

Demographic Sunset in the Land of the Rising Sun: Japan in the 21st Century

By Michael Lee, Founder of the Institute of Futurology

“There’s a difference between being comfortable and being viable. We are gradually losing our viability
...Japan has been utterly defeated as an economy. We’re losing the economic game.”

Tadashi Yanai, CEO of Fast Retailing

“Our choice is rebirth or ruin.”

Yoichi Funabashi in “Japan’s Zero Hour”

Everyone has a favourite iconic Japanese consumer product – the Sony Walkman, a Panasonic DVD recorder, Blu-ray disc player, a Canon, Nikon, Minolta or Pentax camera or even a Toyota Prius. But this century will witness the long, slow sunset of Japan’s power. That’s because the country’s ageing and depopulating society will drag the economy down with it, as it has already started to do.

Although there is a moderate danger before 2050 of a nationalistic war with China,¹ the new Asian giant, it is more likely that Japan will manage its century-long decline in relative peace, probably accompanied by a final flowering of exquisite Japanese art and literature, tinged with nostalgic tones. Then, after several decades of graceful decline, population ageing and demographic shrinkage, the country will face colonisation by an Asian power. If the conquerors subsequently inter-breed with the Japanese, it could mean an eventual vanishing of Japan within a generation or two of this conquest. Another great civilisation will have been consigned to history, at some time in the 22nd century, fatally weakened from within by a depopulation process which began, ironically, in the midst of the nation’s greatest economic boom.

¹ This is an era of slowly shifting empires in the world. East Asia is a meeting-point of these empires and includes several disputed territories. In this respect, it is not surprising that military spending and sabre-rattling is most intense in this part of the world. The International Institute For Strategic Studies’s 2012 report *The Military Balance* states : “Asia’s defence spending is set to exceed Europe’s this year, for the first time in modern history.” See also the article “Japan, U.S., Australia agree to expand military cooperation” by Adam Westlake, which appeared on June 4, 2012 in *The Japan Daily Press* - <http://japandailypress.com/japan-u-s-australia-agree-to-expand-military-cooperation-043322>

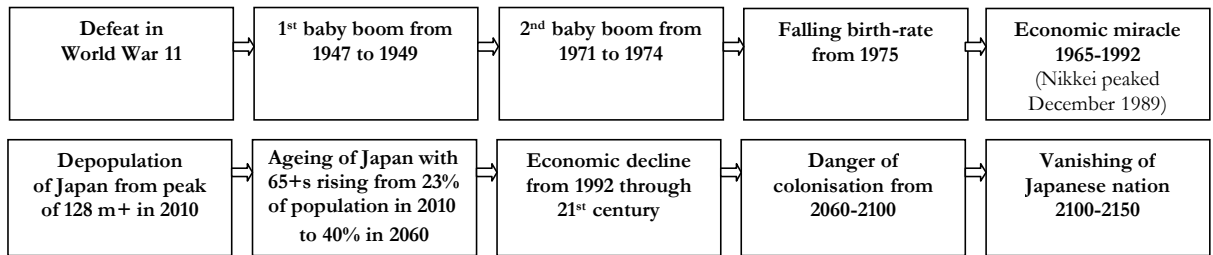


Figure 1: Actual and Projected Timeline for Possible Extinction of Japan

Figure 1 traces an actual and projected timeline of the rise and fall of modern Japan. The dates in the first six text boxes are actual, the dates in next four text boxes are projected. The key to understanding the anticipated collapse of Japan lies in its demographics.

Japanese depopulation is starkly evident in the forecasted decline of its total population² in the most current national population statistics based on census data:

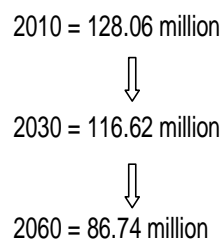


Figure 2: Projected Decline of Japan's Total Population 2010-2060
(Data from National Institute of Population and Social Security Research)

The projected 2060 population of just over 85 million could then collapse to 37,9 million by 2100.³ To shrink from 128 million people to around 38 million people in this century would mean losing approximately 90 million citizens in 90 years, a severe average depopulation rate of 1 million people every year. That's like losing annually the combined populations of the cities of Las Vegas and Miami.

