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The 36th Middle-Term Economic Forecast (2009—2020)

Policy Uncertainties Limit Growth of Domestic Private Demand, Including Business Investment

- Real GDP Growth Rate to Average 1.2% through 2020 -

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- We conducted the medium-term forecast (from 2009-2020) on Japanese economy, basing it on our newly-developed macro-econometric model. Our forecast assumes the continuous slow growth in overseas economies as well as the intensified worldwide competition to affect the export markets for Japan.
- The results show the average growth rate of the Japanese real GDP is 1.2% over the coming decade through 2020. Exports, the main driving engine of Japan's economic growth, grow no faster than 3.5%. It amounts less than half, compared to the pace in the most recent economic expansion period which was the longest after the Second World War. Uncertainties of the government economic policies also affect negatively the business fixed investment. Regarding the real GDP, it takes six years to surpass the last peak in FY2007, to say, new peak in the fiscal year 2016 (April 2016 - March 2017).
- As a result, the excess of supply capacity over demand (or the negative GDP gap), which has greatly widened in recent years, will not likely be closed until 2019. The remaining excess capacity results in the sluggish improvement of unemployment rate and personal consumption. Without the impacts of our expected increases in the consumption tax rate (3% in April of 2014 and another 2% in April of 2018), the real price level continues to fall through 2020.
- The annual growth rate of nominal GDP stays at just 0.8% . The level of nominal GDP will not exceed its most recent peak in FY2007, even in the end of forecast horizon, FY2020. Those results lead to the lack of (1) the full recovery in tax revenues correlating with the nominal growth rate, and (2) the improvement in government finances facing the rising social security payments as Japanese population ages.

1. Introduction

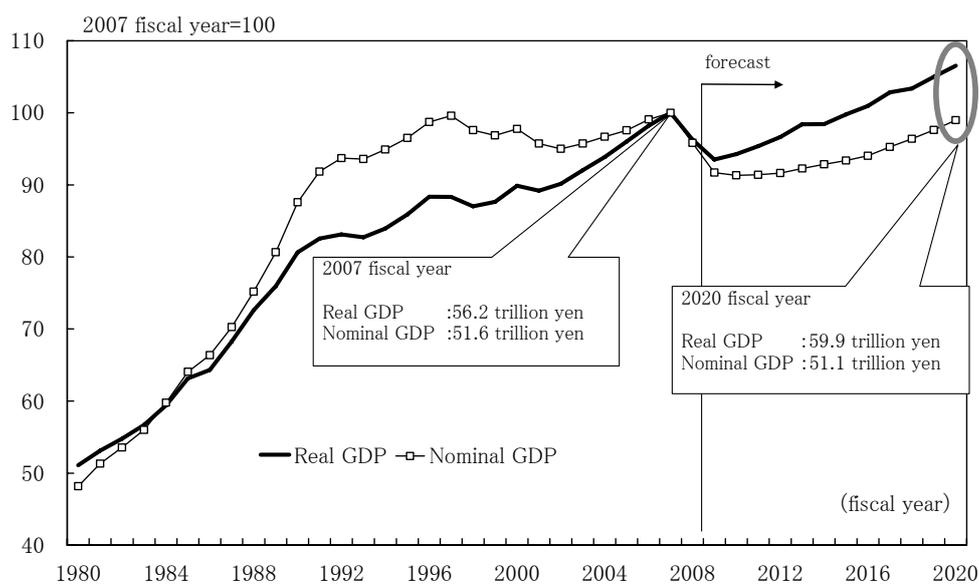
After the deep global recession from autumn 2008 to spring 2009, Japanese and World economies have bottomed out since around the spring of 2009. Japanese real GDP growth deteriorated considerably in the second half of FY2008 (April 2008 - March 2009), meaning that FY2009 began with a handicap relative to the average real GDP of FY2008. As a result, real GDP

for the full year FY2009 will likely come in at -2.9%, plunging for the second year running. In FY2010, the growth rate is expected to turn into positive again at +0.8%¹.

