

March 23, 2016

Surviving the Fourth Industrial Revolution

Thorough Market Opening to Achieve 2% Growth

Participation of Women, Foreigners, and the Elderly Key to Boosting Labor Force

Improving Labor Productivity by ICT Investment Essential

JCER Medium-Term Economic Forecast Team¹

The future of Japan looks extremely harsh given its declining population, aging society, and sluggish investment efficiency and productivity. For the second stage of Abenomics, the Abe administration is touting “the realization of the dynamic engagement of all citizens” and the three new arrows of a nominal gross domestic product (GDP) of 600 trillion yen, a birth rate of 1.8, and no need for anyone to leave employment to care for elderly family members, but concrete measures are still under review.

Although stock prices have dropped sharply since January 2016 due to a slump in the economies of the emerging nations, Japan is not beset by bad debt problems and terms of trade have improved. Resource prices have declined due to a lack of demand worldwide, so there is little sense of impending crisis in regard to the future. However, in reality, the impact of the aging society and the population decline are gradually coming to a head. After the Tokyo Olympics in 2020, growth (potential GDP growth rate) is expected to decline and to turn negative by FY 2030².

The baseline scenario for this forecast is a case where both government and corporations are preoccupied with short-term reform and improvements, causing Japan to fail to keep up with the international trends of the so-called fourth industrial revolution, which is based on the use, application, and development of information and communication technologies (ICT), including artificial intelligence (AI), big data, and the Internet of Things (IoT). Economic growth will stagnate, negative growth will be normalized in the late 2020s, and fiscal deficits will suddenly expand. Seen in the light of the present situation, there is no small likelihood that Japan will pursue this scenario. Under the baseline scenario, Japan will be forced to make bitter choices between confronting the crisis of economic collapse, or submitting to a substantially reduced standard of living.

We also present a reform scenario that avoids the path to economic collapse. This scenario summarizes the measures required to achieve 2% growth. Following the lead of the Meiji Restoration and the postwar era to assimilate demands from abroad, the point is to open up the country for a third time to free up the movement of people, goods and money. Another pressing issue is major reform of social systems such as leveraging the abilities of women, foreign residents, the elderly and the use of ICT, and promoting energy conservation. An all-out mobilization of reform would make it possible to achieve the government’s nominal GDP of 600 trillion yen by the first half of the 2020s. But, it would require reforms at a level that will change the shape of the country. The path to avoiding economic collapse and overcoming the “Japanese disease” of giving maximum priority to maintaining the status quo may be narrow and austere, but it is not an impossible distance to cover.

¹ Research Director: Tatsuo Kobayashi, Deputy Director: Takashi Miyazaki, Researcher: Keisuke Takachi, Katsuaki Ochiai, Ryo Hasumi, Coordinator: Yukiko Nakajima, Trainees: Kazuki Hirai (Sumitomo Forestry), Yukako Fujiwara (Nippon Life Insurance), Leana Marie E. Bersabal (All Nippon Airways).

² One fiscal year (FY) is from April to March

I. Baseline Scenario**Potential Economic Collapse in the late 2020s****–Adverse Effects of the Declining Population after the Tokyo Olympics–**

Potential Growth Rate: Currently below 1%, will turn negative by FY 2030 due to population decline

During the forecast period (FY2015–FY2030), the potential gross domestic product (GDP) will gradually decline due to the population decrease, aging society, stagnant investment due to the population decrease, and low productivity. The impact of the population decrease will be particularly large; even as more women join the workforce, the total number of workers will continue to decline. Capital investment will fall in line with the population decrease. Society will continue to age and total factor productivity (TFP) will continue on a downward trend. These negative factors will be particularly evident after 2020. The short-term potential growth rate of 0.6% will turn negative by FY 2030 when the Tokyo Olympics are over and the adverse impact of the population decrease becomes clear. Declining growth rates are unavoidable in the absence of measures to curb the population decrease and to substantially increase productivity.

Economic Growth Rate: Toward negative growth in late 2020s

In the near term, economic growth close to 1% can be achieved by FY 2020 through monetary easing, weakening of the yen and lower energy costs. However, with the declining population and stagnant domestic demand, the real GDP growth rate (economic growth rate) will drop to the 0% level in FY 2021 to FY 2025. Negative growth is likely as of FY 2028.

Consumer prices: Decline will stop due to the elimination of the supply-demand gap. Rate of increase in CPI just short of 1%

The decline in the potential growth rate will occur a little earlier than the downturn in the economic growth rate. The supply-demand gap (GDP gap) was eliminated in FY 2013, but returned to negative in FY 2014 as a result of the economic slump brought on by the increase in the consumption tax. Subsequently, the GDP gap is expected to gradually shrink and to be eliminated by the mid-2020s. Energy costs are expected to rise in line with global inflation (around 2%), which means that the cost of imports will slowly rise in this period. Therefore, Consumer Prices Index and the Corporate Goods Prices Index in Japan will also rise slightly, but they will not reach the government's target of 2%.

