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Abstract

Japan is a comfortable, safe, relatively high income, advanced democratic nation with an educated, skilled, well-motivated labor force, private sector high savings rate, the rule of law, and well-developed markets. The unemployment rate is very low, modest GDP growth per capita continues, and prices are flat with CPI increases still significantly below the 2 percent target. Japan is fundamentally stable socially, politically, and economically, with an ethnically homogeneous population of 126 million. If this sounds familiar, it is because my last two annual essays have begun similarly, and future ones are likely to as well. This speaks well of the steadiness and persistence of contemporary Japan.

* There are excellent statistics, data, and analysis on the Japanese economy, including those provided by the government's Cabinet Office; Ministry of Economy, Trade, and Industry (METI); Ministry of Finance (MOF); and the Bank of Japan (BOJ). The World Bank, the International Monetary Fund (IMF), and the Organisation for Economic Co-operation and Development (OECD) produce excellent comparative data and analysis. They provide the basics for a great deal of good academic and private market research. See, for example, the *OECD Economic Surveys of Japan*, April 2019. I deeply thank Larry Meissner for his thorough, dedicated editing and research support.

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Japan is a comfortable, safe, relatively high income, advanced democratic nation with an educated, skilled, well-motivated labor force, private sector high savings rate, the rule of law, and well-developed markets. The unemployment rate is very low, modest GDP growth per capita continues, and prices are flat with CPI increases still significantly below the 2 percent target. Japan is fundamentally stable socially, politically, and economically, with an ethnically homogeneous population of 126 million. If this sounds familiar, it is because my last two annual essays have begun similarly, and future ones are likely to as well. This speaks well of the steadiness and persistence of contemporary Japan.

The LDP party won the Upper House elections in July as expected. Its leader, Shinzo Abe, on November 20 will become modern Japan's longest-serving prime minister. He will presumably continue in office until September 2021, completing his third successive, three-year term. A fourth term is a possibility.

Japan is the world's third-largest economy, after the United States and China. The per capita GDP in 2018, $42,823, places Japan in about the middle of OECD economies, just behind France and just ahead of Italy. Its per capita income in purchasing power parity is 69.2 percent of that of the United States, and 79.8 percent of Germany's. Japan's net foreign assets are $3.2 trillion, the highest of any country.

Japan's economy did better than forecasted in the first half of 2019. The 2019 first quarter GDP real growth of an annualized 2.8 percent was quirky; it was due to a sharp drop in imports, even though exports decreased. Consumption and capital spending were stable. The revised estimate of 2019 second quarter growth was 1.3 percent; while exports continued to decrease as China and the world economy slowed, domestic consumption continued its rise, and core machinery orders jumped in June.

Nonetheless, it is unlikely this growth spurt will be sustained. Corporate profits have declined for three quarters, and business polls indicate firms are not optimistic about the near term. World economic growth and trade are slowing, as is the Chinese economy. How comprehensive U.S.-Japan trade negotiations work out is not yet determined. The Japan–South Korea diplomatic brouhaha is being driven by retaliatory trade and other economic restrictions and is escalating. At least the Japanese, and indeed we all, can look forward to the Tokyo Olympics in August 2020, hot though the weather almost certainly will be.

Japan faces a number of domestic challenges, many similar to other advanced countries, including gender disparity, work-life balance, older and retired workers, income inequality, and rural decline, as well as persistent poverty for a small segment of the population. The good news is that the government is addressing all of these issues; the bad news is that it is not doing so quickly and strongly enough.

The projected effects of the increase in the VAT (consumption tax) on October 1 from 8 percent to 10 percent present an immediate challenge.

A U.S.-Japan partial trade agreement focusing on priority items was agreed to by President Trump and Prime Minister Abe on September 25. Eventually, Japan and the United States will reach agreement on a comprehensive bilateral economic agreement, but that will not happen soon.

Japan's most important long-run fundamental challenge is its ongoing, inevitable demographic transition to a smaller and older population. Japan's fertility rate, now 1.44, has been significantly below the stable population maintenance rate of 2.08 for more than four decades. In 2011, the population began to decline. While Japan welcomes a small number of foreign workers, the government maintains a restrictive policy for permanent immigration. I expect these trends to continue for the next two or three decades, since fertility will not increase to parity and Japan will not adopt a positive immigration policy. It is projected that by 2040, the population will be 107 million, the level of 1972. Those over 65 will reach one third of the population.

An ongoing concern is the high level of government gross debt of 237 percent of GDP. However, much is held by the government sector, including the Bank of Japan, and most of the rest is held by the Japanese private sector. This is not a major international concern; Japan is considered a safe haven, and foreign demand for safe yen assets is strong.

The Global Context

This essay focuses on economics, not politics, national security, or diplomacy. However, the world order is in turmoil. Ongoing geopolitical stresses and uncertainties are significantly dampening economic performances. Among other issues, Japan is affected by the Brexit process and its consequences; the Middle East mess; China's economic and political rise and assertiveness; and North Korea and nuclear weapons. By and large, this turmoil has been external, with Japan affected but not directly involved.

However, Japan is directly involved in an escalating rift with South Korea dating from 2015. The underlying issue, Japan's treatment of Korean women during World War II, has festered for decades, but has erupted with direct adverse economic and political ramifications.

Sustained global economic growth is persisting. GDP grew at 3.1 percent in 2017 and 3.6 percent in 2018. It is forecast by the IMF to slow to 3.2 percent in 2019, but to rebound to 3.5 percent in 2020. Global trade growth has slowed from 3.0 percent in 2018, to 2.6 percent in 2019, but is forecast to regain 3.0 percent in 2020 (World Trade Organization data).

Many expect a global growth slowdown, given unbalanced European performance and a slowing United States and Japan. Still, I do not expect a global recession in the near future.

Commodity prices have basically continued to be flat. A certain degree of volatility is to be expected as markets quickly respond to "news."

Central bankers in the late August 2019 annual meeting at Jackson Hole privately stated that the greatest threat to the global economic system is the uncertainty generated by President Trump's inconsistent, mercurial trade policy; his rhetoric, style, and substance; and his personal attacks on leaders.

Aside from his tweets and statements, Trump has made clear his negotiating style is to promote disorder, on occasion by deliberately sending mixed messages. It aims to leave those he is negotiating with off balance. He pursues a go-it-alone approach in foreign policy. This hard-nosed style has generated some modest additional concessions for U.S. trade, but at the much higher cost of weakened U.S. participation in the alliance arrangements on which the liberal, trade-oriented system is based.

