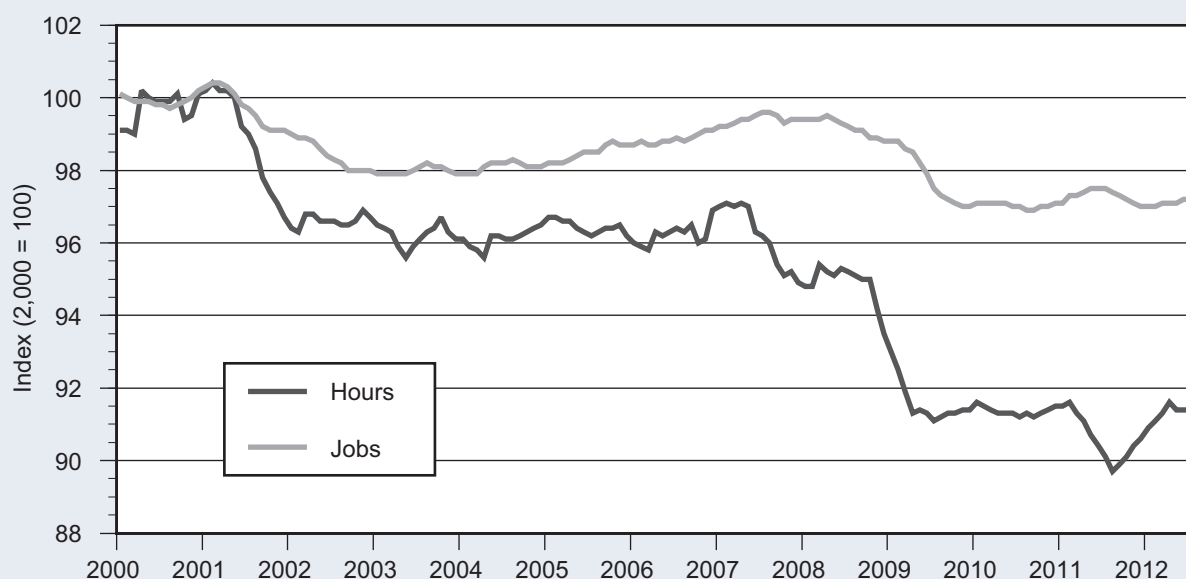
NOTE: Fewer irregulars (temps, part-timers) get skills training that employers need from 30-year-olds; have lower mid-career productivity.

While the official unemployment rate is just 4.2%, unemployment in Japan is usually seen in a loss of paid hours rather than a loss of jobs. Jobs are down 2.8% from 2000, but the aggregate hours of all workers combined are down 8.6%. Adding to the decline in growth is the demographic shift in Japan's working-age population, which is declining more rapidly than the total population. The working-age population in Japan had a rate of decline of -0.2% in 2012 and that rate is expected to increase to -1.0% in 2050.



Eberstadt noted that Japan's migration data suggests that more people have emigrated from Japan than immigrated to the country in recent decades. Of all OECD countries, Japan has the lowest proportion of foreign-born residents in the total population. More people have left Japan than entered Japan in the last 40 years. Unfortunately, demographers have no way of anticipating migration flows, but if current migration patterns and strict immigration policies continue, Japan will maintain its status as a low-immigration society.