²Based on the results of the medium-fertility projection, Japan is expected to enter a long period of population decline. The population is expected to decrease to around 116.62 million by 2030, fall below 100 million to 99.13 million in 2048, and drop to 86.74 million by 2060." "Population Projections for Japan (January 2012): 2011 to 2060". 2012. National Institute of Population and Social Security Research, Tokyo, Japan. <http://www.ipss.go.jp>

³Table 5-3 Total population, population by the major three age groups (under 15, 15-64, and 65 and over), and age composition: Low-fertility (medium-mortality) projection P.39.

The National Institute of Population and Social Security Research in Tokyo indicates that Japan started suffering net losses of population from 2005, the year in which there were more deaths than births for the first time since records began.⁴ By 2010, there were 126 000 more deaths than births.

2005, then, is the year depopulation officially kicked in to cause net losses to Japan's national population. The crude death rate in that year (8.6%) exceeded the birth rate (8.4%) for the very first time. By 2010 the death rate had risen to 9.5% with the birth rate at 8.5%.

In 2005, Japan became a society in which more people die each year than are born.

One cause of depopulation, *which is likely to lead to the downfall of Japan if it is not reversed*, is a collapse in the total fertility rate (TFR) for Japanese females in their child-bearing years (from 15-49). This TFR fell precipitously from 5.10 in 1925 to an exceptionally low 1.39 by 2010 (compared to a UN world average of 2.52 for 2010).⁵ The replacement rate for a population is two children per woman. With its TFR not just below 2 but now under 1.5, it is not surprising that Japan's population is shrinking and getting older. The CIA World Factbook ranks Japan 202 out of 222 countries in its country comparison table for TFRs.⁶ Japan's net reproduction rate fell by over half from 108.2 in 1925 to 44.0 by 2010.

Ominously, such a depletion of population will be accompanied by an equally significant fall in economically active citizens (those in the working age bracket of 15-64), as Figure 3 below shows.

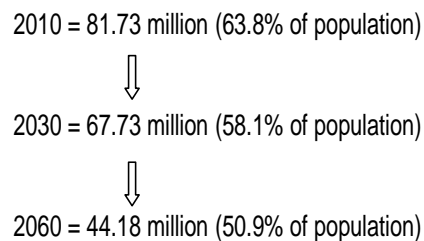


Figure 3: Projected Decline of Japan's Working Population 2010-2060
(Data from National Institute of Population and Social Security Research)

This shrinking population with its declining workforce will also be ageing. Sadly, the only aspect of Japan's population which will continue to grow relative to other age groups will be its senior citizenry (those aged 65 and over).

⁴ In 2005, there were 1 063 000 births compared to 1 084 000 deaths. From 1873 to 2005, there had always been more births in the country than deaths. See "Table 3.1. Vital Rates: 1873-2010." Population Statistics of Japan 2012, National Institute of Population and Social Security Research. <http://www.ipss.go.jp/p-info/e/psj2012/PSJ2012.asp>

⁵ "Table 4.3 Reproduction Rates for Female: 1925-2010", National Institute of Population and Social Security Research. <http://www.ipss.go.jp/p-info/e/psj2012/PSJ2012.asp>

⁶ The CIA World Factbook - <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2127rank.html>

2010 = 29.48 million (23.0% of population)



2030 = 36.85 million (31.6% of population)



2060 = 34.64 million (39.9% of population)

Figure 4: Ageing of Japan's Population 2010-2060

(Data from National Institute of Population and Social Security Research)

The mean age of the Japanese is expected to rise from 45 years old in 2010 to 54.6 years old by 2060.⁷ We are looking at the world's oldest society.⁸

Japan from now on, then, will be characterised by a rapidly decreasing population (through its falling birth rate and TFR), a shrinking number of workers, a declining young age group and an escalating aged population.⁹ Let's combine these three trends in one picture to show the changing nature of the Japanese nation to 2060.