Trump's threats against U.S. allies and their leaders have created political uncertainty that undermines business investment even at current very low interest rates. Uncertainty will persist as long as Trump is in office, since he cannot be expected to change. However, probably too much of the emphasis is on Trump himself. Trump's election reflected widespread frustration with, and opposition to, the established political leadership, and the direction American culture has taken. It is not clear how such rifts can be healed.

Japan has well -managed the Trump phenomenon. Abe and Trump have become friends, a process implemented by Japanese diplomacy. Their relationship did not result in special treatment for Japan in the U.S. administration's impositions of tariffs. However, it has helped propel the successful efforts of the two governments to reach an immediate narrow bilateral trade agreement, providing U.S. exporter access to selected Japanese agricultural markets, presumably in exchange for U.S. agreement not to impose high tariffs on Japanese automobiles.

The rise of China to being a major global, and the dominant Asian, power economically, politically, and militarily has created major opportunities and challenges for Japan. China is the world's largest economy because of its economic growth and population of 1.4 billion, but its per capita income in 2018 was $9,470, which is $18,210 in purchasing-power-parity terms (World Bank data).

It is difficult to make precise estimates because of the lack of information in China's Communist Party–led, state-dominated economy. An April 2019 NBER study states that China's official national accounts overestimated the GDP growth rate by 1.8 percentage points annually from 2010 to 2016.

China's financial system has major problems. Because the economy is so large, bumps in its future economic performance will have major impacts on Japan and the rest of the world. For the most part, China is supportive of, and working within, the international economic system, although continuing its protectionist system.

China and the United States are the two hegemons in East Asia. Their relationship is key in all major dimensions—security, politics, and economics. It ensures a complex mixture of benefits and costs, both from competition and cooperation. The economic challenge for each nation is how to deal with the other's system—the open market-oriented American and the state-controlled, authoritarian, protected Chinese.

Most Americans support a tougher economic stance against China. Its protected markets are one concern. Another is how Chinese firms and others have obtained technology in the United States, ranging from outright theft to requirements that U.S. companies doing business in China share technology, to Chinese citizens studying and doing research in the United States. However, Americans are divided on what the United States should do: most economists oppose Trump's trade policies because of their substance and their ham-handed, erratic style.

The U.S.-China trade war, rekindled when Trump imposed tariffs on imports from China in March 2018, has ratcheted up as China has retaliated with its own increases in tariffs and purchasing restrictions on U.S. agricultural and other exports to China. As of early September 2019, China's average tariffs on imports from the U.S. are 21.8 percent.

Trump has met with China's president Xi Jinping several times, most recently on June 29, 2019, when they attended the G20 summit in Osaka. Apparently, the main consequence is that they agreed to engage in high-level trade negotiations in October. They need at least to halt the trade war escalation, and make some mutual concessions. However, the fundamental economic issues—intellectual property rights, technology transfer, state-owned enterprise subsidies, and market access—will not be resolved soon, if ever, and clashes will persist in what will probably be a long, drawn-out U.S.-China trade war.

The effects, and especially the uncertainties, of this contribute to the potential slowing of world economic growth. Indeed, the IMF estimates that trade war costs to the global economy in 2020 could reach $700 billion, which is the size of Switzerland's economy. Directly important for Japan is China's slowing demand for imports of Japanese machinery and equipment.

A world of negative official and even market interest rates is something I never expected, but here we are and have been for some time. It is reported that there are some $16 trillion of negative-yielding bonds outstanding worldwide. The financial systems of all major countries are deeply intertwined, given the ready flow of funds across countries, in a world of floating exchange rates.

Americans may perceive of the interest rate on U.S. government Treasury bills and bonds as low, but it is an advanced country outlier. This is the world of central bankers, pension funds, and other large institutional holders of investible funds, but not of ordinary households, which can simply hold cash. Banks and markets with negative interest banks are now ordinary and common, no longer an oddity.

Denmark is an extreme case of negative interest rates. Except for four months in 2014, its central bank has maintained negative rates since 2012, longer than any other country. Since August, Denmark has had negative yields on all its government bonds. In August, a Danish bank, the country's third largest, began offering 10-year mortgages at a rate of negative 0.5 percent.

Two weeks later the same bank announced it would charge large depositors a fee. Effective December 1, the fee is being increased from 0.6 to 0.75 percent and the balance threshold reduced from 7.5 million krone to 750,000 krone ($111,100).

Well-performing, highly creditworthy Germany is another example. Once the ECB pushed its benchmark policy rate into negative territory in 2014, the German government began issuing shorter-maturity debt with negative yield. In August 2019, the German government issued 30-year bonds with a zero coupon. The issue was not fully subscribed but sold at a 3.65 percent premium, representing a 0.11 percent negative yield.

Why would investors accept negative rates? One reason is that it is costly to store huge amounts of cash in a vault. And some investors expect interest rates to become even more negative, so bond prices will rise and capital gains realized. Japan's negative interest rate structure, though less extensive than Germany's, is discussed later.

Japan has responded to Trump's withdrawal from the Trans-Pacific Partnership (TPP) negotiations and his go-it-alone approach by taking a leadership role in regional and global trade negotiations, including free trade agreements. Japan led the negotiations for TPP-11 (CPTPP, the 11-member Comprehensive and Progressive Agreement for Trans-Pacific Partnership), which came into force on December 30, 2018. In January 2019, the considerably larger Economic Partnership Agreement between Japan and the European Union took effect. Japan has pushed for high-standard rules in the less demanding Regional Comprehensive Economic Partnership, initiated by the 10 ASEAN members plus China, India, South Korea, Australia, and New Zealand, as well as Japan. The goal is to finalize RCEP by the end of 2019, particularly in light of the U.S.-China trade war.

Foreign Trade and Investment

Japan's foreign economic relations are multidimensional, based fundamentally on its trade, foreign direct investment, and its foreign aid program in international and Asian contexts.

Japan's foreign trade negotiations and agreements are an important element. And there are many fascinating but broadly trivial stories, such as whaling.

