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Japan's Economy: Stable, with Modest Sustained Change

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COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK

Japan's Economy: Stable, with Sustained Modest Change*

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Abstract

Overall, the Japanese economy continues to do well, despite a blip in the first quarter of 2018. There have been no big domestic surprises, and none are likely. In 2017, GDP increased 1.7 percent, greater than estimated potential or projected. GNP per capita, in some ways a better measure than GDP growth since Japan's population is declining, increased by almost 1.9 percent. Unemployment continued to decline to 2.5 percent in July. Deflation has ended, but the major macroeconomic shortfall is that the 2 percent consumer price index (CPI) annual increase target has not been achieved. And it is not likely to be achieved any time soon. At the macro level, improvement is incremental and gradual. Indeed, this reads very much like my essay a year ago.

Update: May 2019

This is an update as of early May 2019 of my annual essay on the Japanese economy, published in October 2018.

The most important point is that Japan fundamentally continues along its stable path of

* Japan produces 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, and the Bank of Japan. The World Bank, the International Monetary Fund, 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.

adjustment and change with no significant disruptions or changes. The macroeconomic situation is very good: full employment, modest growth in GDP/capita, price stability (no deflation but the CPI 2 percent annual increase target will not be achieved soon). Ongoing change is occurring everywhere – notably in the labor and financial markets – but it is generally quiet and not very disruptive. Japan is engaged in two major structural transformations: a declining and aging population, and improvements in the hard-working, gender-discriminating work-life balance.

Japan has to deal with soon two fundamental economic issues: Trump's trade policy as reflected in current U.S.-Japan trade negotiations, and the efforts of the increase in the consumption tax from 8 to 10 percent in October.

Internationally Japan has problems with four countries: its deepest ally the United States; an increasingly strong China; a challenging North Korea; and South Korea, which is worth a paper of its own.

Original text: October 2018

Japan is a safe, comfortable, well-to-do, peaceful democracy with a homogenous, socially cohesive society. Domestically, it is socially, politically, and economically stable. In an uncertain world, it is a safe haven in which to hold assets. Prime minister since 2012, Shinzo Abe was reelected president of the Liberal Democratic Party on September 20 and will continue in office until after the 2020 summer Olympics in Tokyo. The opposition parties, in shreds, are having a difficult time rejuvenating themselves.

Overall, the Japanese economy continues to do well, despite a blip in the first quarter of 2018. There have been no big domestic surprises, and none are likely. In 2017, GDP increased 1.7 percent, greater than estimated potential or projected. GNP per capita, in some ways a better measure than GDP growth since Japan's population is declining, increased by almost 1.9 percent. Unemployment continued to decline to 2.5 percent in July. Deflation has ended, but the major macroeconomic shortfall is that the 2 percent consumer price index (CPI) annual increase target has not been achieved. And it is not likely to be achieved any time soon. At the macro level, improvement is incremental and gradual. Indeed, this reads very much like my essay a year ago.

Japan continues its long-run transformation, which is driven by two major forces. One is demographics. Japan's aging and decreasing population and labor force are ongoing and predictable; Japanese live longer and better. The other is Japan's active participation in the ongoing global technological change that has been dubbed the "Fourth Industrial Revolution." Characterized by a fusion of technologies that is blurring the lines between the physical, digital, and biological spheres, it builds and extends the impact of digitization in new and unanticipated ways.

Japan has to deal with many of the same structural economic issues as other advanced countries, including rural decline, work-life balance, significant income inequality, and persistent poverty for some 15 percent of its people. Two notable economic issues are the role of and discrimination against women, and the lagging increases in regular worker wages despite labor market tightening. An ongoing concern is that gross government debt is 253 percent of GDP, uniquely high among advanced countries. However, much is held by Japanese government institutions, so the net debt is nonetheless a relatively high 130 percent of GDP; it is mostly held by the Japanese private sector.

Japan is the world's third largest economy, after the United States and China, with a per capita GDP in 2017 of $43,876, about the middle of the advanced OECD economies. This is 74 percent of the U.S. level and 87 percent of Germany's. Japan is the world's second largest investor, with foreign assets of $2.98 trillion (at 110 yen per dollar). In contrast, the U.S. is the world's largest net debtor, at $8.05 trillion.

Japan now has had leadership thrust upon it for regional trading agreements with Asia and Europe. Japan is relatively predictable; the world is much less so, particularly regarding geopolitical and national security matters. The ongoing rise of China is both a challenge and an opportunity. North Korea's nuclear weapons and missiles are a newer challenge. For its security Japan depends basically on the U.S.-Japan Security Treaty and its close alliance with the U.S., and on its Self-Defense Forces. Japan now faces a major challenge from its closest ally and friend, the United States. U.S. president Donald Trump has embarked on a foreign policy that assails the market-oriented, rules-based international economic order dominant since World War II, attacking regional trade agreements in which Japan plays a major role, and applying tariffs against trading partners with which the U.S. has a bilateral trade deficit. The U.S.'s second-largest trade deficit is with Japan.

The International Context

Despite ongoing issues and challenges, the world economy is doing quite well, with a general improvement in the global economic outlook. This has been in large part because countries, despite political difficulties and tensions, have adhered pretty well to the rules-based, market-oriented WTO system and norms for international economic relations.

The global economy continued to achieve healthy, better-than-expected GDP growth of 3.1 percent in 2017 and possibly better in 2018, according to the June 2018 World Bank forecast.
Growth is expected to slow to 3.0 percent in 2019 and to 2.9 percent in 2020. Almost every country has achieved, and will continue to achieve, increases in real GDP. As labor and other resources become more fully utilized, world growth will gradually slow, but it is forecast to be about 2.5 percent 10 years from now. However, real wages have been relatively stagnant in the advanced countries and have lagged behind increases in productivity, increasing income inequality. This, and the continuation of low interest rates, suggests remaining labor slack as potential workers reenter the labor force. Japan is an outstanding example of these trends. This disjunction in East Asia between good economic growth and ongoing political challenges, both domestic and international, is noteworthy.

East Asia, excluding Japan, is the most rapidly growing region in the world, at about 6 percent annually, led by China and Indonesia. China's GDP grew 6.9 percent in 2017, is slowing gradually but, will probably be better than 6 percent annually for the next several years. A major long-run challenge for Japan, the U.S., and indeed everyone, is how to deal with China, both as an aspiring regional hegemon and as a global economic competitor in trade and foreign direct investment. Increasing access to China's restricted domestic markets provides opportunities.

With good growth and trade, some commodity prices have increased, but inflation is not a global problem. Crude oil prices, a significant indicator substantively and symbolically, rose 6.5 percent in the first half of 2018, averaging $65 per barrel. The World Bank forecasts $69 per barrel in 2019. Other commodities are relatively stable, too. Still, all sorts of events can undermine these and other forecasts.

It is important to focus on the Trump administration's policies and actions and not become sidetracked by Trump's tweeting and rhetoric. It is incorrect to think of Trump simply as an idiosyncratic, unique phenomenon. He was elected because his anti-free trade, anti-Washington establishment, anti-diversity, anti-immigrant views are supported by many Americans. Many feel the benefits of U.S. global leadership do not outweigh the costs. This is a difficult reality that everyone has to deal with.

Trump's policies, in attacking open trade, multilateral trade agreements, the WTO, and other international institutions, are a mistake. His strategy is to force trade concessions country by country, by unilateral impositions of tariffs on substantial imports, starting with 25 percent on steel imports and 10 percent on aluminum based on the Section 232 national security clause, and by direct bilateral negotiations with allies, as well as with China.