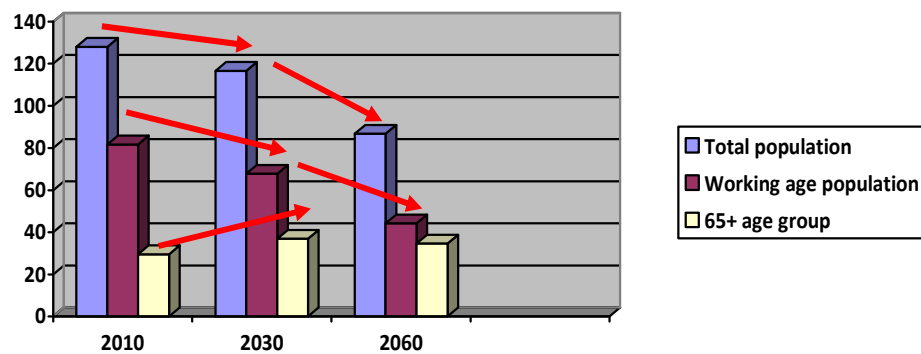


Figure 5: The Changing Face of Japan's Population 2010-2060

Source: Author's own diagram based on data from National Institute of Population and Social Security Research

⁷ P.19 "Population Projections for Japan (January 2012): 2011 to 2060" by the National Institute of Population and Social Security Research, Tokyo, Japan. http://www.ipss.go.jp/mail/e_sendmail/mail.html

⁸ "Population Projections for Japan (January 2012): 2011 to 2060". 2012. National Institute of Population and Social Security Research, Tokyo, Japan. <http://www.ipss.go.jp>. "Looking at the proportion of elderly out of the entire population, the share will increase from the current level of 23.0% as of 2010 to 25.1 to 25.2% in 2013, meaning that more than one in four people in Japan will be elderly, according to all the projections based on the three-fertility assumptions. Later on, by 2035, 33.4% of the total population, corresponding to one in three people, will be elderly, and 50 years after the start of projection period, in 2060, the elderly will account for no less than 39.9%, i.e., one in 2.5 people, according to the medium-fertility projection." P.3 "The old-age dependency ratio (the percentage of the old-age population relative to the population of the working-age group) based on the medium-fertility projection is projected to increase from 36.1 (that is, 2.8 workers supporting one senior resident on average) as of 2010 to 50.2 (two workers supporting one senior resident) by 2022, and eventually reach 78.4 (only 1.3 workers supporting one senior resident) by 2060." P.4.

⁹ See Figure 1.1 "Actual and Projected Population of Japan; medium-, high- and low-fertility (medium mortality) projections, p. 20. "Population Projections for Japan (January 2012): 2011 to 2060" by the National Institute of Population and Social Security Research, Tokyo, Japan. http://www.ipss.go.jp/mail/e_sendmail/mail.html

If you compare the bars for 2010 on the left with those for 2060 on the right, you can see a steep shrinkage in overall size. This indicates that Japan will become a considerably smaller nation. The IMF estimates Japan's GDP could fall 20 percent over this century if its population shrinks as expected.¹⁰ You can also see that the yellow bar for the 65+ age group becomes a *much* larger part of society, turning Japan into a gray society, whilst by 2060 only half of the nation will be in the working age group driving the economy.

In short, Figure 5 shows a gradually contracting society experiencing a serious, and possibly terminal, demographic crisis. I believe it is impossible for a society with this demographic profile to sustain competitive rates of economic growth in the long-term, given the costs of looking after the elderly,¹¹ the loss of taxation income for the government, the depletion of labour and productivity and the fact that older people do not spend and buy as easily as their younger counterparts (consumer spending accounts for about 60 percent of Japan's GDP).