Current account balance: In the red by FY 2030 due to low potential growth

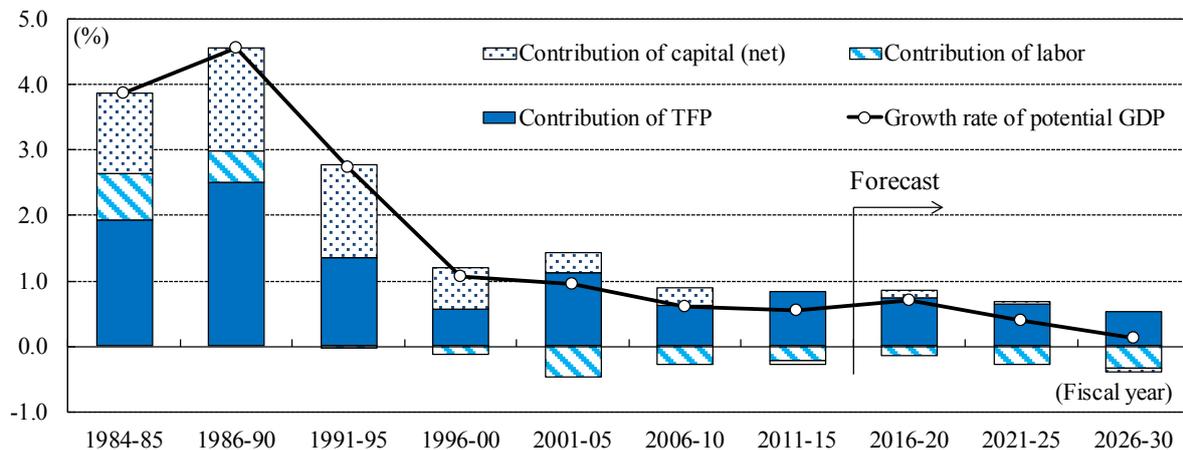
In the near term, the current account surplus will grow due to a large surplus in the primary income balance and falling prices for oil and other fossil fuels, but in the mid-term, the current account balance will plunge into the red reflecting the decrease in savings rates due to the decreasing population and aging society. As exports grow and private consumption stagnates, investments will shrink further (investments shrink in line with the population decrease) and the domestic supply

capacity (potential GDP) will drop, leading to an increase in imports which will show itself in the current account balance.

Fiscal deficit: Bad to worse, outstanding debt to nominal GDP ratio will rise to 250%

Concerning the current fiscal deficit, the primary balance (PB) has improved somewhat in the near term due to the consumption tax hike from 5% to 8%. Further improvements are anticipated with the expected rate hike to 10% in FY 2017, but they will not reach the government target of negative 1% in FY 2018. This will make it even more difficult to return to the black by FY 2020. In the context of escalating medical and nursing costs due to the aging society, increased government spending is unavoidable even if efforts are made to rein in costs. Japan’s public debt ratio to nominal GDP will exceed 250% by FY 2030. Without consumption tax hikes and fundamental revisions to the expenditure structure, there is a big risk that economic collapse will become reality.

Figure 1-1 Potential Growth Rate of real GDP is greatly decreasing to FY 2030 in Baseline Scenario



(Source) Cabinet Office “System of National Accounts”

II. Industry and business forecasts under the baseline scenario

Survival at stake for electronics by 2030

Consumer electronics and PC Profits to drop below 20%

12 million staff needed in medical and nursing field healthcare system to become unsustainable

We have compiled forecasts of the business outlook by industry area under the baseline scenario (an economy where zero to negative growth is normalized by the late 2020s). The electronics industry, where a sense of impending crisis is building even now, will certainly have difficulty surviving by the late 2020s. The manufacturing industry in Japan will be close to a situation where dependency on machines will have increased. The non-manufacturing industry (retail and service industries etc.) will be controlled by demand from abroad. As the super-aging society develops, demand for medical and nursing staff will expand rapidly. However, can be questioned, the sustainability of the medical and nursing care system considering the fact that the number of workers is decreasing due to the population decline.