Japan is a major exporter and importer of goods and services, including dividends and royalties from its foreign investments. It has run a current account surplus on its balance of payments for decades. Its goods exports of 80.3 trillion yen in fiscal 2018 peaked in the final quarter of 2018 and have dropped substantially in the first half of 2019. The import of goods in fiscal 2018 was 79.6 trillion yen, also peaking in the fourth quarter of 2018 and declining even more sharply through the first half of 2019.

Japanese companies actively continue to invest in the United States and Europe, as well as developing countries. In fiscal 2018, the amount increased by 42 percent from 2017, with a big surge in the first quarter of 2019. Much is in complex infrastructure projects where Japanese advanced technology is productive and welcomed. Japan is quietly investing abroad about 50 percent more than China, despite China's highly publicized "belt and road" FDI program. Japan is participating in 240 projects in the 10 Southeast Asian countries, China 210; and most Japanese projects are larger. This is not either-or. So far 52 projects involve both Japanese and Chinese participants. Japan's projects are in the six largest Southeast Asian nations and rated at $367 billion, compared to China's $255 billion. More than half of Japan's total is in Vietnam.

While foreign financial institutions are actively engaged in Japanese financial markets, foreign debt invested in Japan continues to be modest, at ¥30.7 billion ($292.4 million at 105 yen/dollar), only one-sixth of Japanese FDI of $1.724 billion in calendar year 2018. Notable foreign purchases of Japanese companies included Bain Capital's ¥2 trillion acquisition of Toshiba Memory (Toshiba's semiconductor unit) in June 2018, KKR's purchase of auto parts manufacturer Calsonic Kansei in May 2017 for ¥498 billion, and Ningbo Joyson Electronic Corporation's purchase of bankrupt Takata in April 2018 for ¥175 billion.

Japan's foreign trade and investment policies are in principle open, market-oriented, and relatively free, based on the rule of law. This is reflected in its active support of trade liberalizing agreements—TPP (CFTPP), Japan-European Trade Agreement, RCEP, and the U.S.-Japan trade agreement negotiations. Like other nations, Japan is paying close attention to U.S.-China trade negotiations.

In June 2019, Japan hosted the G20's annual Summit on Financial Markets and the World Economy. On the whole, the meeting made only very modest achievements. Its bland communiqué did not even denounce protectionism. One critique has been that, in order to maintain good relations with Trump, Japan did not push hard for climate change measures or against Trump's protectionist trade policies. Without the United States playing a leadership role in the G20 or in the Paris agreement, widespread support of the open international economic order is undermined.

U.S.-Japan Trade Negotiations

Trump wants to reduce the U.S. trade deficit with Japan significantly, which was $67.2 billion in 2018 and $42.4 billion in the first half of 2019. Trump's emphasis on bilateral balance is a mistake and certainly will not happen despite his fulminations. His policy, now achieved, was to reach a trade partial agreement with Japan by fall 2019, well before the U.S. presidential election in November 2020. The longer-run goal for both countries is to reach a comprehensive bilateral trade and economic agreement. Negotiations are underway but will probably take several years to complete, regardless of who is president and who is prime minister.

Japan's tariffs and other restrictions on manufactured goods are low but are high on agricultural imports. Trump's withdrawal from the TPP negotiations meant that Asian and EU economies faced lower tariffs than their American exporters on Japanese beef, grains, and other agricultural products. In April 2019, U.S. trade representative Robert Lighthizer and Japanese minister Toshimitsu Motegi met to initiate formal negotiations, the first of a series of meetings, the most recent of which were August 23–25, on the sidelines of the G7 meeting attended by Abe and Trump. On August 25, Trump and Abe announced that a trade agreement had been reached in principle.

On September 25, Trump and Abe met in New York, at the sidelines of the UN General Assembly meeting, and announced they had signed a limited trade agreement statement reducing Japanese barriers to imports of beef, pork, cheese, and other U.S. agricultural products, and reducing U.S. tariffs on Japanese machine tools, turbines, and other products. The parts of the agreement on agricultural and digital trade are clear—almost the same access to Japan for the United States that TPP members and European countries have, though not covering rice, fish, or forestry products.

For Japan, a crucial issue is vehicles and vehicle parts, which are one-third of its exports to the United States. Japan sought a clear, written U.S. commitment not to impose high tariffs or restrictions on autos. However, what Japan obtained was a strong oral commitment. Lighthizer stated that it was not Trump's intention at this point to do anything on autos. Abe announced that he and Trump had agreed no further tariffs would be imposed on Japan. The Japanese chief negotiator Atsuyuki Oike also stressed this understanding.

Of course, a major concern for Japan, and indeed everyone, is Trump's tendency to sudden, unilateral actions, and of course tweets, which undermine the reliability of any agreements. Nonetheless, this new agreement, limited though it may be, is beneficial for both American and Japanese consumers. The politics are another matter—domestically considerably more of a win for Trump than for Abe.

The Economy

Japan's GDP for fiscal 2018, ending in March 2019, was ¥550.5 trillion ($5.24 trillion at 105 yen/dollar). In real terms, it increased by 0.7 percent, following the unexpectedly rapid increase in fiscal 2017 of 1.9 percent. Consumption, 55 percent of GDP, grew 0.8 percent. Investment continues to be important: the gross capital formation share increased to 24.4 percent of GDP, from 24.1 percent in fiscal 2017. Government consumption continued its stable, one-fifth share both of GDP and of gross capital formation. Japan's current account surplus, always positive reflecting Japan's high savings rate relative to domestic demand, was ¥19.2 trillion, 3.5 percent of GDP. Since imports surged, the current account surplus decreased by ¥19.3 trillion from 2017.

GDP is a measure of a country's economic power, and GDP per capita is a measure of economic well-being (the standard of living). Given Japan's population decrease, real GDP per capita increased 2.1 percent in fiscal 2017 and 1.0 percent in fiscal 2018.

The Bank of Japan (BOJ) forecasts that real GDP will grow 0.7 percent in fiscal 2019, 0.9 percent in fiscal 2020, and 1.1 in fiscal 2021. The Cabinet Office estimates 0.9 percent for 2019 and 1.2 percent for 2020. The IMF forecasts 0.9 percent in calendar year 2019, but just 0.4 percent in calendar year 2020. Private sector forecasts are a bit more cautious. This is a particularly uncertain period, since it is difficult to estimate the effects of the October 2019 consumption tax increase, the slowing world economy, Trump's protectionist policies, and the consequences of the U.S.-China trade war, among other factors.