Hours, Not Jobs, Measure of Unemployment in Japan

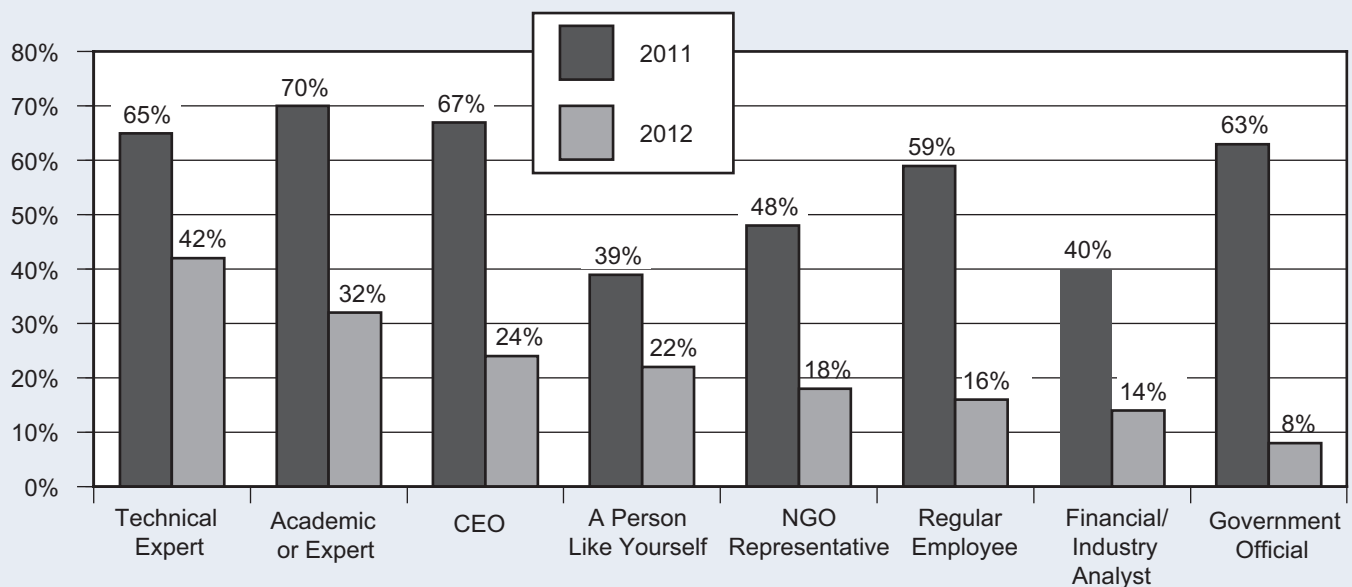


SOURCE: Richard Katz, "The Mutually Reinforcing Crisis of Trust, Taxes, Joblessness and Demography" (presented at "Implications of Japan's Changing Demographics," Washington, D.C., October 10, 2012).

Furthermore, following the Fukushima Daiichi nuclear incident, Japanese citizens' trust in government plummeted from 63% to only 8%, while trust in industry dropped from 40% to 14%. Barring no other major changes in Japan's economy, a smaller workforce working fewer hours will mean less tax revenue without an inherent reduction in state expenses. In fact, as outlined above, the burden on Japan's welfare system in particular is likely to increase. In order for a country to be able to raise taxes to meet increasing expenses, however, its citizens must have trust in the government. The drop in public trust thus makes it politically hard for the Japanese government to impose taxes on an older population.



Experts/Govt Not Trusted: 2011 vs. 2012 in Japan



SOURCE: Edelman as cited by Richard Katz, "The Mutually Reinforcing Crisis of Trust, Taxes, Joblessness and Demography" (presented at "Implications of Japan's Changing Demographics," Washington, D.C., October 10, 2012).