< General Remarks >

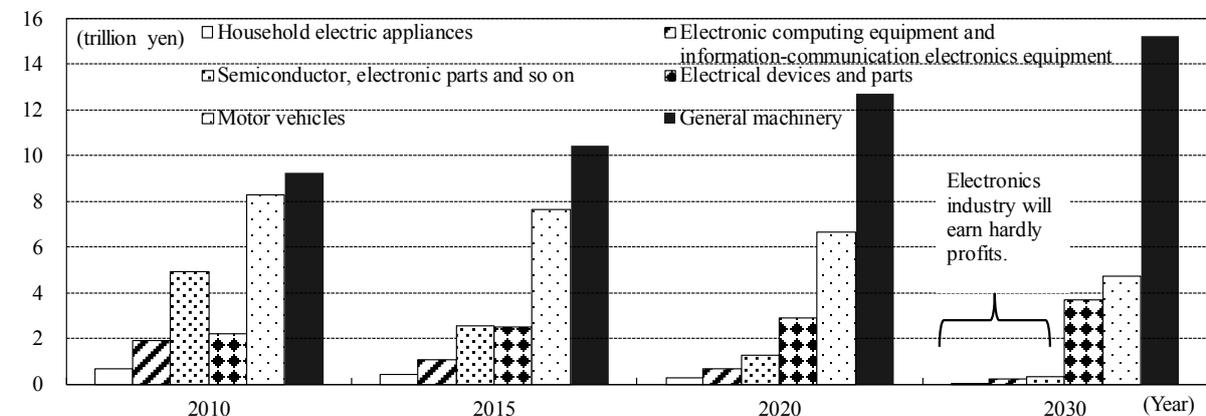
Current industrial structure limits growth—Fundamental structural reforms are pressing

An overview of the industrial structure of Japan suggests that in the future, more and more industries and corporations will find themselves in dire straits when demand drops due to the shrinking and aging society.

Although the automobile industry (transport equipment) is a driving force of Japan's economy, production facilities continue to drain away from the country. The industry's role as a leading domestic force is gradually dwindling. Domestic manufacturers are maintaining competitiveness, but there is no escaping the decline in their sense of presence in the country. The number of finished vehicles sold on the domestic market is decreasing. Since Japanese corporations are expected to continue to move into foreign markets, machinery, another key industry, is expected to grow exports and to become the only industry supporting domestic production.

With the exception of some electronic components, there is a high risk that Japan's electronics industry will disappear. Preliminary calculations using Input-Output Tables of Japan suggest that compared to the near term, profit levels (nominal value-added) will drop to 10–20% (for example, consumer electronics will drop from 430 billion yen in 2015 to 43 billion yen in 2030). In the electronics industry where technological progress is rapid and large-scale investments are essential, companies will find themselves forced into a situation where they cannot maintain production activities if product prices drop so severely that it is not possible to maintain a certain level of production scale. In reality, it is difficult to survive at this profit level. It will become increasingly difficult to hold out against companies in emerging economies, which supply finished products such as televisions and audiovisual (AV) equipment, computers, mobile phones, etc at cheap unit prices, or companies in the United States, which are supplying high-quality products combined with Internet services (e.g. Apple and Amazon). Survival will be difficult unless companies can build business models not only for manufacturing and selling products, but for providing customer services that leverage ICT, such as Komatsu, GE and Apple. In reality, the only corporations with a high likelihood of survival in the mid to long term are the ones that hold positions as makers of components that support the products and services provided by global companies (Fig. 2-1).

Figure 2-1 Domestic production of consumer electronics and computers will disappear (nominal value-added by industry)

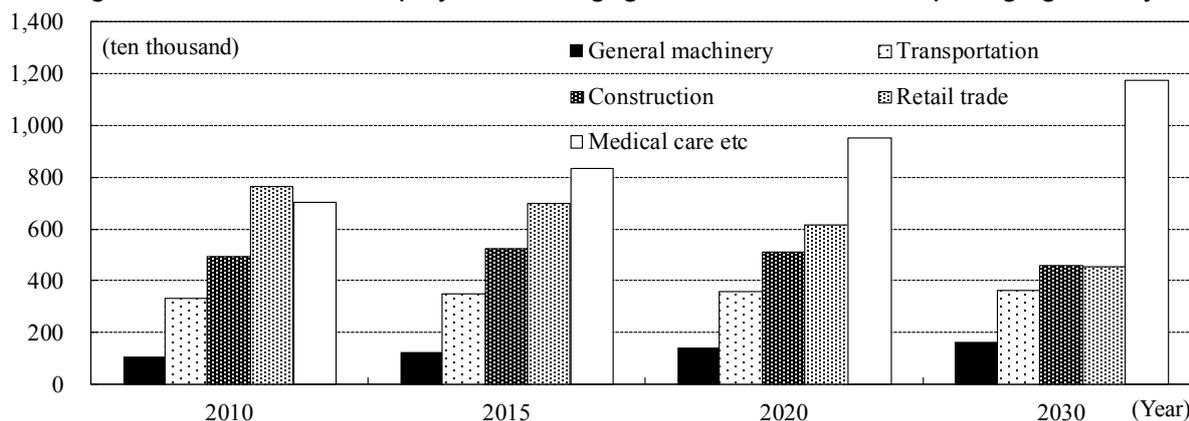


(Sources) Ministry of Internal Affairs and Communications "1995, 2000, 2005 Link Input-Output Tables", Ministry of Economy, Trade and Industry "The 2010 Updated Input-Output Table"

In the non-manufacturing industries, the increase in inbound tourism is a bright spot. It is likely that services related to foreign visitors to Japan in the retail, hotel and entertainment industries will develop into a new “export industry.” As a result, the future of Japanese economy will be increasingly dominated by business conditions in the emerging nations. In terms of responding to demands from foreign tourists, there is not much to expect from an industry that is geared to domestic demand and faced with a difficult situation due to population decline. For example, new housing starts number less than half a million homes a year. Information and communication services, telecoms and information services have plateaued. The only area where ICT is developing is Internet-based services (SNS, online search, and online payment services). But, the major domestic ICT corporations are not necessarily strong in these areas, so it is likely that overseas companies will become the main players in Japan.