The ongoing increase in the urban-rural divide is reflected in land prices. For Japan as a whole, land prices rose 1.3 percent in 2018, driven by strong demand for offices and hotels in major cities and tourist spots, for both Japanese and foreign tourists. Land prices increased in only 19 of Japan's 47 prefectures, they dropped in 27 rural prefectures, and were flat in Hyogo (where Kobe is the major city).

Japan has a record-breaking 8.46 million unoccupied houses. The majority (about 5 million) are in the process of being renovated for rental or sale, but 3.47 million have been abandoned, mostly in rural areas, because they have no value. Young people have been leaving small villages for decades, but their parents and grandparents stayed. Now elderly, they are dying. One estimate is that there are at least 250 hamlets where all of the residents are 75 or older. In urban areas, cheaply constructed houses whose ownership cannot be determined are simply abandoned and left to deteriorate. Municipal governments are in the slow process of taking them over and demolishing them.

Like other property, cemetery spaces are expensive. Almost all (99.9 percent) of Japanese are cremated when they die, and the ashes are put in urns. There usually is some type of funeral service. For many urban residents, family graves are far away, so family visits are expensive.

Developers in cities are now building high rise buildings (called "columbariums") to house large numbers of urns. This makes family visits easier. The columbariums have special facilities to enable a family to pay its respects to its own urns in a private booth, as well as shrines, meditation centers, and other family facilities. Small funerals for just families and friends are increasingly common in urban areas. The development of small funeral parlors is a growing niche business.

The national census for 2015 estimated that about 5.9 million people 65 or older lived alone, one of six such seniors. In a small number of cases, the ashes of such people are not claimed, either because any known family members are estranged, unwilling to take on the responsibilities of a funeral and urn storage, or there simply are no known relatives. Some cities maintain ossuaries where urns are identified by name and stored.

Some cities have centers that offer programs for elderly low-income residents with no immediate family members. Individuals sign up to pay at least a fifth of the cremation and burial costs of about $2,500, with the municipal government covering the rest.

Noteworthy Events

Japan has had a number of noteworthy events in 2019. The most important has been the imperial succession. The ongoing Ghosn-Renault-Nissan saga and negotiations are fascinating and juicy. Probably more important has been the JIC scandal. And, a tiny industry, whaling, has been subject to criticism by environmental activists, initiated by Australians.

The Emperor has scant economic or political power, but significant symbolic power, much of which is thanks to Emperor Akihito, who began his effective reign as Heisei Emperor in 1989. Popularly regarded as the people’s emperor, Emperor Akihito consoled Japanese in difficulty and expressed remorse to countries having suffered at Japan’s hand during its colonial period and World War II. He decided to abdicate due to age (he was born in 1933) and health reasons. He was finally able to do so at the end of April 2019.

He was succeeded by his son Naruhito, and the Reiwa Era has begun. Naruhito, born in February 1960, was educated in Oxford and has promised to follow his father’s approach, commitments, and style.

The abdication and the new Emperor's installation was a smooth, good process, generating some optimism about Japan’s future. In contrast, when the Showa Emperor (reigned 1926–1989) lay ill and finally died in 1989, at the age of 87, everything slowed, including the economy, as people mourned and refrained from parties and other forms of conspicuous consumption. The lesson learned: a smooth abdication is the best way to carry out Imperial succession.

The ongoing Ghosn-Nissan-Renault story embodies a complex mixture of individual and management strengths and weaknesses, the corporate culture of two major automakers: Nissan, based in Japan, and Renault, based in France; the economies of scale and specialization making their alliance so economically attractive; the evolving fitful nature of the alliance itself; and the respective roles of the French and Japanese governments. Not surprisingly, the media has focused on Carlos Ghosn’s accumulation of power and money, and his downfall. Information on his manipulative funding arrangements continues to seep out.

The Renault-Nissan relationship has evolved significantly from 1999, when Ghosn pulled Nissan back from bankruptcy and established the Renault-Nissan alliance. He had a strong desire to merge the companies but was effectively thwarted by a group of Nissan managers. Matters came to a head in 2018.

The economics of technology is a major driver of this tale. Nissan and Renault each has its own proprietary technologies. How much to share, and how to share, has been key. So, too, has been the sharing of research and development costs.

A range of different models can be built on the same platform. Originally, *platform* simply meant the chassis, but it has expanded in concept to include other components. Platform sharing reduces the number of unique parts across a company's product line, as well as the time and money that would be needed if every new vehicle had to be made using its own platform.

For several years, Nissan has done poorly in the United States and other foreign markets, and profits have dropped significantly. Nissan management continues to strongly resist Renault merger efforts, as Renault has a far larger share of Nissan's stock than Nissan has of Renault's, and the French government owns 19.7 percent of Renault SA, a further complication. The mutual lack of trust is a major challenge. It remains to be seen whether current negotiations can resolve the ownership imbalances, lack of trust, and other difficulties, despite the very strong economic incentives to work together.

The arrests and treatment of Ghosn made me more aware of those aspects of the Japanese legal system that are different from American practices, which themselves are probably not globally typical. Not surprisingly, Ghosn proclaimed his innocence. There was nothing special about being held in a small cell. However, I was shocked that, according to regular practice in Japan, he was held without bail for three months, repeatedly questioned without his lawyer present, and that one of the conditions of his eventual bail was that he have absolutely no contact or communications with his wife or his son, who are his business partners.

The Japan Investment Corporation (JIC) scandal provides important insights into the tensions between the Japanese government bureaucracy, the political leadership, and market-based senior executive compensation. On September 20, 2018, METI established the JIC as the successor to the Innovation Network Corporation of Japan (INCJ), with ¥2 trillion ($18 billion) in government funds. Its purpose was to be a globally competitive sovereign wealth fund to finance emerging technology companies, engineer M&A, and invest in major foreign technology companies.

METI recruited Masaaki Tanaka to be JIC president and CEO and appointed a board of eight other well-known outside specialists and two METI officials. Tanaka had extensive experience in global financial markets in his career with Mitsubishi UFJ Financial Group (MUFG), and as an advisor to the Financial Services Agency (FSA), other governmental agencies, and private sector business groups. METI offered him a significantly higher wage package than any Japanese official or the Bank of Japan governor.