Trump's major instrumental economic goal is to reduce the U.S. trade deficit to zero, even though it is a reasonable 2.5 percent of GDP, down from a peak of 5.8 percent in 2006. The dollar is the major international currency, so the U.S. needs to run modest current account deficits (goods and services) in its balance of payments in order to supply the international financial system the dollars needed to finance trade and foreign direct investment (FDI).

Bilateral trade balances are a bad objective; in an effective international trading system, countries desirably will have trade deficits with some countries and surpluses with others.

Trump apparently narrowly evaluates the effectiveness of his trade policy. He considers himself a winner in negotiations with South Korea, the European Union, Mexico, and Canada—all have made modest concessions.

The rules-based international economic system does need updating, particularly in light of digital technology and e-commerce, but it is basically sound. Trump's attacks are undermining it, and in the process they are calling into question the reliability and vitality of U.S. leadership of the international economic order. While the direct effects of the U.S. tariffs so far are not severe, if they are applied to automobiles and auto parts, the adverse consequences will be major. Not only will trade be directly affected, but currently good international production supply chains will be restructured in less efficient ways.

Trump has importantly pursued his bilateral approach in developing new negotiations with China and, separately but interestingly, with North Korea. The Trump-Kim meeting in Singapore in June has broken the long stalemate in U.S.-North Korean relations, with the possibility of eventual North Korean denuclearization, its focus on economic development, and the ending of U.S., Japanese, and other sanctions in North Korean trade and economic interactions. However, I do not expect significant results from the off-and-on discussion anytime soon, if at all.

The evolving U.S.-China relationship is the most important issue, not only for both countries, but for Japan and the global order as well. China is the globe's rising superpower, with an authoritarian political system, and a protected domestic economy. The ways in which China obtains foreign commercial technology is a major issue. One way is simply theft without compensation; that is subject to legal and other proceedings. More important for firms doing business with and investing in China are requirements that they have Chinese corporate partners with which they must share valuable technology. Trump has focused on the reality that by far the biggest U.S. bilateral trade deficit is with China, some $375.4 billion in 2017. Trump has imposed 25 percent tariffs on $50 billion of imports from China, based on intellectual property violations. Starting on September 24, Trump directed the United States Trade Representative to impose a 10 percent tariff on a further $200 billion of imports from China, and to increase it to 25 percent beginning January 1, 2019. If China retaliates, the U.S. will impose tariffs on a further $269 billion of imports from China. China has retaliated, but U.S. imports from China in 2017 of $505.5 billion are almost four times as much as China's $129.9 billion imports from the United States. This is the world's biggest trade issue in late 2018. These skirmishes could lead to a trade war.

U.S.-Japan Economic Relations

Prime Minister Abe and President Trump met on September 27, 2018, and agreed to enter negotiations for a United States-Japan Trade Agreement. This was a major change. For two years the U.S. had pressed for a bilateral agreement and Japan had strongly resisted, pursuing its multilateral policy. Trump's threat to impose tariffs on imports of Japanese motor vehicles apparently carried the day. Ongoing negotiations have now entered a new phase, as they continue at the highest bureaucratic level, with U.S. Trade Representative Robert Lighthizer and Japanese Economic Revitalization Minister Toshimitsu Motegi handling this negotiation. The U.S.-Japan Economic Council committee meets regularly with its Japanese business counterpart, the Japan.-U.S. Economic Council.

Trump's international economic policies have put Japan in a bind and have created new opportunities and responsibilities as well. For its security, Japan relies on its tight alliance with the U.S. It has little to contribute independently to security in East Asia, even though it is a major economic player. This will not change significantly, even if Abe succeeds in revising Article 9 of the Japanese Constitution. The U.S.-Japan relationship is multidimensional, close, strong, very good, and taken for granted by both countries. The U.S.-Japan Security Treaty is the foundation of the alliance.. Most media coverage focuses on official bilateral economic negotiations.

Japan is America's third largest trading partner. The U.S. is Japan's second largest, after China. Japanese company direct investments in the U.S. totaled $449 billion as of 2017, and Japanese asset managers hold much more in American financial assets. And American institutions are major holders of Japanese stock and other financial assets, though it is difficult to estimate the actual amounts. In 2017 about 3.8 million Japanese visited the U.S. (including 1.5 million going to Hawaii) as tourists or for business reasons, and 1.4 million U.S. residents visited Japan. Americans and Japanese are friendly with each other.

Abe has assiduously developed a good personal relationship with Trump, with regular meetings and frequent phone calls. Nonetheless, Abe's September 27 capitulation to open bilateral trade negotiations casts their relationship in a new light. Until now, much has apparently been on security issues, particularly maintaining sanctions against North Korea. In addition to North Korean denuclearization, in their discussions, Abe has succeeded in obtaining Trump's support for Abe's politically important North Korean abductee issue.

In the 1970s and 1980s, 17 or so Japanese were abducted from Japan by North Korea, as admitted by North Korea's premier Kim Jong-Il in 2002. Five were soon returned; Kim stated the other 12 were deceased, but without further information or return of remains. In his last election campaign, Abe stated that North Korea should carry out a fully transparent resolution of the fate of these abductees. Abe then succeeded in having Trump announce in June that North Korea should fully address the abductees issue. It is not clear how the issue can be resolved to Japan's satisfaction. One proposal is for a delegation of Japanese officials to conduct a fact-finding mission in North Korea. This complicates Japan's participation in the U.S.-led regional negotiations to denuclearize North Korea.

At their summit meeting in April, Abe and Trump agreed to hold new high-level discussions on trade. To the surprise of its negotiators, Japan was included in the group of countries subject to the U.S. steel and aluminum tariffs. They apparently believed the good Abe-Trump relationship would offset Trump's focus on the trade deficit. American companies hurt by tariff-induced rising costs can appeal for exceptions, and on June 20 the Commerce Department exempted some limited Japanese steel products from the tariffs at the request of seven American company users.

Beef is a good example of the specifics of U.S.-Japan trade negotiations. Japanese consumption of beef is increasing about 6 percent a year, as incomes rise and tastes evolve. Japanese farmers produce about 40 percent of this, but the share and amount will continue to decline as elderly farmers retire and domestic herds shrink. Australia provided about 32 percent and the U.S. 25 percent of Japanese beef consumption in 2017. Japan is the largest importer of U.S. beef. However, with the U.S. withdrawal from TPP, the current import tariff of 38.5 percent will continue, while Australia's membership in CPTPP means that Japan's tariff on Australian beef will very gradually decrease to 9 percent. Moreover, in retaliation against U.S. protectionist tariff measures, China and Canada have imposed additional tariffs on U.S. beef. Trump is trying to mollify the dissatisfaction of U.S. beef producers by providing up to $12 billion in aid to farmers hit by retaliatory tariffs.

Free Trade Agreements

Free trade agreements (FTAs) reduce tariffs and other import barriers but do not eliminate them. They typically embody a wide range of regulatory rules and harmonization efforts to reduce trade costs, including intellectual property rights, dispute settlement mechanisms, labor standards, health and safety rules, and direct investment measures. To a considerable degree, they reflect the interests of multilateral organizations, large pharmaceutical companies and other intellectual property owners (especially “content providers” and entertainment-related firms), international financial institutions, and other powerful organizations.