Due to the super-aging society, nearly one in five workers will be employed in medical or nursing care by 2030 (Fig. 2-2, Total employees to exceed 61 million). In one sense, the industry can take on major demand and employment, but employing more than twelve million people in the field of medical and nursing care where productivity is low will lead to a decline in overall productivity in Japan unless there is ground-breaking innovation³. There is also a risk that maintaining current standards of medical and nursing care will not be possible. In reality, there will be a pressing need to look into accepting immigrants to work as nurses and careers.

Figure 2-2 One in five employees will engage in medical care in super-aging society



(Sources) Ministry of Internal Affairs and Communications “1995, 2000, 2005 Link Input-Output Tables”, Ministry of Economy, Trade and Industry “The 2010 Updated Input-Output Table”

Input-Output forecasts⁴ : General machinery, transport equipment support production; medical and nursing care sector support employment

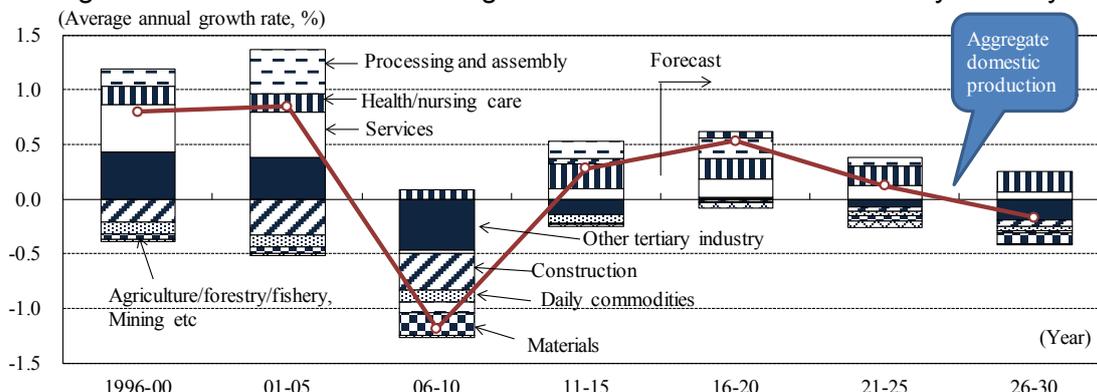
From 2011 to 2030, real domestic production will grow in the processing and assembly manufacturing industry, (including general machinery and transport equipment), the medical care and nursing care sector, and the business services sector. However, in the processing and assembly industry, consumer electronics, computers and telecommunication equipment, semiconductors and

³ In some views, labor productivity in medical care in Japan is high compared to the United States, but there are many cases where the quality of medical services has not been considered.

⁴ We used the METI FY2010 Extended Input-Output Tables, and data from the Ministry of Internal Affairs and Communications FY1995, FY2000, and FY2005 Linked Input-Output Tables extended to 2010 for this forecast. Since qualitative changes are taken into account when forecasting the real value of input-output tables, the values will differ from forecast values based on number of vehicles, weight, or other quantitative data.

electronic components sectors will contribute significantly less to nominal domestic production due to the impact of falling prices. Meanwhile, output in agriculture, forestry and fishing will decrease due to the aging workforce and increased imports following the conclusion of the Trans-Pacific Strategic Economic Partnership (TPP). Output in the retail and personal services sectors will also decline, reflecting sluggish consumption (Fig. 2-3, 2-4).