However, the positive growth rate, or the positive direction of the economy, for the first time in three years does not directly leads to strong economic activities because the level of real GDP in FY2010 will be around 6% below the most recent peak in FY2007. In terms of the GDP gap², which shows the supply-demand balance of the economy as a whole, in FY2009 it recorded biggest negative margin, standing at minus 7%. In FY2010, the GDP gap will remain negative with 6%. Under these circumstances, the deflationary slide in prices is unlikely to be arrested, with nominal GDP reaching only about midway between FY1990 and FY1991 levels.

In FY2010, Japanese economy has rebounded from a deep recession, but still with a weak economic starting point for the coming decade. Employing our newly-developed macro-econometric model³, we have projected the outlook for the economy over the coming decade, exploring a growth path over this period.

Figure 1: The results and perspectives of real GDP and nominal GDP



Source: Cabinet Office "National Accounts"

2. Global Growth Expected to Average 3.0% - 3.5% through 2020

Following assumptions have been adopted for our outlook:

Assumption (1) China and other emerging countries will continue to drive world economic growth.

But adjustment of over-consumption in U.S. has a negative impact, making average world growth rate only 3.0%-3.5% over the coming decade.

Assumption (2) Real effective exchange rates, which impact directly Japan's exports, will

¹ The forecast for the Japanese economy for FY2009-2010 in this report corresponds to the "Revised Quarterly Economic Forecast No. 140" released on December 10, 2009.

² The GDP gap = (real GDP - potential GDP) / potential GDP x 100.

³ Contains 272 variables (Endogenous variables: 172; exogenous variables: 100).

stay constant at current rate. The yen strengthening to correct for the gap between the inflation rate in Japan and that of overseas, lead to that the one dollar equals 93.1 yen for FY2009, moving toward around 79 yen in FY2020.

Assumption (3) The price of crude oil⁴ will be \$75.90 for 2009, moving toward \$85.00 by 2012, after which it will remain about the same as gauged by the U.S. producer price index (at \$97.80 in 2020).

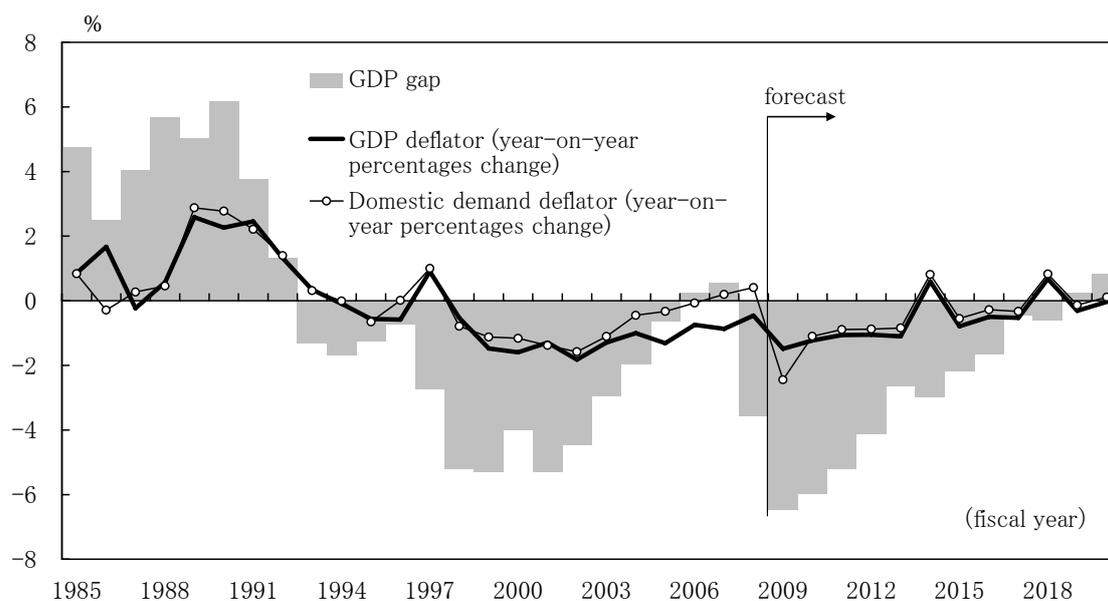
Assumption (4) The consumption tax rate will be raised by 3% in April of 2014 and another 2% in April of 2018, totally 10%. After the recent economic measures run their course, the government will cut public investment by an annual rate of about 1%. Hot debate on pension reform under the government of the Democratic Party of Japan has generated no concrete solutions at the present time, therefore no changes in social security system is expected to be made over the forecast period.