On net balance, most trade agreements are good—they enhance the welfare of the participating countries. However, Trump champions an extreme version of “fair trade,” deeming existing trade agreements to be bad and thus to be done away with. This is not surprising, given his strong preference for bilateral trade negotiations and deals, exemplified by his withdrawal of the United States from the TPP agreement as one of his first acts as president, and now the bilateral trade negotiations.

Trump’s withdrawal from TPP (originally the 12-member Trans-Pacific Partnership) put Japan in a bind. Despite its large share of world trade, Japan has not been a “leader.” Now, from being a somewhat reluctant late member of TPP-12, Japan has been suddenly called on to take leadership of the partnership. In March, the remaining 11 members agreed to continue as the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP). Two-thirds of the CPTPP’s 30 chapters are identical to TPP, but 22 provisions that were important primarily to the U.S. were suspended or changed. On July 6, Japan became the second country to ratify CPTPP; once six members do so, the agreement will go into effect, presumably in early 2019. A major objective of Japan is to persuade the U.S. to rejoin. That is unlikely under the Trump administration.

The CPTPP partners are interested in accepting new members, not just other Asian countries, but also from elsewhere. Japan has welcomed the United Kingdom, which has expressed its desire to become a member; that presumably would take place only after the Brexit process is worked out.

In reaction to Trump's trade policy, the Abe administration's trade negotiations with the European Union took on a new importance and urgency. On July 17, Japan signed the Japan-EU Economic Partnership Agreement, which eliminates most tariffs, including Japanese tariffs on European cheese, wine, and several other agricultural products. The EU eliminated its import tariffs on Japanese automobiles and reduced tariffs on auto parts to 3 percent. At the signing ceremony in Tokyo Abe stressed the role of Japan and the EU as "champions of free trade at a time when protectionism has spread," a nice dig at U.S. protectionist policies.

The U.S. withdrawal from TPP has given new impetus for Japan to take an active role in negotiating the ASEAN-initiated, rules-based Regional Comprehensive Economic Partnership (RCEP). The 16 members of RCEP importantly include China, India, and South Korea, in addition to the 10 Southeast Asian nations, Australia, and New Zealand. RCEP is less stringent than the CPTPP and focuses more narrowly on market access and rules for trade, excluding CPTPP's standards on labor and environmental protection. RCEP negotiations have been bumpy, with no settlement since discussions first began in 2011. The policy positions reflect the overwhelming diversity of policies among its members. Australia and New Zealand propose high levels of liberalization; India strongly opposes. As the two leaders, Japan and China will have to work together to support RCEP. The ASEAN members are also pushing for acceptance as one means of holding ASEAN together.

The Economy

Japan's GDP for fiscal 2017 was ¥548.7 trillion ($4,988 billion at 110 yen/dollar). The share of consumption in GDP continued to decrease slightly to 55.4 percent from its 59.1 percent peak in 2013. Led by the private sector, investment continues to be important; the gross fixed capital formation share was 24.1 percent, having changed little over the past decade. And Japan is an even greater net saver, providing 4.0 percent of its GDP in 2017 to the rest of the world in loans and investments. Japan has persistently run a current account surplus, supported by the substantial increase in dividends and interest from its foreign assets. Japan is the world's largest holder of net foreign assets at $3 trillion, making the government's official foreign exchange reserves $1.259 trillion.

After eight quarters of real GDP growth, in the first quarter of 2018, a slump in personal consumption and housing investment resulted in a decline of 0.9 percent in GDP (seasonally adjusted annual rate), because of heavy snows, slower housing investment, and initial consumer reactions to business efforts to raise prices. This decline occurred despite small increases in business investment and government demand, and a rise in exports and the balance of payments current account surplus. The second quarter performance, however, did even better than expected, suggesting the first quarter was only a one-quarter blip. GDP grew at 1.9 percent in the April-June quarter, led by a 2.8 percent increase in consumption and 5.2 percent in business investment.

Demography, urbanization, and evolving values have substantially changed the way Japanese live. Of the 53.3 million households in 2015, 28.9 percent were married with children, down from 37.3 percent in 1990; 20.1 percent were married couples without children, up from 15.5 percent; 7.6 percent were mothers with children, up from 5.7; and 34.6 percent were one-person households, up from 23.1 percent. One of the biggest changes is that more married women have been reentering the labor force, hiring domestics, and relying a bit on husbands, a significant lifestyle change in more highly educated, better-off families.

Nature mostly is kind, but in summer 2018 it was unkind to Japan, with earthquakes, typhoons, and bad weather. In early July, western Japan was flooded by unprecedented torrential rains, causing major landslides and killing 225 people, and had significant household and infrastructure damage. It was the worst weather disaster in 36 years. That disaster was followed by a deadly record-high heat wave lasting for several weeks, which caused about 160 deaths, particularly of older Japanese. Electricity prices shot up because air conditioning is now common, and thousands were taken to hospitals for heat-related reasons. On September 4, Typhoon Jebi hit western Japan, with high winds and further flooding, including the Kansai International Airport, which had to close down, stranding 3,000 travelers. And then on September 6, Hokkaido suffered its strongest earthquake since 1996. Electricity was cut to all 2.95

million households. Backup generators maintained power at 250 hospitals, since it took several days to restore power to most users. It was a miserable summer for all too many Japanese.

The official and private sector forecasts expect growth to continue but slow down to a more normal rate. The Bank of Japan (BOJ) forecast continues to be at about 0.8 percent for fiscal 2019 and fiscal 2020, the Ministry of Finance (MOF) at 1.1 percent. (The fiscal year ends in March of the following calendar year.) The World Bank more cautiously forecasts 2020 growth at only 0.5 percent, the lower band of the estimated potential growth rate. There are two major concerns. The first is about the effect of the legislated increase in the consumption (value added) tax from 8 percent to 10 percent in October 2019. The Abe administration has already begun the process of spending two-thirds of this forthcoming revenue increase on new children and welfare programs, rather than paying down the high government debt, as envisaged earlier. The second major concern is how seriously Trump's protectionist trade and other economic policies will hurt Japan.

Urban real estate prices rose about 3 percent in 2017. Tokyo is enjoying a boom in commercial properties and hotels. Foreign tourism is one driver. Foreign businesses invested an estimated $12 billion in Japanese real estate. Rents in Tokyo's five central wards are the highest since the boom ending in 2009. The 2020 Olympics and Paralympics are additional generators of real estate projects.

In contrast, one dismaying reality is that Japan has so many empty, uninhabited, deteriorating houses and properties, not only in regard to farms, but also notably in urban areas. Early postwar regulations to stimulate construction by taxing unused urban land without a structure at six times the rate of land with a house or building now are a severe disincentive for owners to demolish their disintegrating buildings. About a quarter of the 8 million unoccupied properties has been deserted, neither for sale nor for rent. Often the ownership cannot be determined; the earlier owners are dead, with no heir, or heirs that cannot be reached. Even in Tokyo, where 70 percent live in apartments, one in ten houses are empty, a higher ratio than in New York, London, or Paris. The best thing would be for local urban governments to tear these structures down and use the land as small parks or other public spaces, but the legal system does not make that readily possible.

Productivity and Innovation

The key to per capita GDP growth and to economic well-being is productivity, the increase in real output of goods and services (GDP) per hour worked. Productivity growth has slowed in the past two decades in Japan and in most developed countries, although the degree of slowdown has been overestimated because of measurement difficulties. In the longer run, productivity growth depends on investment, including both physical capital and improvements in skills, as well as changes in technology. Japan's labor productivity in 2017 was only about 65 percent that of the U.S. and Germany, and 10 percentage points below the U.K., Italy, and Canada. Japan's labor productivity growth rate between 2000 and 2017 was 1.26 percent, equal to that of Germany and more than the U.S., and substantially better than the other countries. Japan has a well-educated and skilled labor force, a substantial stock of machinery, equipment, and other capital goods. Gross fixed capital formation has increased since 2010 and in 2017 was 23.9 percent of GDP. Its technology capabilities are strong.