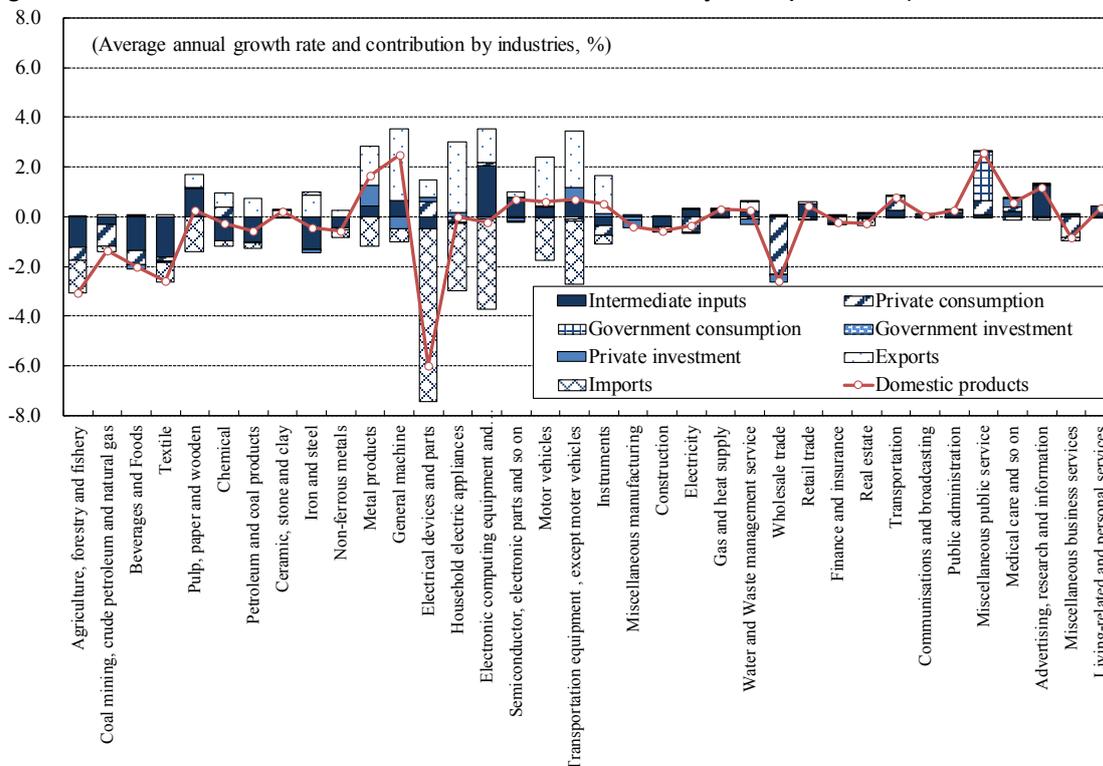
Figure 2-3 Contributions to Changes in Real Domestic Production by Industry



(Notes) Agriculture/forestry/fishery, Mining etc = Agriculture/forestry/fishery - Coal/crude oil/natural gases, Material = Pulp/paper/wooden products - Metal products, Processing and assembly = General machinery - Precision instruments, Daily commodities = Foods, Textiles and Other manufactured products, Services = Public administration, Other public services, Business services and Other business services, Other tertiary industry = Electricity - Others except Health/nursing care and Services.

(Sources) Ministry of Internal Affairs and Communications “1995, 2000, 2005 Link Input-Output Tables”, Ministry of Economy, Trade and Industry “The 2010 Updated Input-Output Table”

Figure 2-4 Growth Rate of Real Demand in Industries by Components (CY2011 – CY2030)

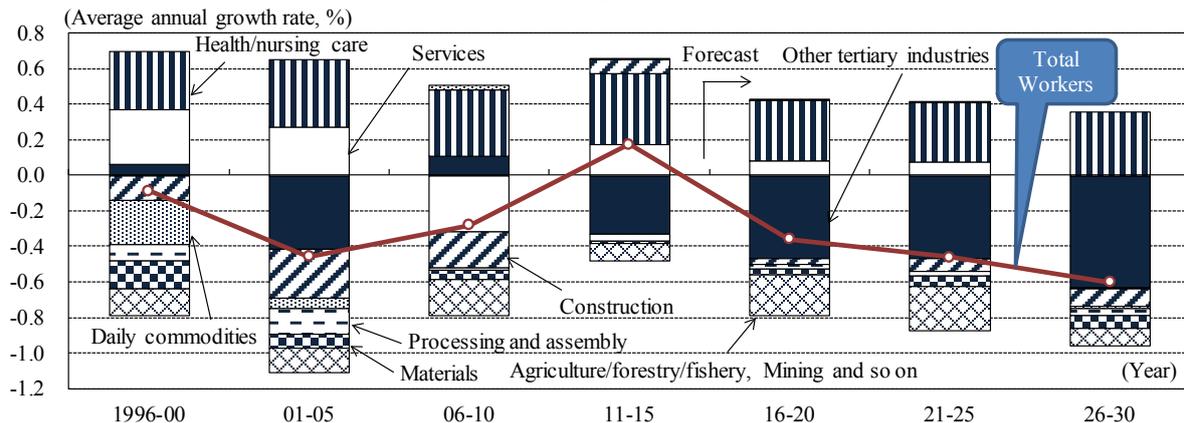


(Notes) The difference between growth rate and the sum of contributions are allocated proportionately corresponding to the size of industry. Mining and coal, crude oil and natural gas industries are excluded from the figure because the influence of imports is excessively large.

Electronic computing equipment and.. = Electronic computing equipment and information-communication electronics equipment.

A decline in the workforce is unavoidable due to the decreasing population and aging society. The number of workers in manufacturing will shrink gradually turn into negative and the workforce is likely to shrink due to falling domestic production and improvements in labor productivity. In the consumer electronics, computers and telecommunication equipment, semiconductors and electronic components sectors, the workforce will decrease at an annual rate of more than 5%. The medical and nursing care sector, which supports the super-aging society, and the business services sector, which taps into the trend for outsourcing, will create employment (Fig. 2-5).