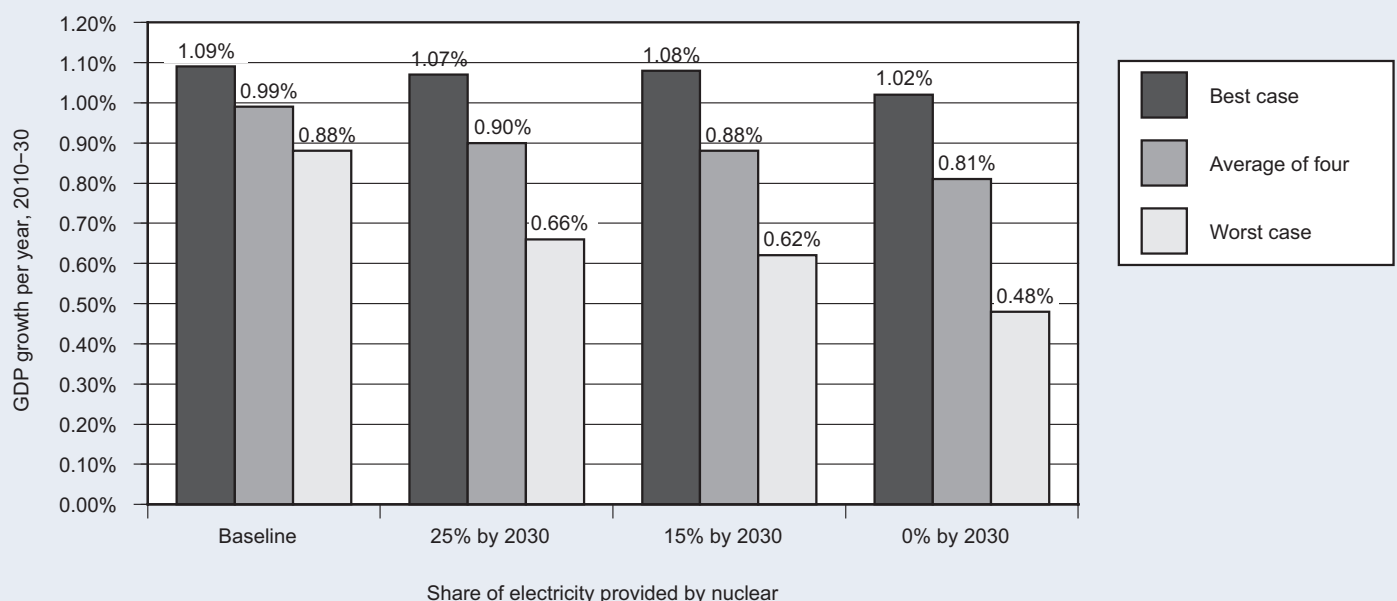
ENERGY

The Fukushima Daiichi nuclear incident also changed the energy outlook in Japan. Nuclear energy constituted 30% of Japan's total electricity mix in 2010 and was slated to grow to 50% by 2030. In September 2012, however, the Japanese government, facing large public disapproval of nuclear energy, announced that it will phase out nuclear power by 2040. Fukushima shook the public's trust in a nuclear-energy future. Despite such public opposition, the direction of Japanese energy policy may change again following the December 2012 election of Prime Minister Shinzo Abe, who supports plans to build more nuclear reactors. However, some members in Japan's energy industry remain skeptical that a change in policy will occur. In either case, there will most likely be a decrease in the amount of nuclear energy produced in Japan compared with levels before March 2011.

The elimination of nuclear power not only hurts Japan's energy security, with the country having to rely on more expensive energy imports, but projections show that this policy also hurts the Japanese economy. As the chart below demonstrates, lower shares of nuclear energy are correlated with a decline in economic growth. Combine this trend with a 10% increase in health costs for an older population, and Japan's growth rate will be further hampered.

Participants noted that a smaller population could bring a decrease in energy consumption in Japan. In order to stay competitive, Japanese utilities must look at ways to diversify their consumer base and capitalize on international business opportunities.

2010–2030 Growth Rate under Different Nuclear Scenarios



SOURCE: Based on scenarios from four different think tanks commissioned by the Japanese government. Richard Katz, "The Mutually Reinforcing Crisis of Trust, Taxes, Joblessness and Demography" (presented at "Implications of Japan's Changing Demographics," Washington, D.C., October 10, 2012).

SECURITY

Participants also raised questions about Japan's security outlook, given the country's changing demographics, slowing economy, and limited resources. Experts said that even though the Japanese economy is slowing, Japan most likely will not reduce its military spending significantly since it already spends so little of its GDP on the military in comparison with other countries. With underemployment rates so high, Japan will not lack young people to fill jobs in the defense forces, even if there are fewer young people to recruit.

Importantly, military spending is only 1% of the country's GDP, whereas it is 4.7% of GDP in the United States. Eberstadt noted that future military spending will be determined by what is a priority and that "affordability" lies in the eye of the beholder. Given its extremely low level of "military burden" or defense spending in relation to GDP, even an aging and shrinking Japan could manage to spend significantly more on security if there were a public consensus to do so. With Sino-Japanese tensions growing, military spending might now be a priority for Japan. "It's becoming a rougher neighborhood, and I think the political support for coast guard and ballistic missile defense is going to increase rather than decrease," said Katz.



Participants also looked at how demographic changes in Japan will affect its relations with China. Katz noted that the political inward turning in Japan partly due to demographic shifts might harm Japan's economic vitality and security in the region. "If you want to integrate China as a responsible stakeholder, it's much harder to do that without a vibrant Japan," said Katz. "Japan needs to be part of the hub and not let China alone become the hub." There have been calls in China, which is the fourth-largest consumer market in the world, to boycott Japanese goods. If Japan's productivity is decreasing and there is a smaller market for its export-driven economy, the Japanese economy will only be constrained further.

Katz added that this lack of vibrancy might affect foreign policy relations. Some participants suggested that the real issue here is the alliance between the United States and Japan, and many agreed that Japan's reliance on the United States will likely grow rather than diminish. According to the Cabinet Office of Japan, 82% of Japanese citizens have a positive feeling about the United States, and 75.4% have a positive feeling about the alliance.