Why Japan's productivity is not higher is a puzzle. Only part of the answer lies in measurement problems. The output of services is measured to a substantial degree by prices. Japanese have high quality services in retail trade and in restaurants and accommodations, but their labor skills are ubiquitous among Japanese, so wages are low, and prices are low. And when low-skilled, foreign workers take these kinds of jobs at even lower wages, measured output and productivity fall.

Innovation is the key to Japanese future productivity growth. Japan ranks sixth in the Bloomberg 2018 Innovation Index, behind South Korea, Sweden, Singapore, Germany, and Switzerland, but ahead of the United States (11th). Japan ranks high in R&D expenditures and marketing value-added, but low (34th) in services sector efficiency and productivity (24th). In the multicountry system of protecting patents, Japan had the third largest filings for patents, 48,208 in 2017, slightly below China; the U.S. was first, with 50,624 filings. Of the 917,725 persons engaged in research, 60 percent are in companies and 36 percent in universities.

Japanese productivity will rise as advances in artificial intelligence (AI), machine learning, and the use of the huge amounts of information in the Big Data sector continue. Japan has near universal cell-phone coverage—the World Bank estimates 133 phones per 100 persons. Virtually all Japanese between 13 and 50 years old use the internet. It starts with first graders entering school. Perhaps not surprisingly, less than half of those 70 and older use the internet.

The range of effects and implications of contemporary technological change are almost overwhelming—robotics, fintech, analysis of human genomes, cybersecurity, and (loss of) privacy. Some Japanese companies have been lagging in adjusting to these realities and in taking advantage of the opportunities they create. In July, the Japanese government released a new strategy to strengthen Japan's cybersecurity. Given Japan's performance over the past 150 years, I am optimistic about Japan's ability to incorporate these technologies, to continue to improve its economic situation, and to make further improvements in its regulatory apparatus.

The Corporate Sector

Japan has 958,292 incorporated business enterprises. Many own subsidiaries, so there are 3.3 million corporate entities, which employ 51.0 million people, about 91 percent of those working. Another 5.7 million are individual proprietorships, many in agriculture. Almost all corporate enterprises are small, with paid-in capital of 10 to 100 million yen. There are 27,215 medium-sized enterprises (capital of 100 to 1,000 million yen), and 5,929 large enterprises (capital of 1 billion yen or more). One-third of large enterprises are in manufacturing. The corporate sector produces the most output and provides the most jobs; it excludes most agriculture and some professionals, such as doctors and consultants, and unincorporated small enterprises.

As of August 2018, 3,628 Japanese companies were listed on a stock exchange, 2,103 on the first section of the major exchanges, and 500 on the second section. Listed firms produce about 45 percent of total output and provide 30 percent of employment. Listed companies have to make public a great deal of information. They are the focus of corporate governance and other policy concerns. They provide useful, albeit partial, stereotypes of ownership, management autonomy and behavior, and terms of employment. One surprise is that only three-fifths of the large enterprises with capital of at least 1 billion yen are listed. My guess: many are private companies that own buildings and other real estate.

Even though it is changing, one traditional stereotype is that of the Japanese salaryman. He is hired by his company on graduation from school as a full-time regular employee for his entire career until retirement at age 60. He participates in the company's seniority-based system of compensation and promotion. He marries and has two children. His wife does not work at all, or only part-time. Implicitly, most are hired for the management track, though male clerks are salarymen too. Though they have similar job security and other conditions, blue-collar workers are not part of the salaryman image. In fact, this salaryman stereotype never applied to more than a small proportion of the labor force, and its fundamental features have evolved. Now women graduates are salarymen. Permanent employment is no longer perceived as absolutely guaranteed. The retirement age is being increased. Nonetheless, this view of the structure of large-firm employment persists, and so does the reality.

Corporate profits have increased significantly from 48.5 trillion yen in fiscal 2002 to 83.6 trillion in fiscal 2017, and corporate cash holdings from retained earnings are huge. Listed companies have responded to pressure to increase return on equity (ROE), now about 9.2 percent, but they are still below their counterparts in the U.S. and Europe. One of the responses of entrenched management has been to increase dividends and payout ratios. Another has been to sell still-large cross-share holdings with affiliates. A third has been to divest noncore activities. Both Japanese and foreign capital management firms are active buyers in this growing market, including such well-known American firms as KKR and Elliot Management Corp.

Given the employment system, senior management in large firms is deeply entrenched. In a February 2018 survey, a METI report suggests that in many companies, board of director committees do not play a major role. Half (52 percent) of the compensation committees meet only once or twice a year, as do almost half (46 percent) of the nominations committees. A usual board meeting lasts less than two hours (90 percent of meetings); 55 percent take an hour or less. The biggest change in the male-dominated management system is the hiring of female college graduates into the management-track cohort and their promotion to higher positions, but this is a slow process.

Corporate governance reform, an Abe objective, has made gradual progress. It is impressive how companies have responded to pressures to have at least two independent outside members of the board. In 2011, only 15 percent of first section companies had two or more independent directors. As of 2017, only 12 of the 2,610 companies on the first and second sections had no outside directors; 90 percent had two or more. Not all outside directors are independent, but 86.4 percent have two or more independent directors. The 2014 Stewardship Code, revised in 2017, which embodies principles for corporate governance reform, continues to have more institutions signed on, and they do so with FSA and stock exchange encouragement. One hundred sixty-six asset management companies have signed on, 6 trust banks, 22 insurance companies, and now 32 pension funds and corporate pension plans, breaking through earlier resistance.

The Japan Exchange Group (JPX), which owns the Tokyo Stock Exchange (TSE) and other major Japanese exchanges, strongly encourages its listed companies to comply with the 2015 Corporate Governance Code. As of July 2017, 26 percent of the companies complied with all 73 principles, and 63 percent with 90 percent or more; 74.1 percent of the companies provided reasons for not complying with specific principles. Not surprisingly, compliance is higher for companies listed on the TSE first section than on the second section, which consists of smaller companies. To what extent these principles are being applied in practice is not clear.

SMEs (small and medium enterprises) are a fundamental strength of the Japanese economy. (There are statutory definitions of what an SME is. The criteria relate to employment size and capital and vary by industry, with trade and services having lower upper limits than manufacturing and other activities.) SMEs are in all sectors, industries, and occupations. They generate 55 percent of corporate output and provide 70 percent of employment. They encompass a wide variety of firms and activities in manufacturing and services. They provide goods and services in supply chains to larger companies, including exports; they engage in major retail and wholesale activities; and they provide professional services. SMEs have their less obvious weaknesses. A hard-to-estimate but significant number are zombie firms, avoiding bankruptcy only because their banks and other creditors do not want to record losses, or the elderly owner-managers are hanging on by slowly drawing down family assets.

It is difficult to know much about SMEs because they are privately owned. It is relatively easy for them to provide misleading data. Cash is still widely used in Japan; currency in circulation in March was 19.8 percent of GDP, higher than most advanced countries. The financial statements of small enterprises, both in manufacturing and services, indicate they always have been substantially less profitable than similar large firms. This is partly because they are less efficient and do not achieve economies of scale. They often do not have access to, and cannot afford to hire, the best workers. Very good SMEs typically are quiet about their success, though locally everyone knows who they are. They pay their owner-managers high wages and bonuses. Most small enterprises do not pay corporate profit taxes.