Figure 2-5 Contributions to Changes in Total Workers by Industry



(Notes) Refer to Figure 2-3.

In the materials industry, real domestic production in the ceramics, stone and clay, and cement sectors is expected to grow during the period of special demand created by the 2020 Tokyo Olympics and the reconstruction following the Great East Japan Earthquake, but when domestic demand falls, production will also drop off. With the exception of pharmaceuticals, the chemicals sector will see continued production decline and a rise in imports, but as a whole, domestic production is stagnating. A slight increase is expected for the steel industry due to the switch to high-performance steel materials. Production in the materials industry will be bearish.

In the processing and assembly industry, production is expanding due to steady performance in the transport equipment and general machinery sectors. Following the modification of the strong yen, which at one time dropped below 100 yen to the U.S. dollar, the transport equipment sector has recovered export competitiveness and is expected to grow as a result of rising global demand for automobiles and railway carriages. As for automobiles, the overseas shift is expected to outpace production increases in the 2020s, but exports will be maintained by shifting production to high-priced products. However, shrinking domestic demand is unavoidable and domestic sales of automobiles are likely to continue to decline. Production of general machinery is expected to increase due to infrastructure and energy-related export growth and increased capital investment. Production of consumer electronics will continue the downward trend as it is difficult to beat the competition from overseas companies.

In the lifestyle-related industries, textiles will switch to imports, the trend to move production facilities overseas will continue, and domestic production is likely to stagnate. Although food exports will increase, domestic production is likely to decrease. This is because domestic demand will decline reflecting population decrease and ebbing consumption.

Construction is likely to shrink. Although public investment will be maintained to some extent, real business volume will gradually decline due to price increases. 2018 marks the point where housing construction will shrink as the number of households takes a down turn. In the non-housing

construction sector, there is some expectation of a rally in factories and warehouses, but not much growth is expected as of the late 2020s. Since transaction prices (margin unit price) will continue the downward trend in the wholesale sector, domestic production value will increase in terms of real value, but decrease in terms of nominal value. Transportation will decrease due to the impact of the population decline, which will also cause a fall in domestic passenger and goods transport volume. International transportation will grow due to the increase in overseas tourism. However, it will not be enough to support domestic production and the transportation sector as a whole will decline.

The medical care and nursing care sector will remain buoyant in the context of the super-aging society. The sector is expected to be the biggest industry in the future. Steady performance is expected for business services as demand for services for corporations continues. Meanwhile, retail, real estate, personal services and other tertiary industries are likely to weaken amid the downward pressure on consumption due to the hike in the consumption tax and the momentum of the population decrease.

A decline in the workforce is inevitable due to the population decrease and the aging society (Fig. 2-6). The medical care and nursing care sector and the personal services sector, which both support the aging society, will create employment. Staff shortages are already becoming apparent on the front lines of medical care and nursing care, so in light of the impact of securing twelve million employees for the future, it will be necessary to make the sector more efficient through mechanization.

Figure 2-6 The Number of Workers in Major Industries

| 2010 | | 2030 | |
|--------------------------------------|-------|--------------------------------------|-------|
| Living-related and personal services | 907 | Medical care etc | 1,173 |
| Retail trade | 764 | Living-related and personal services | 764 |
| Medical care etc | 705 | Miscellaneous business services | 588 |
| Construction | 496 | Construction | 459 |
| Miscellaneous business services | 467 | Retail trade | 456 |
| c.f. Manufacturing | 921 | c.f. Manufacturing | 820 |
| Total Workers | 6,577 | Total Workers | 6,178 |

(ten thousand)

III. Reform Scenario

Achieve growth through drastic changes in the economic structure

ICT and energy conservation to improve labor productivity and avoid wasteful investment

The baseline scenario forecasts negative growth rates (potential GDP) by FY 2030. To raise the rate to 2%, labor productivity would have to triple from the near term rate of 0.7%. From an investment perspective, ICT investment, particularly in software net capital stock, would have to double by FY 2030 compared to the baseline scenario. However, maximum effect will not be achieved unless reforms are introduced to maximize use of ICT in business approaches and ways of working. Business restructuring and drastic changes in the industrial structure are unavoidable. There must be no repeat of investments based on optimistic management decisions such as the large plants with extremely low utilization rate, or the abandoned resort facilities that have popped up here and there since the 1990s. Energy conservation is also linked to increased productivity. The rapid rise in energy costs since

March 2011 is not linked to lower competitiveness as it has been absorbed by energy conservation efforts. Another aspect of raising competitiveness is to develop energy-efficient products and production methods. In resource-poor Japan, advancements in energy and resource conservation are easily linked to increased productivity. When electricity became wide-spread in the early twentieth century, production systems were built around the electric motor and productivity increased rapidly, but now one hundred years later, we essentially need a similar response.