Assumption (5) Japan's labor force population will decrease by about 0.5% per year over the coming decade.

Under these assumptions, Japan's real GDP growth rate is projected to be 1.2% on average through 2020, recovering at a very slow pace. Real GDP will recover its most recent 2007 peak only after 2016 (Figure 1).

Owing to lackluster fixed investment in business sectors and a continuous decline in the labor force population, Japan's potential growth rate is projected to be 0.5% on average over the coming decade. At the weak average growth rate of 1.2%, the excess of supply capacity over demand will not likely be closed until FY2019. Except for the two fiscal years (FY2014 and FY2018) when the consumption tax is raised, the GDP deflator growth rate will remain negative through the end of our forecast horizon (Figure 2).

Figure 2: The GDP gap and inflation



Source: Cabinet Office "National Accounts"

⁴ Average of West Texas Intermediate, Brent and Dubai; calendar year.

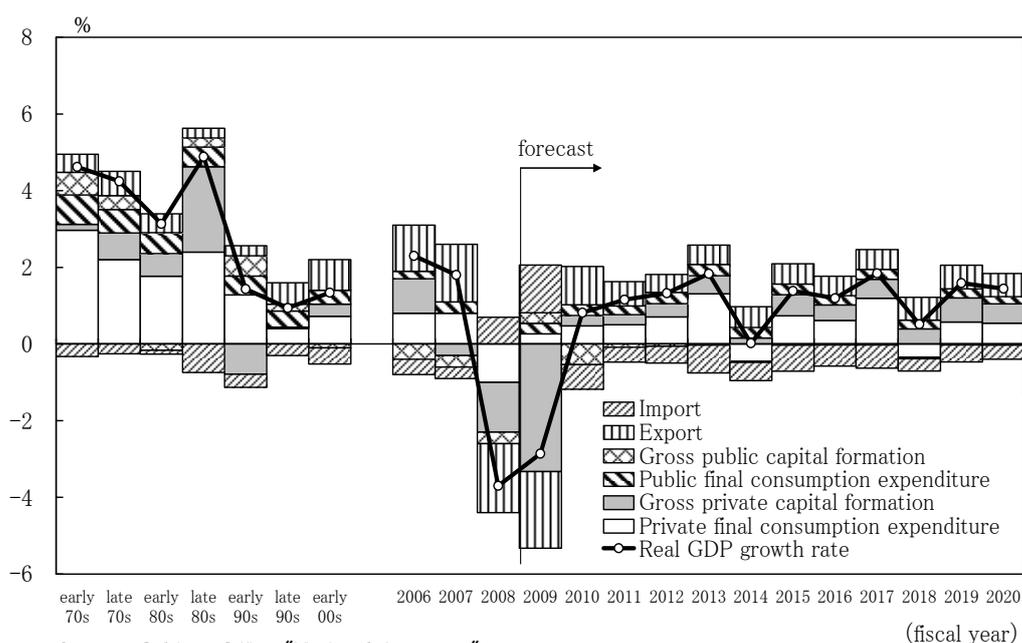
As a result, we expect the rate of nominal GDP growth to be just 0.8% on average through the end of the decade, and the level of nominal GDP to reach just over ¥510 trillion by the end of the forecast period, falling slightly below the most recent peak in FY2007 at ¥515.7 trillion. Just over ¥510 trillion nominal GDP is almost equivalent with the level of FY1996 - FY1997, when the consumption tax was raised from 3% to 5%. This means that the level of nominal economic activities in a quarter century will remain at the same as that of current nominal situation.