Figure 5 is therefore the picture of a demographic and economic disaster in the making.

The prognostic signs of Japanese depopulation were emptying hamlets known as *genkai shuraku*¹² ("terminal or limited villages") which began to appear in the rural areas of the country in the 1980s, as had been warned by some prescient social scientists as early as the mid-1970s.¹³

But it is long-term, continuous depopulation which becomes a fatal disease for any society, as the timeline in Figure 1 tries to make clear. On these time-scales, depopulation becomes a malignant social cancer, eating away at the heart of a nation.

It is not just these population projections on paper which are a concern. For Japan has important psycho-cultural problems exacerbating these demographic trends. The nation appears to be suffering from a strange, unprecedented sociological malaise which is destroying the family structure and its critical child-bearing role, a loss of national vitality characterised by declining belief in marriage, decreasing fertility rates of females, shrinking families and the spread of isolation and fatalism.

¹⁰ Glosserman, B. "Fade to Gray" 2011. *Reimagining Japan : The Quest for a Future that Works*.

¹¹ Tricks, H. "Summoning the Next Generation of Leaders". 2011. *Reimagining Japan : The Quest for a Future that Works*. "As the burden of meeting rising health and welfare costs begins to fall on a dwindling number of wage earners, such comforts will be difficult to sustain... Deflation may become endemic. The country's debt burden will keep growing."

¹² *Genkai shūraku* (限界集落) describes villages that have experienced depopulation and are in danger of vanishing because a majority of the people living in the village are over the age of 65. In April 2006, according to Wikipedia, the Ministry of Land, Infrastructure, Transport and Tourism commissioned a survey on the state of depopulating areas. The report stated that, of the 62,273 villages that were visited, 775 of them were depopulating. - see http://en.wikipedia.org/wiki/Genkai_sh%C5%A8Braku

¹³ Takeuchi, K. 1976. "The Rural Exodus in Japan (2) – Disorganization and Reorganization of Rural Communities" *Journal of Social Science* – hermes-ir.lib.hit-u.ac.jp/rs/bitstream/10086/8475/.../HJsoc0080100350.pdf In this 1976 paper, Professor Takeuchi wrote: "...the disintegration of village communities... is the most serious aspect of the under-population problem".

The structure of the family in Japan has been critically weakened. Political economist and demographer with the American Enterprise Institute, Nicholas Eberstadt, explains that between 1970-2005, the proportion of never-married women in their late 30s rose from 5.8% to 18.4%. In 2010, a third of Japanese women entering their 30s were single, with at least half of them not expected to marry at all, compared to 13-15% of women in Britain and the US in their late 30s who are single.¹⁴ Drawing on data from the Asia Research Institute, Eberstadt points out that by 2040 about 24% of 50 year-old Japanese women will never have married and 38% of them will be childless.¹⁵ Both the average marriage age of women and the numbers of women between 35-39 who never married rose steeply in Japan between 1980-2005.¹⁶ There has been a steady erosion of marriage and its child-bearing role in post-industrial Japan .

On top of this, the crude divorce rate per 1,000 population in Japan has risen steadily decade by decade from 1970 as follows:

Decade	Divorce Rate (per 1,000 population)
1970s	1.06
1980s	1.35
1990s	1.61
2000s	2.12

Table 1: Average crude divorce rate in Japan 1970-2009 by decade (per 1,000 population) (‰)

Source: Author's own table based on data from National Institute of Population and Social Security Research¹⁷

The extent of this increase in the divorce rate is evident on this bar chart.