JIC hired a Silicon Valley venture capital firm to help it invest. In November 2018, METI withdrew its salary offer to Tanaka and the other board members, saying it had made a mistake. Chief Cabinet secretary Yoshihide Suga, once he learned of the lucrative JIC salary terms, indicated it was not acceptable. METI minister Hiroshige Seko stated that "compensation at an institution that manages public money needs to be in line with what people find acceptable." Tanaka and the other JIC nongovernment board members then resigned, and JIC was in limbo. The issue was not only salary, but also the degree of JIC independence that Tanaka steadfastly assumed, which was more than the government realistically should be expected to give.

On October 4, METI filled the post of president and CEO of JIC with Keisuke Yokoo, former president of Mizuho Securities Company. Presumably, JIC will resume operations soon.

Economic policy making is fundamentally political; it benefits specific industries and workers and hurts others. There are the big stories of Trump, of China, of the international economic system. And there are smaller stories, which on occasion receive special attention. Such is the case of the Japanese government's decision to officially restart commercial hunting of whales, after having agreed in 1988 to ban whaling except for research purposes. Antiwhaling social activists in Australia and elsewhere have strongly objected.

The whaling story is a complex mixture of culture, politics, scientific research, international relations, economics, and consumer preferences. In 1951, Japan joined the International Whaling Commission (IWC), founded in 1946. In 1986, the IWC declared a moratorium on whaling except for scientific research purposes. Japan actively engaged in whale research, caught whales, and then sold the whale meat in Japan.

Japan had sought to replace the moratorium with "sustainable quotas," most recently in 2018. Rebuffed, the government decided to quit the IWC effective July 1, 2019, and, like Norway and

Iceland, among a few others, engage in commercial whaling. The now 88-member IWC is the first major international organization from which postwar Japan has withdrawn.

It is difficult to think of a more miniscule Japanese industry. Japanese whaling consists of the large whale factory ship *Nisshin Maru* and its three catcher boats, and five medium whaling boats. There are around 300 people working in the industry, including some 200 crew members.

Withdrawing from the IWC is not going to result in a frenzy of Japanese whale hunting. The Japanese authorities allowed the hunt of 630 whales in 2018. The government has moved cautiously, limiting the number of whales caught to 227 for the second half of 2019, and limiting hunting to the 200-mile maritime economic zone around Japan, a much closer and less costly location. Previously, Japanese whalers operated in Antarctic waters.

Japanese consumer demand is very low. In the early postwar years, American occupation authorities urged Japanese to eat whale as a cheap source of protein. It cost only about a quarter of the price of beef. For the next decade or so, half of all protein in the Japanese diet was whale meat and was used for school lunches. About 200,000 tons were consumed annually. Today, whale meat is only 0.1 percent of total meat consumption, and it is comparable in price to beef. For several years, annual consumption has been about 3,000 tons, of which 1,000 tons is imported. This is about 40 grams a year per capita, about the size of a slice of ham. Japan has a few restaurants specializing in whale meat; it is a small niche market.

It is not entirely clear why the government decided to withdraw from the IWC and restart commercial whaling. NHK and other opinion polls show broad Japanese support for whaling, presumably as a part of Japan’s historic culture, even though relatively few Japanese now eat whale meat. However, Japanese whalers have been able to enlist top political support: Prime Minister Abe is from Shimonoseki, a whaling port, and the LDP secretary general, Toshihiro Nikai, represents Taiji, a whaling port in Wakayama prefecture. The Fisheries Agency provides an annual subsidy to whalers of $46 million.

Whether this minuscule industry finally disappears probably depends fundamentally on the continuation of the government subsidy. It has been suggested that after three years it should be sharply reduced. With low demand, and the availability of higher-quality, less expensive whale meat imports, as the whaling ships become outmoded, they are not likely to be replaced. Yet future policy will continue to be shaped by this interesting mixture of Japanese economics, politics, and culture, and foreign environmental activist media coverage.

Productivity and Innovation

Productivity increases, the key to growth, are founded on investment, improving labor skills, new technologies, and innovation. A common metric is GDP per hour worked. For Japan, this rose 0.9 percent in 2017, but only 0.4 percent in 2018, according to OECD data. Such a measure only partially reflects the productivity of labor. On the labor-input side, this is because of differences in the personal capacities of workers, the intensity of their effort, and what they have to work with. Furthermore, wages are used to measure output, which is a problematic proxy of value in the service sector, since it employs low-wage part-time or foreign workers, underestimating output and productivity.

The OECD has identified 45 broadly defined key technologies that are expected to have significant economic (and other) impacts, some disruptive, classified into four major categories. Of these, 14 are digital technologies (the internet of things, big data analysis, robotics, blockchain, etc.); 10 are biotechnology (regenerative medicine, biochips and sensors, genomics, etc.); 7 are in advanced materials (nanomaterials, nano-devices, graphene, etc.); and 14 are in energy and environment (electric vehicles, wind turbines, carbon capture and storage, smart grids, etc.).

Japan ranks ninth in the Bloomberg 2019 innovation index, just behind the U.S. (South Korea has led the list for six years; Germany is a close second.) Japan places high in R&D expenditures and manufacturing value added, but low in productivity in services sector efficiency.

The August 2, 2019, Economic and Fiscal Policy Committee report states that firms actively pursuing artificial intelligence and training workers in tasks that cannot be readily automated are achieving significant productivity gains. The government actively promotes innovative startups and (to use the government's term) "hidden gem" small and medium enterprises (SMEs). There is a government website specifically devoted to the role of technology. The overall policy emphasis has been on the internet of things, artificial intelligence, industrial robots, regenerative medicine, and plant-based biodegradable plastics, along with a wide range of more-narrowly focused projects.

Much analysis tends to focus on innovation and new technologies, and that is appropriate. Nonetheless, some products, and their production machinery, continue in use for decades. Maintenance of such production systems requires procedures to produce replacement parts as they wear out; 3-D production addresses this. Another issue is training engineers and other skilled workers to understand and maintain older technologies, not just apply the new. Some companies, such as Nissin Electric, have developed training centers for that purpose.

For some decades, I have spent upwards of two months a year in Japan. In more recent trips, I have visited companies in various parts of Japan, usually in the company of a senior staff member of the Development Bank of Japan, with an interpreter. One thing that has impressed me is the entrepreneurship and innovativeness I encounter. (Summaries of these visits are available on the CJEB website: https://www8.gsb.columbia.edu/cjeb/research/companyreports.)