Accelerate growth by attracting foreign capital and promoting competition to reach GDP of 600 trillion yen by FY 2024

The Trans-Pacific Partnership (TPP) was broadly agreed in October, but further market liberalization will be necessary for growth in Japan. JCER emphasized the importance of market liberalization in "*Vision 2050: Maintain Position As a First-tier Nation*" a long-term forecast dated February 2014. The second Abe administration, in power since the end of 2012, is promoting efforts to open up the market, but further efforts are required as Japan needs market liberalization on a par with the United Kingdom. In particular, liberalization in the financial and service sectors is lagging behind, which is also a reason why Western corporations are not tapping into the Japanese market. To attract foreign capital, it will be necessary to lower the corporate tax rate to 25%. Market liberalization is linked to revitalization of the domestic market through competition and foreign capital with high productivity, and would make a major contribution to pushing up growth. Promoting competition by means of foreign capital and incorporating demand from abroad would substantially increase exports (triple FY 2014 figures by FY 2030, export ratio vs. nominal GDP from 18% to 35%). As already mentioned, maximizing use of ICT would favor energy conservation and increased export competitiveness. If Japan delivers an export-oriented nation that can incorporate demand from abroad, the government will reach its target of a nominal GDP of 600 trillion yen by around FY 2024.⁵

The workforce will decrease even if people work until 70, employment for women is on a par with Scandinavia, and immigrants increase by 80,000

The factor that exerts the most downward pressure on potential growth in Japan is the decline in the workforce. The only way to moderate this factor by FY 2030 is to take full advantage of women, foreign and elderly workers. Even so, the working population will decrease by 2.8 million people (4 million under the baseline scenario). Basically, the elderly will need to work until age seventy unlike today's workers who need to work until age 60 to 64. Premised on immigration, the number of foreign workers will have to increase by at least 80,000 by FY 2030 (cumulative total of at least 750,000). In terms of immigration, Japan must accept human resources for medical and nursing care as well as human resources with responsibility for a high level of innovation.

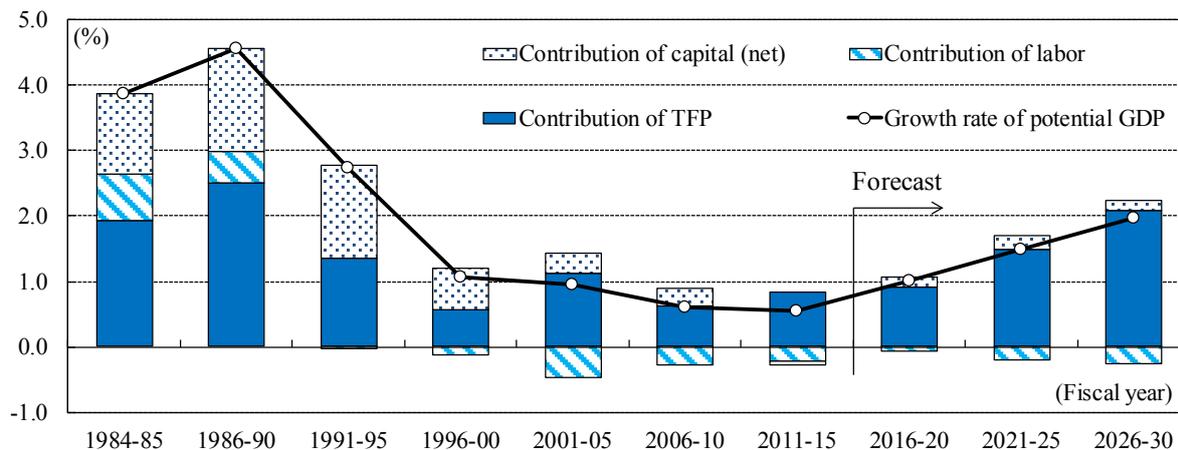
Although the M-shaped curve (low labor force participation rate of women aged 25-34) will be eliminated in the near term, it will come at the expense of an accelerating drop in birth rates. Premised on the 41st Medium-Term Economic Forecast, childcare support of eight trillion yen a year is assumed necessary to make women's participation in the workforce compatible with improved birth rates, and for birth rates to recover to 1.6 by FY 2030.

⁵ A new standard based on the 2011 standard for GDP is expected to be adopted at the end of 2016 whereby research and development costs will be classified as capital investment and included in GDP. As a result, GDP may expand by 3-4% (15-20 trillion yen), but this has not been taken into consideration here.