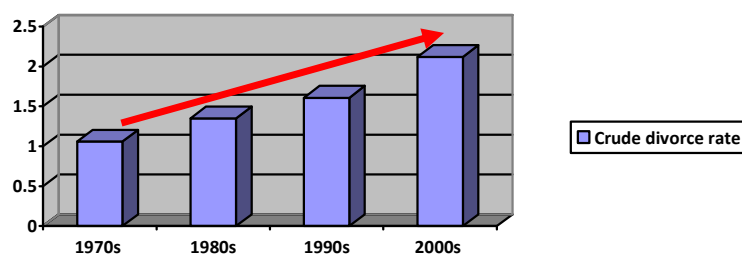


Figure 6: Rise in Japan's Divorce Rate 1970-2009

Source: Author's own diagram based on data from National Institute of Population and Social Security Research

¹⁴ "The Flight from Marriage" – *The Economist*, August 20, 2011, p.18.

¹⁵ Eberstadt, N. 2011. "Demography and Japan's Future" in *Reimagining Japan: The Quest for a Future that Works*.

¹⁶ "The Flight from Marriage" – *The Economist*, August 20, 2011, p.18, see Figure 1 "Bridal paths" and Figure 2 "On the Shelf".

¹⁷ "Table 6.2 Divorces by Legal Type and Crude Divorce Rates: 1883-2010 - Crude divorce rate (per 1,000 population) (‰)" from "Population Projections for Japan (January 2012): 2011 to 2060" by the National Institute of Population and Social Security Research, Tokyo, Japan: <http://www.ipss.go.jp>

According to the Ministry of Health, Labour and Welfare, in 2010, there was a divorce in Japan every 2 minutes and 5 secs.¹⁸ Clearly, there is a weakening of marriage and the family in Japan.

Japan is also sinking into a wave of isolationism: “People in today’s Japan seem content with what they have. They are very conservative, with a stagnant mentality, an isolationist drift.”¹⁹ Another commentator states that there is a “notable lack of interest, according to recent polls, of young Japanese in travelling overseas...”²⁰ Yet another laments that “there are only 29,000 Japanese students studying at US colleges compared with 75,000 South Koreans and 98,000 Chinese...”²¹, arguing that the Japanese people have a lower tolerance for change than many other populations: “I have a sense that the country has become more inwardly focused; it pays insufficient attention to external issues.”²² In business and in research, analysts often refer to the “Galapagos [little island] syndrome”²³ in Japan, whereby the focus is increasingly on what products work in Japan rather than in the global marketplace as a whole. Isolationism is not unknown in Japan. The country once had an official policy of *sakoku* (or “closed country”) from 1641 to 1853 during its Tokugawa shogunate period (which lasted from 1600-1868). It is quite telling that foreigners make up a mere 2% of its population today. Japan could become the first country in the world to die from introspection.

The perception of Japan’s growing isolation is reinforced by what is generally acknowledged as a poor standard of English spoken in the country and by an education system which does not deliver enough of the kind of creative knowledge workers needed for Stephen R. Covey’s so-called Knowledge Age. In addition, the homogeneity of the population makes it harder to accept and exploit the growing multi-cultural diversity of the global marketplace.

There is a growing fatalism accompanying this Japanese isolationism: “...this resignation [of the Japanese people] is what I fear most”.²⁴ The attitude of *gaman* – or acceptance whatever life throws at you without complaint – can be a noble quality but it can also lead to excessive passivity. Japan might become a robotic society in more ways than one.

¹⁸ “Vital Statistics in Japan”, Ministry of Health, Labour and Welfare - Ministry of Health, Labour and Welfare of Japan <http://www.mhlw.go.jp/english/>

¹⁹ Shibata, T. 2011. “Toward a new Meiji” in *Reimagining Japan : The Quest for a Future that Works*.

Tadashi Yanai, CEO of Fast Retailing, in his essay “Dare to Err” in the same book comments: “Japan’s biggest problems are conservatism and cowardice. We want stability, peace of mind and safety. But the world keeps changing. Other countries are growing, while we in Japan stick to our old ways...Japanese companies seem to have their eyes in the rear-view mirror. They have been introspective.”

²⁰ Buruma, I. 2011. “Japan’s Next Transformation” in *Reimagining Japan : The Quest for a Future that Works*.