The Corporate Sector

As in other market economies, Japan's industrial organization is based on corporate enterprises. They provide four-fifths of the jobs and most of the output. The main exception is agriculture, with its 5.9 million individual proprietorships, and some professional services.

Japan has some 988,000 incorporated business enterprises. Almost all are small, typically family-owned, with a paid-in capital of 10 to 100 million yen. While some are barely profitable or even close to bankruptcy, most are a fundamental strength of the Japanese economy. Virtually every Japanese city has locally well-known, small, but strong local companies. Some provide local banking or financial, retail, and other services; yet others produce a highly specialized, specific component that has global reach and market share. It is difficult to assess the contributions of these enterprises. They understate profits, and of course companies in difficulty do their best to prevent adverse information leakage.

Much more information is available on listed companies, particularly the 2,155 trading on the first section of the Tokyo Stock Exchange. They have to make public a great deal of information.

One enduring, key feature is the stereotypical employment system, which is still pretty much the case. Large firms seek to hire the best graduates of the major universities, and in due course promote them based on seniority and merit, winnowing down those who become top management, ultimately president and CEO, and internal members of the company's board of directors. The result is a deeply and strongly entrenched management, often involving several competing cliques.

Japanese companies have accumulated immense financial resources from retained earnings: ¥463.13 trillion (March 2019), a record for the seventh consecutive year. Listed companies hold even more than that in cash: ¥506.4 trillion ($4.82 trillion at 105 yen/dollar) as of their latest filings. This is the highest level on record, according to data compiled by Bloomberg, and is more than three times the March 2013 level.

This risk-averse behavior protects management from periods of potential adversity, but it is wasteful, particularly given Japan's zero interest rate policy. Companies are using these surplus funds to buy back shares, increase diversity, and to engage in M&A, though not in sufficient amounts to diminish the cash surpluses.

Implementation of corporate governance and stewardship codes is a continuing process. While some companies are actively pursuing reforms, management in most companies is moving slowly. Almost all companies listed on the Tokyo Stock Exchange, particularly the JPX Nikkei 400 companies, have two outside directors. An FSA October 2018 survey found that more than 100 institutional investors, a major increase, disclose their voting on individual agenda items at company annual meetings. Virtually all public pension funds have signed the stewardship code, though corporate pension funds have been slow to do so.

Since passive investment funds select companies based in stock indices, they do not engage with individual companies to improve their long-term performance. Some activist investors focus on long-term performance, though others push for changes that have quick results.

M&A in Japan is still modest but is increasing. Most are in practice acquisitions, since one company and its management dominates the other. Most transactions are friendly, or at least not overtly hostile. Much activity is by major conglomerates such as Panasonic, Hitachi, and Toshiba, disposing of units and subsidiaries that are not part of the core of the company. Well-known foreign expert investors such as KKR and Bain are actively seeking such opportunities, as are Japanese private equity and venture capital firms such as Japan Industrial Partners.

Hostile takeover bids remain uncommon, but there are some interesting new cases. They often invoke complicated interactions among majority shareholders, minority shareholders, and company management. The months-long Itochu Trading Company quest for sporting goods company Descente received considerable media coverage, even outside Japan. Itochu, already the largest shareholder with about 30 percent, wanted to regain control of Descente. From 1994, Itochu had appointed Descente's president. Then, in 2013, a founding family member became president and sought greater independence. A January 2019 tender offer at a 50 percent premium to the pre-bid share price allowed Itochu to increase its ownership share to 40 percent, sufficient to veto major management decisions. In March, Itochu took control and appointed its own staff member as Descente president. Several other hostile bids are in the works in early fall 2019.

Labor

As of July 2019, Japan's labor force was 68.9 million, of whom 67.3 million members were working, primarily as business or government employees. The unemployment rate was an unprecedentedly low 2.3 percent. Males in the labor force numbered 38.3 million, with 97.6 percent employed; females in the labor force were 30 million, with 97.9 percent employed. The vast majority (80 percent) were employees working for companies; 8.0 percent were in the government sector; and 9.7 percent were self-employed or family workers.

The number of job openings has been greater than job seekers since 2014, and the gap has widened. Increases in the supply of workers, despite the demographic transition, has come from three main sources: married women reentering the labor force, elderly people continuing to work, and the acceptance of a modest number of foreign workers. At one time Japan had a relatively low participation rate for married women, but the rate is now higher than in the United States. Also, a higher percentage of Japanese over 65 continue to work than in the United States.

Ongoing labor shortages in almost all fields are bringing about all kinds of adjustments, including an explicit policy to provide work visas for some 340,000 foreign workers over the next five years.

An important distinction is between regular employees, who in principle have long-term jobs, and nonregular employees, who have limited-term contracts or part-time jobs. Some 76.8 percent of male employees (30.5 million) are regular employees, but only 44.6 percent of female employees (26.5 million). Only 15.4 percent of the male employees are part-time, compared to 43.7 percent of female employees. Small firms (less than 30 employees) employ 24.6 percent of male employees and 27.3 percent of female employees. Some 31.8 percent of male employees and 27.9 percent of female ones comprise the 18.1 million (30 percent) who work at large firms (500 employees or more).

In January 2019, a government wage data scandal erupted. The Ministry of Health, Labour, and Welfare is required to survey virtually all companies with more than 500 employees to obtain wage data, which are used for estimating government benefit programs. However, the Ministry had only surveyed about a third of Tokyo-area large businesses between 2004 and 2017. Since large companies have higher wages than smaller ones, this undercounting reduced national wage estimates. One consequence is that the government has failed to pay tens of billions of yen (several hundred million dollars) in unemployment insurance and similar benefits, according to an internal investigation.

One major long-run change in Japan is the role of women in the economy and in society. Japan has long been male-dominated economically, politically, behaviorally, and institutionally. The increase in female participation in the wage-earning labor force has helped change this. So, too, have improvements in educational opportunities, the 2018 scandal over major medical schools discriminating against women taking the entrance exam notwithstanding. In 2016, women accounted for just 21.1 percent of all doctors in Japan, the lowest level among OECD nations.

As in most advanced economies, the wage differences between Japanese males and females doing the same work are relatively small. However, because 76.8 percent of men have full-time regular positions, but only 46.1 percent of women do, men as a group on average earn about 25 percent more than women. This reflects the fact that regular workers receive higher wages and fringe benefits than nonregular workers, especially part-time ones.