The most comprehensive data on enterprise entry and exit are for establishments with employees, identified as paying employee insurance. During fiscal 2016, 119,780 enterprises were established, and 75,307 exited. This is presumably comparable to the 5.2 percent entry rate and 3.8 percent exit rate in fiscal 2015 of all establishments. Only 8,446 firms in 2016 went through formal bankruptcy. A different source indicates that profitable enterprises closed (or were sold) because of the owner-managers' age, of whom four-fifths were 60 or older.

The founders of successful SMEs that are 5 to 10 years old typically had substantial work experience before establishing their company: 30 percent are in their 50s and 26 percent in their 40s. SMEs have greater difficulty in hiring than large enterprises, and they rely more on women and older workers. They have benefitted from the increases in the numbers of married women returning to the labor market, and older workers continuing after their retirement from larger companies. But as slack is more fully absorbed, SMEs suffer labor shortages, already a major complaint.

A major problem for successful SMEs is succession of leadership. Many are led by their now-elderly founder or his elderly successor. Particularly in small towns and local areas, ambitious young people leave to take advantage of opportunities in the Tokyo or Osaka areas. With no heirs to take over the company, current top management has to train a worthy successor, sell to a large firm or another SME, or close.

To survive, SMEs must adjust to changes in the nature and structure of their economic environment. Small mom-and-pop retail stores and restaurants are being replaced by chains of convenience stores and fast-food chains. Domestic supply chains are being replaced by foreign supply chains. Large firms invest more abroad than at home.

Twice a year I go to Japan and spend several days in some local area, meeting with local companies. Many robustly provide services specific to their local customers; others have a strong technology or a very specific product, even leading to significant global market share. Yet many are led by strong entrepreneurs. All have very good, extensive relationships with their local business and broader community. They are respected. They will persevere.

Labor

As of June 2018, Japan's labor force was 68.6 million, of whom 66.9 million were working, primarily as employees. Males numbered 34.3 million (97.4 percent employed), females 30.2 million (97.6 percent employed). Major concerns are differences in specific labor markets for regular and nonregular employees and for males and females. Men are paid more and treated better than women. The 35.0 million regular employees have substantially higher wages and better benefits than the 21.0 million nonregular employees who are contract, part-time, or temporary workers.

Between 2012 and 2017, the number of Japanese of standard working age (15–64) decreased by 4.5 million, but the labor force increased by 1.6 million and those working by 2.5 million. Some 8.1

million Japanese, 23 percent of those 65 and over, continue in the labor force. The participation rate of those in the working age group, notably among women, has risen.

Almost 71 percent of married women are working. The participation rate for working age females rose from 76.4 percent in 2010 to 80.2 percent in 2016. With more married women soon reentering the labor force after their children are born, the traditional M-shaped participation rate by age—in which there is a significant drop between ages 25 and 40—has almost disappeared.

Japanese men on average earn about 25 percent more than women, substantially greater than the average for OECD countries of just under 15 percent. In part this is because 77.6 percent of men are regular employees, while only 44.8 percent of women are. Regular full-time employees receive significantly higher wages than nonregular workers, especially part-time workers. Work/nonwork patterns are different for most men and women at all working ages.

Women much more than men have the responsibility of being the caregivers for their children, as well as caring for both their own and their husbands' parents. Accordingly, they seek employment with shorter working hours, limits on overtime, and greater flexibility in their time off from work to handle family emergencies.

As a result, women are often in low-paying occupations and jobs. They comprise half of workers in the service sector. In 2017, females were 75 percent of the labor force in medical, health care and welfare; 61 percent in accommodation and restaurants; 59 percent in the charmingly-titled living-related and personal business and amusement services; 58 percent in education; and 51 percent in wholesale and retail trade. They were only 27 percent of workers in government. Women comprised 68 percent of service workers, 60 percent of clerical workers, and (to my surprise) 47 percent of professional and engineering workers.

Although Japanese women continue to be discriminated against by the way specific labor markets are structured, the discrimination has been gradually lessening. Thus, wages and incomes in the same specific profession or job apparently are not very different by gender; at this fundamental micro level, the labor market apparently works relatively effectively. However, women do not have equal access to high-income occupations; working long hours until late in the evening has been a predominant feature of the male-oriented, managerial culture of large firms.

One of Japan's surprises is that wages and cash earnings until recently have barely risen, only 0.4 percent in 2017, less than the 0.6 percent increase in the CPI. The spring 2018 wage offensive negotiations resulted in an increase for all enterprises as of July of 2.07 percent, slightly better than the 1.98 percent in 2017; the increase for SMEs was 2.02 percent, up from 1.87 percent.

Aggregate data always mask differences by industry, location, and a range of other specific variations. With tight labor markets, some companies have promoted some contract employees to regular staff, although at lower wages than other regular employees. A 2017 survey indicates that 14.3 percent of nonregular workers want full-time regular positions. So the supply of regular workers is not tight. Regular employees are concerned about the long-run survival of their company, and even the unions and their voice, RENGO, have not pushed for wage increases.

The hourly wages for nonregular workers are market and location sensitive. In 2017, the average hourly wages were ¥1,154 for men, an increase of 1.8 percent, and for women ¥1,074, a 1.9 percent increase. Age counts more for men than for women. Men aged 40–44 were paid 21 percent more than men aged 20–24; for women the peak was at 35–39, 12 percent higher than the 20–24 group. At their respective peaks, men were paid 11 percent more than women, presumably because of job differences. The monthly starting salaries for new male university graduates in 2017 was ¥207,800, 3.0 percent higher than in 2012. Female graduates in 2017 started at ¥204,100, 3.9 percent above 2012. Over the past two decades, the male-female starting-wage gap has narrowed slightly, but it has always been small. These gender differences in starting wages are also true for new high school graduates. Educational attainment is important. In 2017, the male high school graduate's starting wages was 79.0 percent of a male university graduate; for females 77.5 percent. As length of service increases, the gender-wage differential widens significantly.

Summer and winter bonuses are a major component of total remuneration of employees, particularly in large enterprises, but in SMEs as well. The bonus is calculated in terms of the number of months of scheduled wages it relates to. The general level is traditionally formulaic, but there is some flexibility based on a company's current performance. The winter 2017 bonuses for major enterprises was equal to 2.43 months of salary; the summer 2018 bonus was 2.44 months, essentially unchanged from the previous year.

Japan ranks 21st of 159 countries in the UN gender inequality index, and a startling 114 of 144 in the World Economic Forum's gender gap index. Abe has addressed this in his program of womenomics, to increase Japanese female labor force participation and to increase the very low numbers of women in responsible positions in both the private and public sectors. As part of this program, there is even a minister for gender equality. However, the womenomics policy aims to get more women to work and increase the GDP growth rate. It does not focus on gender discrimination and equality. How deeply rooted Japanese behavior and institutions are, and the attention now directed at them by the media, has been reflected in the embarrassing disclosure on August 2 that Tokyo Medical University had been systematically discriminating against female applicants to keep their level at about 30 percent, probably since 2010.

Abe's target of increasing the share of women in leadership positions to 30 percent by 2020 is unrealistically ambitious for positions even in government and politics. Only 10 percent of Diet members are women, and the level is similarly low in local elective bodies. There are no women in 32 percent of town and village assemblies. Only 10.3 percent of section managers in Japanese companies are women, primarily in family-owned corporations. Only 3.7 percent of executives in listed companies are female, far below other OECD countries.