RECOMMENDATIONS

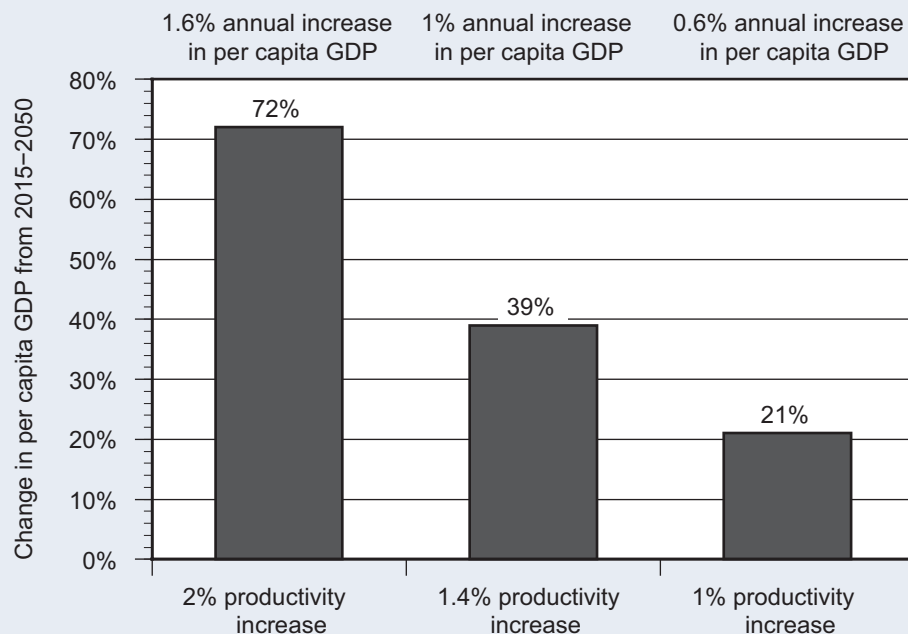
Slower growth of Japan's GDP will reduce human capital in the country, and Japan will in turn produce less. This scenario raised the question among participants of whether investments should be made to encourage population growth or spur productivity.

Eberstadt cautioned that “pro-natalist policies have a checkered past, with at best moderate results.” Thus, policies to directly incentivize women to have more children through tax credits and other government benefits are unlikely by themselves to reverse declining family sizes. However, both Eberstadt and Katz noted that, in contrast to expectations, career women were more likely than their nonprofessional counterparts to indicate an interest in having children. When such women were asked what policies would have the greatest impact on how many children they desired, 55% said a reduction in educational expenses, 43% said nursery centers, and 31% said economic assistance, demonstrating that working

women can add to productivity and also boost birth rates if they have adequate assistance.

On the productivity side, participants offered several recommendations. One of the most important ways that Japan can improve its competitiveness is to do more with less. Katz observed that Japan is far behind other countries in best practices in a whole host of industries because of anticompetitive practices. “Just catching up to the rest of the world in [innovation and efficiency] would produce an immense productivity revolution, and thus boost economic growth,” he said. The United States attributes two-thirds of its productivity acceleration since 1995 to revitalizing what Katz described as the “old economy,” including banking, Rust Belt industries, and retail, which feel the pressure of global competition. Some industries in Japan, such as the service industry, have increased productivity by as much as 70%, but other industries have fallen behind compared with global standards.

Immense Impact of Productivity Growth Rate



SOURCE: Richard Katz, “The Mutually Reinforcing Crisis of Trust, Taxes, Joblessness and Demography” (presented at “Implications of Japan’s Changing Demographics,” Washington, D.C., October 10, 2012).

NOTE: Per capita GDP growth assumes full employment. 1991–2010 per capita growth was just 0.7% per year.

Marta McLellan Ross of Senator Jim Webb's office argued that in twenty years time, as the population continues to shrink, the gains from productivity will eventually level off. Participants made recommendations that extended beyond productivity and moved toward a cultural shift. "If there were one cultural thing that you could do to increase the prospect for productivity growth in Japan that wouldn't show up in regular statistics, I think it would be English language study," said Eberstadt. In a globalized world, command of the English language is essential in finance, science, and communications. Japan used to be at the forefront of English-language skills in East Asia, but its ranking has fallen since then. There are fewer Japanese students studying abroad and being immersed in English.

Participants weighed in on another suggestion to reform the employment system in Japan. The current retirement age is 60, and participants had mixed views on extending it. On the one hand, an older working population will take away opportunities from younger people looking for work. On the other hand, if the retirement age of a healthy population is extended, more experienced workers can use the final years in their careers to support younger businesses and act as consultants to those who want to create companies.

Fewer young people in Japan's aging population might lead to fewer new companies. However, one way to encourage the growth of new companies is to make it easier for foreign companies to do business in Japan. A Japanese industry representative suggested that expatriates coming to Japan might create opportunities to invigorate the old economy, increase productivity, and spur immigration and newer companies. "It's new companies that really provide much of the growth all over the OECD," said Katz. "But it's much harder for new companies to challenge incumbents in Japan."