Women have family responsibilities to care for their parents and, since most are married, care for their children and their husband’s parents. This constrains working hours, which makes part-time work attractive, but it consigns women to low-paying jobs.

The Abe administration has passed policies to encourage more women to enter the labor force, including investment in nurseries and other child care facilities. However, it has focused less on encouraging promotion of women to managerial positions, a significant problem in the private sector as well as the public sector. For example, only about 10 percent of Diet members are women, a smaller share than in Iraq.

Importantly, the fundamentals of the work-life balance environment are gradually changing, generationally and institutionally. Men working long hours into late evening, and overtime, have been decreasing. Many young married men return to home for dinner, and many married working women go home to prepare for dinner and take care of their children. The Abe administration on female employment—womenomics—is promoting these work-life recalibrations.

Another work-life issue is the reality that most Japanese will live 20 to 30 years after retirement. The government is encouraging larger companies to postpone retirement to 70, significantly higher than current retirement ages, which are in the mid-50s, and to 65 or so for smaller companies. Ending formal retirement ages is probably desirable, but institutionally and financially difficult for employers.

One of the biggest challenges from Japan's demographic transition is how to finance the costs of maintaining the existing standard of living for Japan's future elderly. The national pension is ¥788,000 a year ($7,430) for those who contribute the required monthly contribution (currently ¥16,430) for 40 working years. The FSA has estimated that couples will need to have assets of an additional ¥20 million, and that they should be invested, some in stocks and other more high-risk assets. In the longer run, the government will have to find a compromise package of higher taxes and lower welfare payments. It will take extraordinary political leadership to achieve this.

The government has pursued a strict policy limiting the acceptance of foreigners as workers in Japan, except for a few thousand highly-skilled foreigners recruited for special positions. Foreign workers come in a variety of ways: as trainees, as students allowed to work 28 hours per week, and as tourists and former students who overstay visas. A separate category is designed to attract the descendants of Japanese emigrants, in part to nurture relations of foreign Japanese-descendant communities in other countries with Japan.

In 1990, Japan revised its immigration laws to grant second and third generations of foreign citizens of Japanese ancestry special access to the Japanese labor market. As a consequence, Japanese-Brazilian workers in particular were attracted to Japan, reaching a peak of 310,358 in 2007. When the 2008 financial crisis hit Japan, the government provided foreign workers incentives to leave. By the end of 2017, Japanese-Brazilians in Japan had decreased to about 190,000.

In late March 2018, the government announced a program to attract fourth-generation emigrants to work in Japan for up to five years under a preferential visa program. They must have basic Japanese language skills, and cannot bring family members. The government expected to attract about 4,000 workers. As of late June 2019, only 43 applicants had been accepted. One problem is that not many fourth-generation Japanese descendants in foreign countries know enough Japanese to pass the language test.

Macroeconomic Policy

The fundamental rule of monetary policy and fiscal policy is to maintain price stability and full-employment levels of aggregate demand. In Japan, as in other advanced countries, for some years monetary policy has been very easy, with low interest rates, and the government has run a budget deficit, providing demand stimulus. Japanese fiscal and monetary policies generally work in tandem, with good communication between both sets of policymakers, but certainly not as a coordinated unit, as evidenced by the consumption tax increase in October 2019 to 10 percent, and the inability so far of the BOJ to achieve its 2 percent CPI increase target, first set in January 2013.

Modern monetary theory (MMT) has been actively discussed by policymakers, as well as academics. The basic proposition of MMT is that the government can spend unlimited local currency amounts, financed by purchases of its bond issues by the central bank, with no limit on domestic money supply because there is no risk of default, until the inflation target is reached.

This way of thinking has correctly been strongly rejected both by BOJ governor Haruhiko Kuroda and senior MOF officials. BOJ continues its policy of extraordinarily low interest rates and yield curve control, with its official short-term rate of minus 0.1 percent, and a 10-year Japanese Government Bond (JGB) yield of zero. The policy has been managed well but still is far from achieving the 2 percent CPI annual increase target. This will not be achieved anytime soon. With the Japanese economic performance slowing, the BOJ policy remained on hold in its September 2019 meeting, and Governor Kuroda has indicated further easing steps may be taken in the coming months if needed.

However, the easy money, zero interest rate policy has not been, is not, and will not be sufficient to achieve full-employment domestic demand growth. The government is dealing with the increase in the consumption tax to 10 percent by implementing a somewhat complex mixture of expectations, guarantees, and incentives to offset the immediate effect on consumption and on expectations. The longer-run effects of the tax increase are unclear. While the government has long touted fiscal reform and eventually eliminating the budget primary deficit, the realistic need to stimulate demand has trumped such MOF goals. Japan has run budget primary deficits for more than 20 years without significant deleterious effects. I expect this to continue indefinitely.

So long as interest rates are below the GDP growth rate, a primary deficit is not a major economic or fiscal problem. Olivier Blanchard and Takeshi Tashiro, in a May 2019 PIIE policy brief, argue that Japan should continue to run a modest budget primary deficit in order to sustain sufficient aggregate demand. Their analysis does not hold if Japanese interest rates rise significantly, but such interest rate increases would be in response to changes in positive economic fundamentals such as a surge in Japanese private investment or a major decrease in private saving.

What the government spends on is a different, important issue. The challenge is how to sustain the standard of living of Japan's elderly poor through welfare expenditures, as the proportion of elderly retirees increases and the proportion of younger taxpayers decreases.

The Financial Sector

Japan has a well-developed, market-oriented financial system that continues to be bank based, but with increasingly active, important financial markets. Financial technology continues to change profoundly, from ATMs to FinTech to cyber currency. The financial system has had to adjust to two profound changes: the demographic transition to fewer and older people, and directly to the BoJ's extraordinarily low interest rate policy and its huge purchases of JGBs.

The seven major banks, including the three megabanks, have shifted their business model from loans and deposits to focusing on asset wealth management and other financial services, and actively entering foreign markets by investing in foreign bonds and lending abroad, particularly to the foreign branches or subdivisions of their large Japanese corporate clients. Even so, the banks are in the process of substantially reducing employees, and their profits are down significantly.

Many regional banks have serious problems. With only a few exceptions, they are not big enough, and do not know enough, to operate well in foreign markets. However, they are important in Japan. Three-fourths of Japanese companies rely on a local financial institution as their main transactions bank.