One notable aspect of Japanese male-based corporate work culture has been the very long hours white-collar workers spend at work, often to 9:00 p.m. or later. While declining over time, in 2016 some 15 percent of men in their 30s and 40s worked more than 60 hours a week. Bringing an end to such overwork, as it is termed, has become an important issue in the current labor market environment. Young men think quite differently from their grandfathers. Working late is inconsistent with womenomics; and it probably is not very productive. Indeed, firms that have regular white-collar workers leave work some two hours earlier than before have apparently not suffered a decline in output. Shorter hours have presumably led employees to work a bit harder and more efficiently, and to spend less time in meetings. These increases in productivity per hour are real but difficult to determine, in part because white-collar output is difficult to measure.

I do not expect the hours Japanese are at work will decrease to U.S., much less to European, levels, legally or de facto. The Diet in June passed legislation capping allowable overtime hours at a lenient 100 a month, and 80 hours on an average of several months.

Foreign workers play a limited role in Japan. In 2017, Japan had 1.279 million foreign workers, an increase of 18 percent over 2016, but only 2.0 percent of the total labor force. About 497,000 foreign workers are permanent residents or spouses of permanent residents. From 2012 to 2017, Japan had an inflow of 2.5 million foreign workers. Most returned home after their contracts expired. Seventy-one percent were students, in intern training programs, or professional and technical specialists. Almost all foreign workers are Asian—29 percent from China, 19 percent from Vietnam, and 11 percent from the Philippines. Brazilians of Japanese extraction, more important earlier on, are now 9 percent of the total. Most foreign workers are not immigrants. They are on three- to five-year contracts that can be extended, but they cannot readily become permanent residents. Of Japan's total population of 126.7 million, 2.6 million (2.0 percent) are foreign residents. Japanese realize they need foreign workers, especially for low-skilled, low-wage jobs, and they are generally accepted, if not warmly welcomed. However, as an ethnically homogenous people with their own language and a deep culture, Japanese are not willing to accept large numbers of foreigners as permanent residents. The immediate challenge of labor shortages can be handled by encouraging even more elderly and married women to work, and by continuing the policy of moderate increases in foreign workers.

Government Economic Policy

By many measures, the Japanese economy is doing well: full employment, reasonably good growth, and an ending of deflation. However, Abenomics, now in its sixth year, has yet to achieve its three ambitious major goals. Price stability, defined as a 2 percent annual increase in the CPI, remains far more difficult to achieve, despite the continuation of the Bank of Japan's very easy monetary policy as Governor Haruhiko Kuroda began his second five-year term in 2018. Fiscal stability, measured as ending deficit spending and achieving a government's budget primary balance of zero, has been further postponed to 2025 at the earliest. Structural reforms through deregulation and other measures proceed, but slowly due to the opposition of powerful vested interests. The 2 percent GDP growth target by 2025 is unrealistically optimistic; the baseline case projects growth at about 1.2 percent to 2025 and 1.1 percent in 2027. The government optimistically continues to pursue price and fiscal stability, while developing a focus on achieving faster growth through continued technological advance. In November 2017, the government announced its New Economic Policy Package, with a major focus on productivity improvement though further regulatory changes, and the promoting of knowledge (a wonderfully vague term). In May 2018, METI presented its internal policy proposal to the Industrial Structural Council general meeting, focusing on open innovation, a rules-based leading strategy to oppose protectionist measures (in reaction to Trump), and revitalization of SMEs (domestic policies, including inbound tourism). Flagship projects include driverless cars by 2020 and a nationwide health care information network to make available individual health records and medical histories. It will take some years for these policies to be accepted and implemented. Key will be constructive business responses to the challenges and opportunities of the digital revolution.

Monetary Policy

That the BOJ's sustained extraordinary easy monetary policy has yet to succeed in raising the CPI to a 2 percent rate has been a dismaying reality. At least it has succeeded in bringing CPI decreases to an end. Monetary policy has been steady, strong, and reliably predictable. However, Japanese expectations, based on surveys of financial market participants, firms, economists, and households, are that prices will increase only about 1.2 to 1.3 percent annually over the next 5 to 10 years. Probably the scheduled increase in the consumption tax from 8 to 10 percent in October 2019 is one reason for the low forecast. Another is global price stability, rather than inflation. A third may be lack of optimism about Japan's economic future.

The BOJ, which for some years had repeatedly announced that its 2 percent target would be achieved within two years, no longer sets a date. The forecast of its Monetary Policy Board for 2020 is 1.6 percent, with four members forecasting a rate below that and only one at the target 2.0 percent.
The BOJ's basic implementation of its very easy monetary policy with negative short-term interest rates and very low longer-term rates has not changed. Its negative interest rate since January 2016 on a limited proportion of commercial bank deposits in the BOJ has sustained the overnight call rate at a minus 0.07 percent in June, and three-month and six-month treasury bill rate at minus 0.13 percent. Newly issued 20 year Japanese government bonds (JBGs) in June yielded 0.495 percent.

The BOJ tweaked its policy in its July 30–31 meeting by slightly widening the range of fluctuations in 10-year JGB yields, and by increasing the weight of stock market exchange traded funds (ETFs) to include the TOPIX stock market index (capitalization-weighted, it includes all companies listed on the first section of the Tokyo Stock Exchange in its purchase of ETFs).
Governor Kuroda at the press conference following the meeting indicated the upper limit to the 10-year JGB yield will be about 0.2 percent.

Japan's super-easy monetary policy will persist so long as consumer prices do not rise. The great uncertainty is when labor markets will become sufficiently tight that firms will raise wages and prices. This continues to be Japan's great macroeconomic challenge.

The sustained low interest rate policy adversely affects Japanese banks. Banks have substantially more deposits than they can lend, even at very low rates; and despite their low rates, they do not have enough creditworthy domestic borrowers. They are gradually relaxing their credit criteria, and loans are now increasing. Many inefficient local banks have merged; those remaining continue to adjust their business models in order to survive.

Now-rising U.S. interest rates mean that purchase of U.S. Treasuries and other financial assets are attractive. It is notable that Japan Post Bank, the world's largest deposit-taker, from March 2007 to March 2018 reduced its holdings of JGBs from 88 percent of its portfolio to about 30 percent, and its investment in foreign securities went from 0.1 percent to 28.5 percent.

The major commercial banks and regional banks during this period also purchased foreign financial assets, notably bonds. However, as the U.S. Federal Reserve Board implements its policy of increasing interest rates, Japanese (and all) holders of U.S. Treasury and other financial claims are subject to paper losses as bond prices decline. Selling to take smaller losses now on some foreign bonds, as Japanese regional banks did in the second quarter of 2018, reflects an ongoing portfolio composition challenge for asset managers.

Fiscal Policy

Central and local government expenditures were 39.5 percent of GDP in fiscal 2017. This figure includes social security expenditures equal to 23.8 percent of GDP and interest costs on 2.9 percent. The central government has a strong bureaucracy that budgets the funding for the wide range of standard services—education, the national health system, welfare, and national security. Defense expenditures will continue to be about 1 percent of GDP as Japan depends on its alliance with the United States. Of the government's fiscal 2018 general accounts budget of 97.7 trillion yen (17.5 percent of projected GDP), one-third (33.7 percent) is for social security, mainly pensions, medical care, and long-term care. The assumption (value-added) tax will increase in October 2019 from 8 to 10 percent, as already legislated. However, food is excluded from the increased tax, so the actual tax increase on consumption will be about 1.5 percent.