Nominal GDP is highly related to business earnings and tax revenues. Given anticipated increases in spending on social security corresponding to the aging society, the listless nominal growth rate will undermine growth in tax revenues, hampering improvements in government finances. Despite increases of consumption tax rate in 2014 and 2018, the deficit in the general government will still stand over 5% of nominal GDP as of the end of the forecast period.

3. Deflation also Hampers Recovery of Expected Growth Rate in Business Sectors

As influential factors which make Japanese economic growth subdued, following three factors are listed up (Figure 3). The first factor is lower growth rate of real exports of goods and services, main driving force of Japanese economy, standing at a sluggish pace of 3.5% on average over the coming decade. This is less than half, compared to 8-11% growth during the last economic expansion, the longest in the postwar period, during which exports lifted the economic growth rate by 1.3 percentage points on average. This is partly because of a sluggish global growth rate of 3.0% - 3.5% during the coming decade [Assumption (1)] while global growth rate grew at a brisk 4.0 - 5.0% during the last economic expansion period, and partly because Japanese firms will increasingly expand production network in emerging countries due to intensified competition in export markets,

Figure 3: Analysis of contribution to real GDP growth



resulting in less correlation between growth of global economy and increase of Japanese exports.

For example, four major steel firms, including Nippon Steel, plan to quadruple their combined offshore production capacity from about 17 million tons at present to about 66 million tons through joint ventures and equity participation (the Nihon Keizai Shimbun, Jan. 12, 2010). This reflects expansion of production capacity, planned by Japanese automakers, in emerging nations such as India. Such aggressive investment activities outside of Japan can be found in a variety of industries, therefore a recovery in the global economy will not necessarily result in a proportionally brisk expansion of Japanese exports.

The second factor is the lackluster fixed investment in business sectors. In the last economic expansion, export dependency⁵ of the Japanese economy overall rose sharply from about 11% in FY2002 to 16% in FY2007, leading to vulnerable economic condition to the global recession since the autumn of 2008. Increase of export dependency has been derived from the less contribution of increased exports to domestic demand although the benefits of increased exports were expected to activate domestic demand. The weak growth of fixed investment in business sectors had impacts on the less contribution of increased exports to domestic demand.

The anticipated growth rates⁶ of business firms also give influence on fixed investment in business sectors. In our forecast, we conducted empirical studies of the anticipated growth rate of business firms, finding that economic growth rate in past, nominal rate rather than real rate, have impacts on anticipated growth rate of business firms, especially in recent years. In addition, during the most recent economic expansion period, we found that there existed some kind of elements, pushing down fixed investment, and for which the expected growth rate of business, capital earnings ratios and capital costs can not account. These elements can be related to the increase in offshore production.

In our forecast, we have assumed no change in the way of formulating the anticipated growth of business firms. With nominal growth rates weaker than real growth rates, anticipated growth rates of business firms will not recover easily. That undermines any recovery in fixed investments and economic growth, which in turns undermines the anticipated growth rate of business firms in a vicious cycle. Preference of offshore production network or investment by business firms to succeed in emerging markets also plays a role to undermine fixed investments in domestic market. As many economist or analysts have pointed out, industrial policy of the ruling DPJ, which is relatively reluctant to support businesses, may accelerate expansion of offshore production in business sectors. Considering all these predictors, private business fixed investment over the next decade is projected to grow at 3.2% on average.

The third factor undermining economic growth is discussed in the following section.

⁵ Export dependency = real exports of goods and services / real GDP.