A substantial increase in consumption tax rate will move the outstanding debt to nominal GDP ratio from 200% into better territory

Attempting fiscal restructuring including shifting the primary balance (PB) into the black and stabilizing the outstanding debt to nominal GDP ratio while simultaneously maintaining pensions, medical care and other social security standards as well as enhanced support for child-rearing is impossible with a growth rate of only 2%. Substantial tax increases will be required. If the rate of consumption tax is raised to 23% by FY 2030, the primary balance will be in the black by fiscal 2029 even if child support of eight trillion yen a year is implemented. After peaking at more than 200% in 2018, the outstanding debt to GDP ratio will gradually turn around and drop to 183% by FY 2030. Since the tax would be raised when 2% growth is realized, real consumption per person (living standards) will improve by at least one and a half percentage point. In other words, a substantial increase in the consumption tax rate without growth of 2% would be directly linked to reduced living standards, making it impossible to increase taxes. The current account surplus will exceed twenty trillion yen by FY 2030, making it possible to maintain the surplus to nominal GDP ratio at 3%. By FY 2030, the balance on goods and services will be 7.2 trillion yen in the red (approximately one quarter of the baseline scenario), but earnings from overseas investments will increase from 22 trillion yen in FY 2015 to exceed 30 trillion yen.

Figure 3-1 Potential Growth Rate Will Reach 2% in Reform Scenario



(Source) Cabinet Office “System of National Accounts”

Summary table: Economic Forecasting to FY2030

| Indicator | Unit | Baseline scenario | | | | | Reform scenario | | | |
|---|---------------------------|-------------------|----------|---------|---------|---------|-----------------|---------|---------|-------|
| | | 2006-10 | Forecast | | | | Forecast | | | |
| | | | 2011-15 | 2016-20 | 2021-25 | 2026-30 | (Fiscal year) | | | |
| | | 2011-15 | 2016-20 | 2021-25 | 2026-30 | 2011-15 | 2016-20 | 2021-25 | 2026-30 | |
| Real GDP | annualized growth rate, % | 0.2 | 0.6 | 0.9 | 0.5 | 0.0 | 0.6 | 1.4 | 1.6 | 2.1 |
| Potential GDP (3-year backward average) | annualized growth rate, % | 0.6 | 0.5 | 0.8 | 0.4 | 0.1 | 0.5 | 1.1 | 1.5 | 2.0 |
| Consumer price index (all items) | annualized growth rate, % | -0.1 | 0.7 | 0.8 | 0.7 | 0.7 | 0.7 | 1.2 | 1.6 | 1.5 |
| Primary balance (ratio to nominal GDP) | period average, % | -4.0 | -5.2 | -3.3 | -3.6 | -4.8 | -5.2 | -4.6 | -2.8 | -0.2 |
| Outstanding debt (ratio to nominal GDP) | end year, % | 172.2 | 197.9 | 205.9 | 218.1 | 251.6 | 197.9 | 204.7 | 197.0 | 183.1 |
| Current account (ratio to nominal GDP) | period average, % | 3.7 | 1.7 | 4.1 | 3.6 | 0.9 | 1.7 | 3.9 | 3.9 | 3.2 |
| Compensation of employee per capita | annualized growth rate, % | -1.1 | 0.5 | 1.0 | 1.1 | 0.6 | 0.5 | 1.3 | 2.7 | 3.1 |
| Ratio of ordinary profits to sales | period average, % | 3.2 | 4.3 | 5.1 | 4.6 | 3.9 | 4.3 | 5.3 | 4.5 | 3.5 |
| Household savings rate | period average, % | 1.7 | 0.7 | 0.4 | -2.5 | -5.0 | 0.7 | 2.5 | -1.7 | -7.7 |
| Unemployment rate | period average, % | 4.4 | 3.9 | 3.2 | 3.1 | 3.0 | 3.9 | 3.0 | 3.1 | 3.2 |
| Yen to US dollar exchange rate | period average, Yen/USD | 102.0 | 98.5 | 120.2 | 117.1 | 113.8 | 98.5 | 120.2 | 117.1 | 113.8 |
| Crude oil price (WTI) | end year, USD/barrel | 79.6 | 48.8 | 51.3 | 72.0 | 101.0 | 48.8 | 51.3 | 72.0 | 101.0 |
| Real world GDP | annualized growth rate, % | 2.6 | 2.9 | 3.1 | 3.0 | 3.1 | 2.9 | 3.1 | 3.0 | 3.1 |

(Notes) 1: Crude oil price and real world GDP figures are shown in calendar year format.

2: Ratio of ordinary profits to sales figures are of corporations with capital of over 10 million yen.

3: This forecast is based on all data that was available up to and including 15th February 2016, when "Quarterly Estimates of GDP Oct. - Dec. 2015 (The First Preliminary)" was released.

For further inquiries, please contact
Tatsuo Kobayashi email: t.kobayashi<at mark>jcer.or.jp
(Please change <at mark> to @)

The content of this report may not be copied without permission from JCER.
Please inquire with the General Affairs and Business Department for further details.

Copyright © 2016 JCER

Japan Center for Economic Research (JCER)
Nikkei Inc. Bldg. 11F 1-3-7 Otemachi, Chiyoda-ku, Tokyo 100-8066, Japan
Phone: +81-3-6256-7710 / FAX: +81-3-6256-7924