²¹ Hasegawa, Y. 2011. “Toward a lasting Recovery” in *Reimagining Japan : The Quest for a Future that Works*.

²² Hasegawa, Y. 2011. “Toward a lasting Recovery” in *Reimagining Japan : The Quest for a Future that Works*.

²³ See, for example, the article “Japan frets over ‘Galapagos syndrome’” by Dennis Normile, *Physics World*, Vol 25, no 8, August 2012 – Bristol: IOP Publishing Ltd, 2012.

²⁴ Funabashi. Y. 2011. “Japan’s Zero Hour” in *Reimagining Japan : The Quest for a Future that Works*.

The phenomenon of the *hikikomori* (people who hardly ever leave their houses) is one indicator of social isolation. Some *hikikomori* do not go out of their homes for months on end. A government study found in 2010 that Japan has at least 700,000 recluses, with about 1.5 m having a tendency to reclusiveness. In addition, there are around 600,000 NEETs (Not in education, employment or training).²⁵ This mass social isolation, taking in place in an atmosphere of economic decline, could incubate a variety of social disorders, including providing scope for a rise in xenophobia and ultra-nationalism.

A high suicide rate indicates some social malaise is at work somewhere: “One Japanese individual commits suicide every 15 minutes.”²⁶ According to the World Health Organization, Japan has the world’s 5th highest suicide rate for females and the 11th highest suicide rate for males.²⁷

If one looks at the combined effect of depopulation, demographic ageing, social isolation, falling birth-rate and childlessness, weakening family structures and high annual suicide rates, one might be tempted to conclude that Japan’s social fabric is slowly disintegrating.

If these challenges were not enough, there are also geographical issues, including problems at the levels of the environment and energy supply and the fact that Japan is situated in what one commentator describes as “one of the world’s most dangerous neighbourhoods”.²⁸

Geologically, Japan, once described as a “volatile archipelago”²⁹, is situated on top of the so-called Ring of Fire, a region subject to a disproportionate amount of earthquakes and volcanic activity. The Japan Trench is at the edge of the Pacific plate and the North American plate. The threat of earthquakes and tsunamis is real and constant. The Kobe quake of 1995 killed more than 6,000 in the country. On 11 March, 2011 a massive earthquake hit Japan, releasing a tsunami which reached terrifying heights of 38 metres. Losses ran to approximately 30,000 lives and a bill of repair for \$300 bn. Disasters on this scale also happened in 1854, 1896 and 1933: “The events of March 11 revealed how fragile life can be in a country that is blighted by occasional volcanic eruptions, quakes and tsunamis.”³⁰ It is possible that these geographical conditions play a part in entrenching a degree of fatalism in the brave people of hard-hit Japan.

²⁵ Genda, Y. 2011. “No Place to Belong” in *Reimagining Japan : The Quest for a Future that Works*.

²⁶ Iyer, P. 2011. “The More things change” in *Reimagining Japan : The Quest for a Future that Works*.

²⁷ World Health Organization: “Suicide rates per 100,000 by country, year and sex (Table)...as of 2011” http://www.who.int/mental_health/prevention/suicide_rates/en/#

²⁸ Green, M.J. 2011. “Is Japan a fading strategic asset for the U.S.?” *Reimagining Japan : The Quest for a Future that Works*.

²⁹ Hasegawa, Y. 2011. “Toward a lasting Recovery” in *Reimagining Japan : The Quest for a Future that Works*.

³⁰ Tricks, H. “Summoning the Next Generation of Leaders”. 2011. *Reimagining Japan : The Quest for a Future that Works*.

Environmentally, it must be a concern to the Japanese government that the nation's farming and fishing industries are declining and even dying. At the same time, economically, Japan has been stagnating for two decades or more and has accumulated a substantial national debt: "...the debt of national and regional governments [in Japan] has risen to more than 200 percent, from 75 percent, of GDP."³¹ Some commentators have predicted that the current 200 percent Debt to GDP ratio could go up as high as 600 percent by 2030.