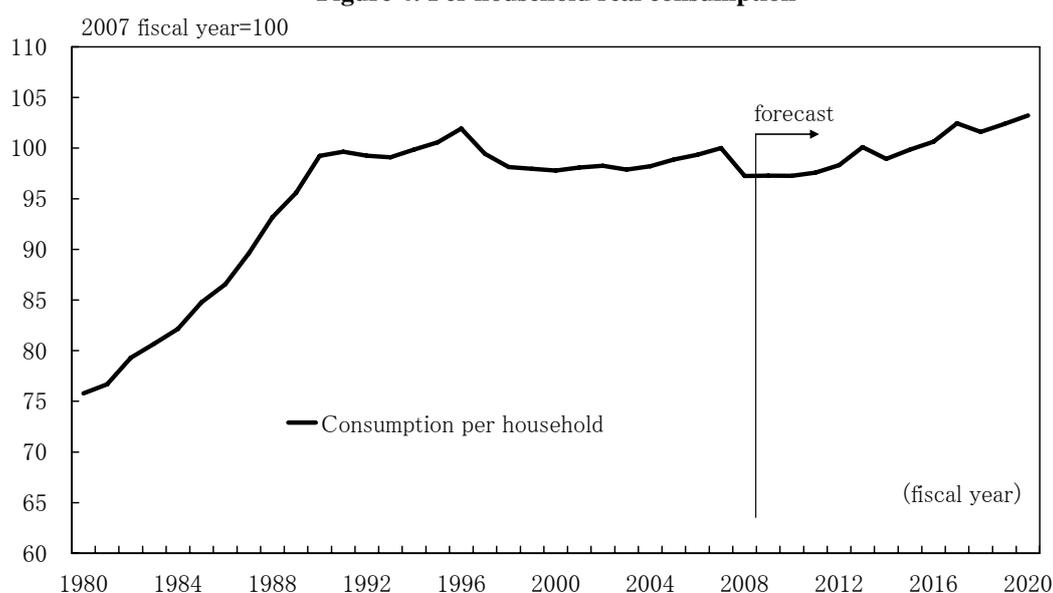
⁶ The forecasts of real economic growth rate for coming three years in “Annual Survey of Corporate Behavior,” Cabinet Office.

4. Rise in Senior Consumption is promising? or dubious?

The third factor undermining economic growth is the unlikelihood of any economic impetus from increase of personal consumption and housing investment as Japan's population begins to decrease and ages in earnest. From the 1980s until recent years, the household propensity to consume has followed a gradually rising trend, but this has resulted from an increase in the number of households dipping more and more into savings (and thus have a propensity to consume exceeding 100%) in step with the aging of the population. It is not due to any active growth in consumption by individual households.

In fact, per-household real final consumption expenditures⁷, on average, have not actually advanced much (Figure 4) for last twenty years while in 1980s they rose by nearly 25% over ten years. The main reason is sluggish recovery of employment and income conditions, meaning the lack of vigor in personal consumption, a main pillar of domestic demand. That leads to weak economic growth, in turn setting back a recovery in employment and income conditions even further.

Figure 4: Per household real consumption



Sources: Cabinet Office, "National Accounts", Ministry of Internal Affairs and Communications "Population Census"

In the most recent economic expansion period, there was a considerable gap between the earnings of large manufacturers and, small and medium-sized (SME) non-manufacturing firms. In contrast with earnings of large manufacturers, depending heavily on exports, those of SME non-manufacturers rely primarily on domestic demand. Given the absence of any genuine recovery in personal consumption, the main pillar of domestic demand, it is hard to expect any improvement

⁷ Computed by dividing GDP-based real household final expenditures by the number of households based on the national census. Data on census-based household numbers for non-survey years were supplemented by using trends for household numbers based on the *Inhabitants Basic Roll Book (Jumin kihon daicho)* published by the Ministry of Internal Affairs and Communications.

in the earnings of these firms. At the same time, non-manufacturing SMEs account for a large number of jobs. Sluggish personal consumption undermines employment and income conditions, which in turn stifles personal consumption, and so long as this vicious cycle remains unresolved, the nation's export dependency will remain unavoidably high.

In our forecast period, we anticipate that real per-household consumption expenditures will surpass recent years' levels in the second half of the coming decade, when the wage growth rate finally rises, but this will happen in the face of slower growth in the number of households. Household numbers grew at an annual pace of about 1% on average between 2001 and 2005, but this pace should slow to about 0.2% in the second half of the decade⁸. For this reason, the growth rate of personal consumption (real private final consumption expenditures) over the coming decade will be no more than 0.9% on average. Since the total number of residences exceeds the number of households already, sluggish growth in the number of households is likely to be a restraining factor on residential investment, too.