Increases in welfare costs are a major concern. With an increasing elderly population, particularly with a significant increase in those 75 and older starting in 2022, by 2025 medical care costs are projected to rise by 50 percent and long-term health care by 140 percent, resulting in a projection that total social security expenditures will account for 24.4 percent of GDP. Either welfare benefits will have to be reduced, or taxes increased beyond the consumption tax hike in October 2019. This intergenerational policy challenge will not be resolved soon.

Japan's key macroeconomic policy challenge for the past two decades has been that private sector demand has fallen well short of private savings, so the government has had to provide fiscal stimulus through deficit financing. The fiscal 2018 budget is for 97.7 trillion yen expenditures and 64.1 trillion yen of tax and other revenues. The shortfall is covered by new government bond issue of 33.7 trillion yen, only slightly less than in the 2017 budget.

Accordingly, the budget primary balance is a negative 2.9 percent of GDP in 2018. While the Abe administration had projected the budget primary balances deficit to be reduced to zero by 2020, that target has been delayed to 2025, using very optimistic assumptions about nominal GDP growth. The target will not be reached.

One group of specialists is deeply concerned that Japan will have a fiscal crisis because gross government debt is 253 percent of GDP, far higher than that of other advanced countries, and because fiscal deficits and further government bond issues persist. In their view, Japanese and other holders of JGBs will come to believe that the government will not be able to service its debt, much less pay it down. In contrast, another group argues that Japan needs more fiscal stimulus to achieve more rapid growth, since the high government debt ratio is not a serious problem.

There are four ways for Japan to reduce its ratio of government debt to GDP. Two will not happen in Japan: very high inflation to reduce the real value of JGBs and government default. The other two are to run a fiscal surplus and to raise real GDP growth. To run a fiscal surplus makes sense only if private aggregate demand is so strong that fiscal stimulus is no longer necessary. However, a fiscal surplus can only be achieved if taxes are increased. With increasing social security expenditures, some tax hikes are necessary, but always are politically difficult. Increasing the GDP growth rate is certainly desirable, but that will not happen, since the labor supply will decrease.

The high government debt ratio will persist, but I optimistically believe that well before it becomes an insurmountable problem, the government will adjust its economic policy. This is the view reflected in Japanese financial markets. The interest rate in JGBs continues to be below that of U.S. Treasuries. Japan is a safe haven. It will continue to be so.

Foreign Economic Relations

Japan is necessarily a major player in the world economy, given its size, virtual absence of natural resources other than agricultural land, and saving higher than domestic investment. It is the world's fifth largest importer of goods and services, and fourth largest exporter. Japan's largest trading partner, with $129 billion in total trade, is the United States. Japan's second largest, at $120 billion, is China. Japan is the second largest foreign direct investor in the U.S., after the U.K. Japanese automobile firms produce twice as many cars in the U.S. as they export to the U.S. from Japan.

Merchandise exports increased 10.8 percent in fiscal 2017, contributing 14.4 percent to GDP. Though slightly less at 14.0 percent of GDP, imports increased even faster at 13.7 percent. Reflecting foreign growth, machinery and other capital goods exports increased significantly. About 40 percent of merchandise imports are food, energy, and other natural resources.

As already discussed, Japan is playing a leadership role in a number of free trade agreements, notably TPP-11 and RCEP. Much depends on the course of Trump's trade policy toward Japan. Japanese companies, with huge cash holdings, have invested more abroad than at home. They have developed extensive production supply chain operations, notably to the U.S. and China. Automobiles are the prime example. Japan outward FDI in 2017 was the second largest (after the U.S.), amounting to $160 billion (up from $145 billion in 2016). Cumulative investment in the U.S. is valued at $469 billion, 11.6

percent of the total; in China the total is $118 billion, plus another $29 billion in Hong Kong. Investing has its challenges. In the U.S., Trump's protectionist actions and threats raise the costs of Japanese individual goods suppliers in Mexico, Canada, or elsewhere. In China, it is a combination of rising labor costs and more-intrusive Chinese government policies that make it a less attractive location for new FDI.

Japan's stock of FDI in 2017 was 30.1 percent of its GNP. Given its early history of restrictions, the stock of foreign direct investment in Japan is 4.1 percent of its GDP. Japan is not among the top 20 recipients of FDI inflows. The U.S. is the largest recipient, but flows dropped 40 percent from 2016 to 2017. OECD data indicate a global fall in FDI of 18 percent, and 24 percent from the 2015 postrecession high.

Japan has a well-developed tourist industry, with a wide range of good hotels, other accommodations, restaurants, and other facilities, and excellent trains and other travel services throughout the country. Two-thirds of the tourists in Japan are Japanese visiting other parts of their own country. I focus here on foreign tourists coming to Japan, since the numbers have increased dramatically: 27.8 million in 2017, up from 5.2 million in 2003. Tourists will increasingly flow into Japan for the 2020 Tokyo Olympics.

For foreigners visiting Japan for the first time, it can be a good, eye-opening experience, helping to improve bilateral relations at a person-to-person level, despite language barriers. Most of the foreign visitors are Asian, since they are relatively nearby and may have relatives living in Japan. That is probably why visitors from South Korea were 24.9 percent of the total, and Taiwan 15.9 percent. Nonetheless, visitors from China continue to be the most, at 25.6 percent. Japan, particularly the ski slopes in Hokkaido, attracted 33,900 Australians; while they were only 1.7 percent of the foreign visitors, they were the biggest spenders per capita. Chinese were second; in addition to gifts to take home, they bought high-quality rice and other foodstuffs, since these are even more expensive in China. However, when the yen strengthened in 2016, foreign spending, not surprisingly, temporarily declined. Working with local government, the central government actively promotes foreign tourism, with a target of 40 million by 2020. Japan now hosts a wide range of business and other international conferences. Tourist visas have become easier to obtain, and the Japanese travel agency business is buoyant.

Energy

Energy has long been Japan's greatest economic vulnerability. It has to import all its oil and natural gas. In 2017, these comprised 89.7 percent of Japan's total energy consumption. Hydroelectric provided 3.9 percent, other renewables (solar and wind predominantly) continue to increase, and together were 4.9 percent. Nuclear is only 1.4 percent. Japan is the world's fifth largest consumer of energy, but 32nd on a per capita basis. Oil is the largest energy source (41.3 percent in 2017), followed by coal (26.4 percent) and natural gas (22.1 percent). Rapid technological change is a key feature of the energy industry. However, because installed capacity has such a long life, under normal circumstances it takes years for the distribution of sources to change significantly, and in the shorter term the process is erratic.

Japan is the world's third largest consumer of oil, but far smaller than the U.S. and China; its global share was 4.1 percent in 2017. Oil consumption decreased 2.5 percent annually over 2006–2016. In contrast, natural gas (LNG) consumption has increased at a 2.5 percent annual rate; Japan globally is the sixth largest consumer, at 3.2 percent in 2017. Coal is dirty but cheap for electric power generation, and higher quality coal is essential for steel production. Coal consumption between 2006 and 2016 increased at a 0.6 percent annual rate, despite environmental policies. In 2017, Japan was the third largest coal user, but its 3.2 percent global share was eclipsed by China at 50.7 percent and the U.S. at 8.9 percent. However, Japan is the only G-7 country planning new coal-based power plants, with 15 under construction and 17 in the planning stages; its new technology substantially reduces but does not eliminate CO_2 emissions.