While the sustained low interest rate policy has benefited business borrowers and residential home owners having mortgages, it has been costly for financial institutions.

Although some regional banks, usually the larger ones in larger cities, are in reasonably good shape, most have severe problems, particularly in regions with significant declining populations. Regional bank difficulties are well known and are reflected in the market price of their shares: 83 of 87 listed banks have a price-to-book ratio (PBR) of 0.4 or lower. The spread between lending and deposit rates had fallen to 1.1 percent point by 2017, and even less subsequently. In their March 2019 fiscal year-end reports, profits decreased in about 70 percent of 78 regional banks and their holding groups, and three suffered losses. For some banks, reported profits were increased by capital gains from sales of JGBs, purchased earlier with a positive interest rate. The BOJ has estimated that 60 percent of regional banks will be having losses within the coming 10 years.

Regional banks also are shifting their business models from traditional lending-oriented to a broader range of financial services, but it is a slow, difficult process. The FSA is encouraging regional financial institutions to merge and is supporting the Regional Bank Association request that the current 5 percent limit on ownership of the stock of a corporate client be significantly liberalized, so banks can earn capital gains on successful local companies they know well.

The future does not look good for many regional banks. Their economic environments suffer from an aging and declining population, loss of young people, and local SMEs closing. Interest rates will not rise significantly in the foreseeable future. First-tier banks will survive, but many second-tier banks will be absorbed by other financial institutions. Regional financial institution group alliances are one way to keep regional banks alive and well. A hopeful harbinger is the SBI Holdings announcement in late September 2019 that it will invest in Shimane Bank in the wake of Shimane’s losses on its securities portfolio, but it will take time to determine if its approach succeeds.

Energy

Energy has long been Japan's greatest economic vulnerability. It has to import all its oil and natural gas, and most of its coal; these comprise about 90 percent of Japan's total energy sources. Their world market prices are volatile. As of 2016, 35 percent of Japan's energy consumption was for cooling, heating, and lighting buildings and houses, 28 percent for industry, and 24 percent for cars, trucks, railroads, and other forms of transport. Some 42 percent of primary energy consumption was oil, 27 percent coal, and 24 percent natural gas. The other sources were small: biomass 3.2 percent, hydro 1.6 percent, solar and wind 1.2 percent, nuclear 1.1 percent, and geothermal 0.5 percent.

Technology is changing rapidly, and so are costs. The government encourages solar and wind sources, and the development not only of rechargeable lithium-ion batteries, but also alternative energy storage systems such as Molten Salt TET and ice thermal storage.

Electricity generation, mainly by electric power utilities, is key. Given the long life of existing facilities and the flattening of electricity consumption, the sources of electricity generation change slowly. In 2019, LNG produced 40 percent of electric power generation, coal 28 percent, and oil 2 percent. Solar, air, and biomass generate 10 percent of electricity, hydro 9 percent, and nuclear 6 percent.

Government energy policy is broad based and focuses on helping develop new technologies, thereby reducing costs, in renewables, as well as electric vehicle efficiency.

An unresolved issue is what to do about nuclear power. Nine of Japan's nuclear power plants have been reopened in 2019, but one then closed because its counter-terrorism facilities were deemed inadequate. Another five or so are scheduled to be reopened in 2020. However, Shinjiro Koizumi, the politically popular new minister of the environment, in September 2019 announced he wants to close all the nuclear power plants, and presumably not build any new ones. This is in contrast to the 2018 report of the Japan Institute of Energy Economics that in 2050 nuclear power will provide 16 percent of Japan's primary energy consumption and generate 20 percent of its electricity.

I am always fascinated by tidbits. For example, electricity, called regenerative power, is generated by vehicles motors, notably railway and subway trains, when the vehicle hits its brakes. This is a clean, inexpensive source of electricity, but it requires an inverter to convert the regenerative power from DC to AC electricity to use on the grid. Meidensha Corporation has developed and uses an electrochemical double-layer capacitor (EDLC) to store electricity better than an ion-lithium battery in that it can recharge rapidly and repeatedly and has a long operating life.

Japan has at least two energy dilemmas. One is that coal is cheap but "dirty" (CO_2, methane, and other pollutants). Japanese companies have developed ways to increase coal efficiency and in storing CO_2. BloombergNEF reports that Japan will add 10 gigawatts of coal-fired electricity over the next five years, making coal's share of energy 36 percent by 2024. Natural gas now and renewables in the eventual future will replace coal, but it will probably be a long, slow process.

The equally important dilemma is what to do about nuclear power. The immediate issue is how many closed plants to reopen. The long-run issue is whether to continue to develop and use new, efficient, presumably very safe nuclear power plants to generate electricity.

Conclusion

The world, is in the midst of its fourth industrial revolution, as digital and other new technologies drive the global economy. Opportunities and challenges are arising. Importantly, although essentially everyone is benefiting in some way, the gulf between those at the top and bottom has widened. This necessitates ameliorative government and sound policies. One surprise is that measured productivity growth has continued to slow. I expect productivity growth to rise as new technologies are more widely used.

While in many respects ours is a turbulent world, Japan has a stable, strong, well-performing economy in a politically stable, pragmatically flexible, culturally homogeneous society. Japanese are well-educated, skilled, hardworking, and diligent. The country has achieved a high level of civilian technology. It has a large capital stock: housing, office buildings, factories, roads and other infrastructure. And it has strong economic, social, and other institutions. In these respects Japan is similar to the advanced Western European nations. It has both its own specific problems and challenges, and those that other developed countries also have to deal with.

Japan is an outlier, and a leader, in the process of adaption to a decreasing and aging population. At some point, Japan eventually will have to decide how to halt population decrease, but the decision will not be made soon.

We need to change our way of thinking about a country's economic performance from total GDP to GDP per capita. In terms of economic welfare, maintaining and increasing the standard of living is key. The simplest, though not adequate, measure is GDP per capita. That depends on output per worker per hour. So Japan's future total GDP may be flat, or even slightly declining, but the standard of living can be stable or continue to increase. Of course well-being is generated by many social and personal factors as well as economic, and GDP per capita only approximately measures economic well-being.

Japanese will live longer and better lives, particularly because of ongoing major improvements in medical technology and health care, as well as all of the new technologies and other innovations that will continue to drive its economy. I am optimistic that Japan will deal reasonably well with the challenges it faces at home, and in a turbulent world.