Consumptions by seniors is one factor cited as holding promise for breaking this deadlock. Our computations using the Family Income and Expenditure Survey by the Ministry of Internal Affairs and Communications show that households of persons aged sixty or more accounted for about 40% of personal consumption in the nation as a whole in 2008. This represents an increase of 7 percentage points over six years versus 2002, when the most recent economic expansion began. Estimates regarding holdings of financial assets show that financial assets held by households in which the head of the household is aged sixty or more accounted for about 60% of all such assets nationwide in 2008.

The main source of income supporting the purchasing power of senior households is pensions, which is not particularly sensitive to the economic cycle or deflation, and one might assume it has considerably risen given the long period of deflation. However, senior purchasing power has not reached the point that it can drive consumption in the nation as a whole. For not only has the long-continuing deflation eaten into interest income, which is considered to influence consumer sentiment, but in the absence of any sign of viable social welfare reform yet, consumers are hesitant to dip into their financial asset holdings in a major way. Our present forecast does not assume that any viable social welfare reform will be presented and anticipates that interest rates and yields will rise only marginally as deflation continues. (We see the yield on the ten-year Japanese government bond at just under 2% at the end of our forecast period.)

⁸ Assumptions regarding household numbers in the present forecast have been prepared with reference to the "Future Estimates of Japanese Household Numbers (Nationwide)" (*Nihon no setaisu no shorai suikei*) by the National Institute of Population and Social Security Research (NIPSSR). The number of Japanese households in NIPSSR's forecast is projected to turn down and begin declining in the second half of the coming decade. Meanwhile, the growth rate (yearly average of 0.5%) from 2006 through 2010 in NIPSSR's forecast is low or about half the growth rate for household numbers based on the Inhabitants Basic Roll Book published by the Ministry of Internal Affairs and Communications. In consideration of the foregoing, the growth rate of household numbers through the end of the forecast period is projected to be positive.

In the absence of any boost from increases in senior consumption, it is difficult to foresee any genuine growth in personal consumption.

5. Rising Fiscal Deficit Poses Risk of Higher Interest Rates in Long Term

There are several risks that may affect the above standard scenario. Among them, the risk presenting the most concern is a possible negative impact on the economy from a “vicious” rise in interest rates.

Our forecast makes no particular assumptions regarding Bank of Japan monetary policy and assumes that long-term interest rates (as measured by the yield on the 10-year Japanese government bond) will remain subject to the influence of Japan’s potential growth rate, the core inflation rate (the growth rate of consumer prices excluding fresh foods), and the fiscal deficit. Our empirical analysis shows that the recent upward shift in the long-term interest rate (projected at 1.4% for FY2009) can not be explained in terms of the above variables. There may be an additional premium demanded by investors owing to concerns about the sustainability of government finances.

Over the course of our forecast period, we believe the potential growth rate will rise as business fixed investment slowly recovers and that the negative margin of the core inflation rate will gradually narrow. We anticipate that, in this process, an additional premium will also be reduced, such that the yield on the ten-year JGB is projected to remain low at 1.9% at the end of our forecast period in FY2020. The low yield implies sluggish growth in interest income for households, which becomes a factor undermining consumption, while it supports corporate earnings and fixed investment. With no improvement in government finances on the horizon, the low interest rate will have a positive effect in helping to prevent a worsening of the fiscal deficit due to expanding interest payments to service outstanding government debt.

However, the additional premium demanded by investors concerned over government finances may not decline. In fact, there is risk it could rise. In short, it is possible that interest rates may rise higher than anticipated in our present forecast. Accordingly, we have estimated what the impact would be from the rather extreme event in which the long-term interest rate rose by 500 basis points over the rate assumed in our forecast due to a rise in this premium demanded by investors concerned about the sustainability of government finances

Given the structure of our model, a simple rise in interest rates lifts the growth rate by 0.4 percentage point. A rise in long-term interest rates has a negative impact on business profits and business fixed investments, but by increasing the interest income of households, it has the effect of boosting consumption.