Although Japan has traditionally been an export-driven economy, there has been a shift toward increasing productivity in the service sector. "Some of the impact on GDP growth that's coming from this demographic shift is not only that there are fewer people to produce products, but fewer people to consume them," said Tom Gross, who is an energy policy analyst at Chubu Electric Power Company. "If most of the country is providing services, you need to be worried that there are fewer people in the country to consume those services." In order to expand their consumer markets, those companies with a domestic focus can seek out international business opportunities, and the government can create conditions to make exports competitive.

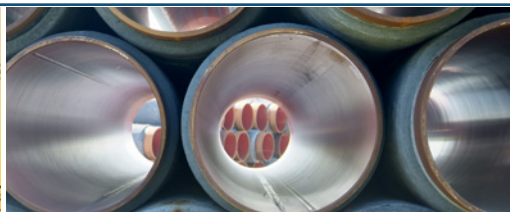
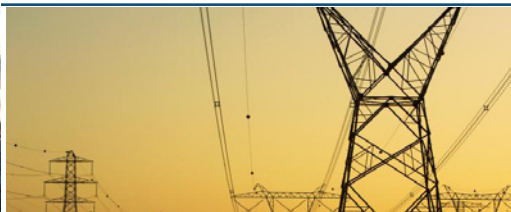


CONCLUSION

Japan's aging and shrinking population is a cause for concern in both Japan and the Asia-Pacific region as a whole. HelpAge International estimates that there are currently more than 50,000 people in Japan who are one hundred years old or older. As Eberstadt noted, the Japanese population is aging faster than that of any other country in the world because of migration patterns, birth rates, and health. These demographic changes will no doubt have implications for Japan's economy, geopolitical standing, and energy use. While participants offered several suggestions for how

Japan can increase productivity and respond to the realities of a shrinking and aging population, there was no conclusion on a single best practice to react to these demographic shifts. Yet even though the situation in Japan might seem dire, participants were hopeful that if immigration policies are reformed and productivity is increased, Japan can remain competitive. "Demography is not necessarily destiny—but demography does alter the realm of the possible," said Eberstadt.





BACKGROUND ON NBR'S ENERGY SECURITY PROGRAM

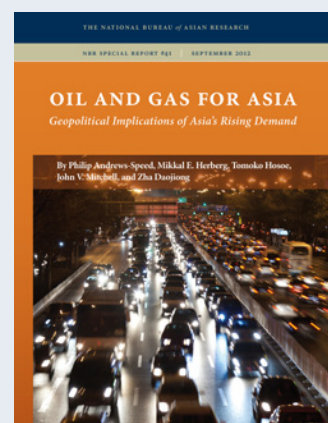
Now in its ninth year, NBR's Energy Security Program convenes top energy and geopolitical experts from industry, research, and policy for an assessment of the developments taking place in Asian energy markets and their implications for geopolitics. To inform and strengthen the public policy dialogue, experts share insights and recommendations through a number of channels, including an invitation-only spring workshop, NBR's annual Energy Security Report, and a public fall launch event.

PROGRAM THEMES

- **“Oil and Gas for Asia: Geopolitical Implications of Asia’s Rising Demand”** (2012) explores how Asia’s rising energy demand, coupled with angst over prices and the reliability of future oil and LNG supplies, is shaping the strategic and economic agendas of Asia’s major powers.
- **“Asia’s Rising Energy and Resource Nationalism”** (2011) examined if there is a connection between energy insecurity and state efforts to control major sea lanes, the impact of Asia’s national oil companies on the global industry, and the emergence of rare earth elements as an arena for national competition.
- **“Pipeline Politics in Asia: The Intersection of Demand, Energy Markets, and Supply Routes”** (2010) analyzed the growth in overland pipelines in industrializing Asia and the resulting implications for Asian regional politics and energy security geopolitics.
- **“The New Energy Silk Road: The Growing Asia–Middle East Energy Nexus”** (2009) assessed the likely evolution of Asia’s involvement in Middle East oil and gas development, including how Asia may affect future oil and gas supply development and the implications for U.S. policy.
- **“Opportunities and Constraints: Prospects for Russian Oil and Gas Supply to Asia”** (2008) examined the role of energy in Russia’s strategic vision, regional perspectives on Russia as a reliable energy supplier, and implications for U.S. policy in the region.
- **“The Rise of Asia’s National Oil Companies”** (2007) assessed the strategic and competitive implications of the rise of Asia’s national oil companies (NOC), examining the internal structures of Asia’s NOCs, their relationships with home governments, and geopolitical impacts for the United States and the region.

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2012 ENERGY SECURITY REPORT



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