As Yoichi Funabashi has said, the country's vulnerabilities include "a fault-ridden land, a heavy reliance on oil and nuclear power, a rapidly ageing population, isolated local communities, and bloated national debt."³²

In 2010, China overtook Japan as the second-largest economy. This is a milestone in Japan's decline because the country will never again be Asia's number one economy.

Although its bubble burst in the early 1990s, there is still tremendous dynamism in Japan's economy. There is a well-spring of inventiveness as well as the nation's immense pride in craftsmanship and precision engineering (expressed in the Japanese concept of *monozukuri*, the skill to make things). According to the World Intellectual Property Organization (WIPO), Japan leads the world in the number of patents granted – 151,765 patents in 2008 compared to 77,501 in the USA.³³ It leads the world in the use of robots and Japanese companies are ahead of the game in clean or green tech.³⁴

These advantages might be outweighed by the fact that Japan is resource-poor and most of its fuel is imported, another drain on its future economic prospects in our "peak oil" era of rising energy costs. With its 54 nuclear plants, the country is also heavily dependent upon nuclear power, being the world's third-largest producer, which is why the 2011 disaster at Fukushima was so traumatic for Japan.³⁵ The IEA predicts nuclear will make up to 42% of Japan's energy mix by 2035, up from the current 30%. Although it is the fifth-largest consumer of energy, it is the second-largest importer of oil, whilst importing coal and liquefied natural gas (LNG).³⁶ It is very difficult for large energy importers like Japan to remain economically competitive when energy costs are rising so steeply.

But by far the nation's greatest disadvantage is its demographic profile.

³¹ Repeta, L. 2011. "Could the Meltdown have been avoided?" in ed. Kingston, J. 2011. *Tsunami: Japan's Post-Fukushima Future*.

³² Funabashi, Y. 2011. "Japan's Zero Hour" in *Reimagining Japan: The Quest for a Future that Works*.

³³ Milner, A. 2011. "The Next Challenge for Japan's Entrepreneurs" in *Reimagining Japan: The Quest for a Future that Works*. Milner writes: "Since first passing the US in 1977, Japanese, who number less than half of the US population, have earned 1.5 times as many patents as Americans."

³⁴ Milner, A. 2011. "The Next Challenge for Japan's Entrepreneurs" in *Reimagining Japan: The Quest for a Future that Works*. Milner argues that Japan has the competitive edge in electric and hybrid vehicles, solar, and carbon capture and storage.

³⁵ One has to feel for Japan, having experienced the horrors of atomic bombs at the end of World War 2, being so dependent upon nuclear power. Despite the nation's revulsion for nuclear weapons in the aftermath of the war, the Japanese Diet had no option but to commit to an atomic energy future in order to rebuild the nation.

³⁶ Ebinger, C.K; Massey, K and Avsarala, G. 2011. "Keeping the Lights on" in *Reimagining Japan: The Quest for a Future that Works*.

Conclusion

Japan has contracted an aggressive social cancer called depopulation. Its family structures have been severely weakened. Its population is ageing. Its work force is shrinking. The body politic and economy are ailing as a result.

The worst-case scenario is for the nation to be colonised in the second half of this century after several decades of demographic and socio-economic decline and then to vanish off the map altogether sometime in the 22nd century as a result of subsequent interbreeding with their conquerors (see Figure 1).

There does not appear to be much “wriggle room” for the politicians to reverse the demographic and economic decline which has already begun. This makes it more likely that Japan will either undergo some sort of radical revolution to cure its social cancer, or face ultimate disintegration in the distant future.

Four scenarios describe the different ways in which this demographic sunset can play out to determine Japan's ultimate future throughout the 21st century.