In this simulation, however, our estimate is based on the assumption that household consumption behavior (the propensity to consume) will exhibit the same consumption pattern seen in response to past increases in income due to rising interest rates. On the other hand, rising interest rates cause government deficits to grow, and it is fully possible that households may choose to save any increase in interest income on fears of higher taxes in the future. Accordingly, we have also

conducted a simulation to gauge what would happen if households, instead of using any increase in interest income (property income receipts) from a rise in interest rates for consumption, used all of it to retrench, either saving it or using it to reduce financial debts.

This simulation indicates that the average rate of GDP growth over the coming decade would fall to 0.6%, or half that under the standard scenario, tipping the economy into negative growth in the first half of the coming decade.

6. Policy to Support Structural Change Efforts

Our 36th Medium-Term Forecast shows a relatively pessimistic outlook. Even if the global economy recovers, the growth of Japanese exports, the most influential driving engine of the economy, will not reach the level which is only half of that in the most recent economic expansion period. Given the delayed recovery of business expected growth rates, fixed investment, the second influential engine of the economy, is likely to grow at only around 3% on average over the coming decade. Along with fixed investment, the delayed recovery in employment and income conditions will undermine personal consumption, the pillar of domestic demand. Stubborn low growth, low growth rate in nominal base, will cause further deterioration in government finances and further heighten fears regarding the sustainability of the social welfare system. Under these conditions, those seniors who some observers hope will support consumption will hesitate to use their financial assets for consumption. It is a vicious cycle in the true sense.

Then, the question to be posed is how such a situation can be changed. Isn't it possible to make change? Of course yes, we can change. The reason why we conducted a pessimistic scenario that Japan will not benefit from a recovery of the global economy, is partly because there found no structural change, and partly because Japanese economy will continue to rely on exports of basic materials and automobiles as main export products of Japan.

In future, overproduction of these products in global level will compel Japanese firms to compete more heavily with foreign competitors in export goods that Japanese firms are good at producing. However, new export strategy with goods of new fields can cultivate new market and Japanese firms can enjoy high growth rate of exports.

The relatively low anticipated growth rate of business firms will accompany some kind of fears for oversupply and reluctance for boosting the stock of capital. However, scrap and build process of business operations rather than boosting the stock of capital may accelerate the movement of fixed investment in new fields, which may lead to the trigger for boosting the economy.

Similarly, given the slowing growth of household numbers, increase in the stock of residences will likely be difficult because the stock of residences is sufficiently large. However, if more and more old stock will be rebuilt with higher pace than before by promoting rebuilding of old stock, which do not satisfy the current Building Standards Act, the number of housing starts might increase.

Despite the oversupply of manufacturing goods, it is often argued that the medical care and care-giving supply is not enough to meet demands. As Japanese society rapidly ages, shortage of supply will become more and more substantial. Put another word, unbalanced supply and demand indicates plentiful opportunities for expanding business in these fields.

History shows that such structural changes arise through a considerable amount of trial and error in various fields of the private sector. To forecast how and when structural changes will happen is difficult, but we should underline the possibilities that structural changes can generate. To encourage trial and error in business sectors, the government is required to check if existing legal and tax regulations are impediments or not.

Following Japan's period of high economic growth, the first oil shock caused a drastic economic contraction which was followed by the expansion of the latter half of the 1970s⁹. Among postwar expansions, this expansion period in the latter 1970s was an unusual period when growth rate of fixed investment in business sectors had been negative on average. This might be due to difficulties for businesses, in the midst of major changes, to decide where and what to be invested. Subsequently, Japan overcame the second oil shock and mounted a new track of steady growth in technological fields in the first half of the 1980s.

The Japanese economy does indeed at the present time seem to be in the midst of looking for new ways. The number of trial and error will matter in terms of Japan's growth rate over the coming decade. Considering that trial and error involves failures, the government should, in haste, redesign more sustainable social safety network and implement necessary fiscal and monetary measures which lift the economy out of deflation as soon as possible.

Deflationary economy where the value of debt rises year after year compel individuals and businesses to hesitate to challenge anything considering negative impacts of making mistakes .

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⁹ The eighth postwar economic expansion (March, 1975 through January, 1977).