While oil consumption by vehicles is a major energy consumer, attention appropriately focuses on electric power, since it can be generated by every energy source. Rapidly changing technologies and costs put pressure on electricity producers and government policymakers.

While Japanese electricity consumption increased 2.0 percent in 2017, it decreased at a 1.5 percent annual rate between 2008 and 2016, attesting to conservation by users. In 2017, 39.4 percent of Japan's electricity was generated by LNG, 33.6 percent by coal, 7.8 percent by hydroelectric, and 9.7 percent by other renewables combined.

Nuclear energy is a major political issue, particularly following the earthquake in 2011 that severely damaged the Fukushima nuclear plant, leading to the closing of all nuclear reactors. Nuclear power is relatively efficient, and it does not emit carbons, but many Japanese fear other accidents. New, stringent safety rules were established, and 9 of the 40 commercially operable nuclear plant centers have been relicensed. Nuclear power operation increased in 2017 once six plants resumed operations. Two and possibly three more plants are scheduled to resume operations by the end of 2018. Over the next few years, the major question is how many more of the existing plants will be approved and reopened. The long-run issue is whether to install the new nuclear technologies that are smaller scale and more efficient, or to forgo the use of nuclear power.

Renewables are increasing rapidly, at a 12.5 percent annual rate since 2016, but still constitute only a minor share of Japan's energy consumption. Costs have continued to drop significantly, and they are becoming competitive with building new coal and gas electric power plants. Technology improvements have cut solar costs by 28.5 percent for every doubling of PV (photovoltaic) capacity, and wind costs have been going down at about 10 percent annually.

Within a decade, wind and solar are expected to be a cheaper source of electricity than existing plants, and sooner than that for older plants. Solar and wind will eventually play a major, but not overwhelming, role in Japan's energy future unless inexpensive energy storage systems become available. Japanese electricity consumption is greater in the evening than in daytime, but the sun is down, and winds are erratic.

So far, lithium-ion batteries are the main way to store electricity generated by renewables. Significant improvements in technology have reduced their cost by 80 percent since 2010, and their costs will continue to drop. Within another decade or so, small, efficient solid-state batteries or other new types of batteries will presumably replace lithium-ion batteries.

Poverty

Most Japanese have safe, comfortable, stable lives. They live in a prosperous country, ranking in the middle of the 34 OECD advanced countries. Still, poverty continues to be a significant reality. Data on poverty are less comprehensive than for most other economic topics, and, as in all types of estimations, there are measurement issues. Poverty is the consequence of complex interactions among economic, social, family, and personal circumstances. There is no single major cause. Having been raised in a poor family is one factor, especially if parents have not been positively involved. Native ability and motivation are important. As our emphasis on education suggests, not much attention is paid to those Japanese who do poorly in school, or do not complete high school. They are the marginal, the powerless, the ignored.

In its economic as well as other dimensions, poverty is relative; only a small number of Japanese are absolutely destitute. An estimated 16 percent of Japan's population (about 20 million) are in relative poverty, using the OECD definition of having an income less than half the national median income. Most in relative poverty are either elderly individuals or single women with children.

The elderly in rural areas have better social safety nets than those in large urban areas. Those living in small rural villages can move to retirement housing and related facilities, including medical care, in nearby towns. Poor elderly single or widowed men in cities are a particularly at risk. Government programs, including free medical care and long-term care, help make their lives better.

Almost all poverty-stricken women with children were once married but are now spouseless—divorced or abandoned. Most work. About 7 percent of women with regular jobs live in poverty, and 6 percent of men. Of women in nonregular jobs, 30 percent in the 25–34 age group are in poverty, rising to 52 percent for those 30–44.

Food insecurity is a problem for poverty-stricken people. In a 2012 survey, 14.8 percent of respondents indicated that in the past year there had been times when they were unable to provide food for their family. The private food bank Second Harvest Japan estimates that of the 2.3 million they deal with who are worried about having sufficient food, the elderly comprised 70 percent, single-mother households 20 percent, foreign households 9.8 percent, and 0.2 percent homeless.

Private charitable contributions supplement government welfare programs in a range of fields. Japan has 40 food banks, which collect food from corporations to distribute to orphanages and other welfare institutions, individual programs for poor mothers and their children. Another type of volunteer program makes free or inexpensive children's meals available, mostly once or twice a month, and some daily on school days. There are more than 2,200 such local organizations.

Early in the postwar period, Japan established what came to be termed the Six Welfare Laws: helping the physically disabled, the mentally disabled, the elderly, children, single parents (mostly mothers) with children, and those widowed. The Abe administration has sustained government welfare programs, and Abe has committed the 2019 expected revenue increases to nursery school and other child welfare programs. National health care and education programs are inclusive; they are central in alleviating poverty.

In its meritocratic society, education is the major way by which Japanese can become more successful. Education is the main escape route for poor children. Education is compulsory through age 15, and most continue in regular or technical (vocational) high schools. But to escape, poor children have to do reasonably well. Subsequent formal and informal on-the-job programs help. Ability, occupation, and lifestyle also determine whether young Japanese escape poverty. Nonetheless, since poverty is a relative concept, it may decline in absolute severity but will not disappear, as even the most welfare-advanced Scandinavian countries demonstrate.

Conclusion

Japan has a strong, well-performing economy in a domestic environment that is both safe and economically, politically, and culturally stable. Its basic assets are its people and its accumulated capital. Japanese are well-educated, skillful, diligent, hardworking, pragmatic, and comfortably ambitious. They make me optimistic about Japan's future. Japan has a large capital stock. Physical capital includes housing, fixtures, buildings, roads, and other infrastructure. More broadly defined, capital includes Japan's high level of technology and its strong economic, social, and other institutions.

Japan is the world's third-largest economy, a major trader and investor in the international economic system, and a model of successful economic performance. Why does its economy no longer attract so much general interest? This is partly because it is politically and economically stable and relatively predictable, particularly in contrast to the dramatic rise of China. Another is because not enough attention is paid to Japan as a leader in the inevitable demographic transition in advanced countries to an aging and declining population. Perhaps most importantly, East Asia's political and security uncertainties and anxieties—the rise of North Korea as a security threat and the implications of the rise of China as a regional hegemon—appropriately warrant more attention and concern than Japan's economy.

The Japanese economy has four puzzles that I have not fully addressed. Why is Japanese productivity only 65 percent of that in the U.S.? How do we accurately measure output and productivity in a service-based internet, smartphone, digitalized economy? Why is there full employment, yet wages for regular workers are barely increasing? Why, despite many years of effort, the extraordinarily easy monetary policy, and ongoing government budget deficits, has the targeted 2 percent annual increase in the CPI not been achieved?

In the foreseeable future, Japan's greatest challenge is how to adjust well to its demographic transition to a smaller and older population. So far it has done pretty well. Two foreign challenges are how to deal with a rising China and an ongoing reduction of the hegemonic power of the U.S. Yet Japan's greatest threat is the risk of a massive earthquake destroying much of the Tokyo or Osaka areas. This has been true throughout Japanese history, and the country has recovered in every instance. Climate change poses new challenges—the millennia of warming since the last ice age, which helped make modern civilization possible, is now seen as a threat, as well as an abuse of human stewardship to the extent it is produced by human activity.

In the very long run, Japanese, like most humans, will live longer and better because of improvements in medical and other technologies. I optimistically believe humans—Japanese, Americans, everyone—are smart enough, flexible enough, and able to organize themselves well enough that our great-, great-, great-grandchildren will thrive.