The **Bonsai Future** is one of graceful decline in which Japan decides that small can be beautiful. In this scenario, Japan turns inwards to its own environment and commits to become energy self-sufficient with a mix of mostly renewable energy and nuclear power, prepared to pay the price of a slower, weaker economy. It builds a massive eco-tourism industry. It becomes the undisputed world leader in clean-tech and in robotic technology. As villages and towns empty, the country constructs new forests and nature sanctuaries in their place. Some of them are converted by entrepreneurs into tourist ghost towns.

The nation introduces new policies to strengthen the family and slow down the demographic decline, eventually becoming reconciled to its status as a small regional, and increasingly neutral, power in the Far East. Japan becomes the Switzerland of Asia. It does not pursue mass immigration and multi-culturalism and so continues to shrink in size.

After several decades of peaceful decline, it is attacked and defeated by a joint Sino-Russian military force.

The **2nd Meiji Future** sees Japan seeking to reform and revolutionise its ailing society. The Meiji Restoration of 1868-1912 threw open the doors of Japan to foreign trade after the “closed country” Tokugawa period (1603-1868). In the 2nd Meiji Future, the nation embraces global diversity, refreshing its labour force with more women workers, managers and entrepreneurs, whilst inviting literally millions of foreigners to emigrate to Japan. (The Population Division of the UN once estimated Japan will need 17 million immigrants between 2000 and 2050 to forestall depopulation and a net inflow of more than 30 million people aged 15-64 to stop shrinkage of working population.)

The 2nd Meiji restoration sets about reducing government bureaucracy and reforms outdated corporate practices in Japan, encouraging the growth small and medium businesses. The nation’s leaders aggressively seek to protect, promote and grow the family unit.

Japan grows its military capability as a sign of national pride so it is no longer dependent upon the US military presence in Okinawa. Just as it rebuilt itself after the crushing defeat of World War 2, the 2nd Meiji period sees Japan filled with new national purpose, re-energised and embracing, rather than shunning, the globalised world and economy.

In its **Robot Future**, Japan would fail to reverse demographic decline, seeking instead a salvation in advanced technology and in the increasing merging of humans, computers and robots in the world’s first robotic society. Ageing and shrinking, but unwilling to embrace the prospect of millions of immigrants coming into its borders, the country would follow a high tech path to its future, automating as much of the economy as possible and replacing a declining workforce with robots.

Increasingly dehumanised and eccentric, the nation becomes a technocracy, with an increasingly totalitarian political system, imposing order with ruthlessness. The government carries out secret population expansion programmes with fertility drugs and breeding camps. Eventually a series of popular rebellions by the youth, sensing the nation is losing its humanity, are quelled by force until Japan descends into civil war in the second half of the century.

In its **Zombie Future**, Japan's disintegrating social fabric results in a dystopia of decline that turns violent and spurns the growth of criminal warlords emerging from the shadows of vanishing villages, towns and decaying inner cities. Economic decline produces millions of underemployed and unemployed people. With 47 million households dropping to 38 million by 2040, abandoned homes are increasingly occupied by squatters and criminals. The young revolt against the old, attacking and intimidating them into submission. In an atmosphere of decay and hopelessness, conflict and crime become endemic. In this scenario, Japan continues to shrink in size, power and influence until it becomes vulnerable to attack from more energetic and powerful neighbouring nations.

None of these our scenarios, the Bonsai Future, the 2nd Meiji Future, the Robot Future or the Zombie Future, will result in Japan being a great power again. That is because the Japanese economic empire will continue to shrink along with its population.

The difference between the scenarios, however, lies in the speed of decline and the degree of turbulence that could accompany the inevitable changing character and status of Japan in the world.

The best hope for the nation would undoubtedly be a 2nd Meiji Future. Failing that, the Bonsai Future would be the most desirable outcome. Of the two negative scenarios, the most nightmarish one would be the Zombie Future, a future I would not wish on any nation. Yet it is a future for Japan which is well within the bounds of possibility, especially if nothing extraordinary is done by Japan's leaders to reverse decline in the next two decades.

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