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**ABENOMICS: HOW TO OVERCOME JAPAN'S LONG DEPRESSION
AND THE GLOBAL FINANCIAL CRISIS**

Kazumasa IWATA

President, Japan Center for Economic Research
Emeritus Professor, The University of Tokyo
Nikkei Bldg.11F, 1-3-7,
Otemachi Chiyoda-ku, Tokyo, JAPAN
Email: iwata@jcer.or.jp

ABSTRACT

In this lecture I evaluate the three arrows of Abenomics in the light of policy recommendations in an open letter to President Franklin Roosevelt from Mr. Keynes in December 1933: the combination of “cheap money” with “wise spending”, in addition to exchange rate arrangements between the US and the UK aimed at achieving stable prices.

For the first arrow, I assess the effectiveness of the “Quantitative and Qualitative Easing Policy” announced by the Bank of Japan in April 2013 to attain a 2% inflation target within two years, with regard to the effects on asset prices and inflation expectations. It will take longer than two years for the Bank of Japan to achieve the 2% inflation target. At the same time, I put emphasis on the need to avoid risks in the process of exit, in addition to the need to take coordinated action with the debt management policy.

On Japan’s persistent deflation and stagnation, I identify the two causes: excessive yen appreciation and a fall of the natural interest rate after the 1980s bubble burst. The former points to the importance of international financial reforms to avoid the misalignment of exchange rates among major reserve currencies, and to secure the supply of safe assets (“Bretton Woods III”), while the latter indicates the need to implement broadly-based reforms covering political, social and economic institutions in Japan. I point out a missing link of the current “growth strategy” (the third arrow) of the goal of 2% medium-term growth, by examining three scenarios of the future prospects of Japan in 2050.

Key words: Inflation Targeting, Supply of Safe Assets, Institutional Change

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ABENOMICS: HOW TO OVERCOME JAPAN'S LONG DEPRESSION AND THE GLOBAL FINANCIAL CRISIS

1. Introduction: Abenomics and Mr. Keynes

1.1. Three Arrows of Abenomics and an Open Letter to President Roosevelt from Mr. Keynes

Abenomics is the integrated policy package of measures consisting of an expansionary monetary policy (the Quantitative and Qualitative Easing Policy=QQE), flexible fiscal policy and growth strategy. The QQE aims at achieving a 2% inflation target by doubling the size of Japan's monetary base in two years from Yen 130 trillion to Yen 270 trillion at the end of 2014. On the fiscal front, a supplementary budget totaling Yen 5.5 trillion was implemented, following a supplementary budget amounting to Yen10.2 trillion in FY 2012.

The combination of expansionary monetary and fiscal policies in FY2013 produced remarkable success in achieving a 2.1% growth rate, and increasing the rate of change in core consumer prices, excluding fresh foods, from negative 0.2% in FY2012 to 0.8% in FY2013, reaching the level of 1.5% in April 2014. Labor market conditions improved remarkably, leading to 3.5% unemployment in September 2014.

Yet the turnaround of fiscal policy from stimulus to the implementation of the consumption tax rate hike from 5% to 8% in April 2014 exerted a more sizable negative impact on economic activity than anticipated by the majority of market participants. The GDP growth rate registered a deep drop (negative 6.8%) in the April-June period and subsequently a negative growth rate also (negative 1.9%) in the July-September period.

At the end of 1933, Mr. John Maynard Keynes wrote an open letter to President Franklin Delano Roosevelt. He recommended to U.S. President Roosevelt the three policy measures of (1) cheap money to lower the long-term interest rate below 2.5% by massive purchase of long-term government bonds by the central bank (2) wise spending policy targeted at the projects which mature quickly and are financed by loans (3) exchange rate arrangement between the US and the UK to secure a stable domestic price level. The first two measures correspond to those of Abenomics, although Mr. Keynes denied the importance of money supply. He noted as follows (Keynes, 1982a,):

“Rising output and rising income will suffer a setback sooner or later if the quantity of money is rigidly fixed. Some people seem to infer from this that output and

income can be raised by increasing the quantity of money. But this is like trying to get fat by buying a larger beltIt is a most misleading thing to stress the quantity of money ...rather than the volume of expenditure”.

While Mr. Keynes was not much concerned about institutional reforms under the New Deal, which may be regarded as a growth strategy by President Roosevelt, he emphasized the importance of a common policy of exchange rate stabilization between Great Britain and the US aimed at achieving stable domestic price levels. He would like to see that the two countries adopt “the provisional parities not depart except for substantial reasons arising out of their balance of trade or exigencies of domestic price policy” (Keynes, 1982b). The idea of the provisional parities, instead of rigid parities under the Gold Standard, culminated in the adjustable peg scheme under the Bretton Woods System. It is important to note that Mr. Keynes thought that it is necessary to establish exchange rate arrangements, in order to secure the domestic price level.

1.2. Three Arrows by Mr. Korekiyo Takahashi

Preceding the open letter by Mr. Keynes to President Roosevelt, then Finance Minister Mr. Korekiyo Takahashi announced three package measures at the end of 1931 in Japan. The first measure was exit from the Gold Standard. The Yen rate vis-à-vis the Dollar depreciated by about 60% by the end of 1932. In 1933 the Yen was pegged to the pound sterling. Mr. Takahashi employed “reflation policy” aiming at restoring the domestic price level to the pre-depression era. From today’s perspective, this policy was equivalent to “price level targeting policy” which the Swedish central bank experimented with during the 1930s.

The second measure was to increase public investment in local areas. The third measure was to raise the upper limit of issuing currency by the Bank of Japan from Yen120 million to Yen 1 billion. Thereby, the BOJ underwrote newly issued government bonds under the recognition that there remained no absorption capacity by the banking sector suffering from the damage arising from the Great Kanto Earthquake in 1923, and the financial crisis in 1927. At the same time, there was an agreement between the Finance Minister and the Bank of Japan that government bonds should be purchased and sold in the market if the banking sector restored the soundness of its

financial position. Thus, it was not designed to create a permanent increase of monetary base coupled with temporary fiscal stimulus (= “helicopter money”).

The three arrows of Mr. Takahashi produced a miracle impact on the Japanese economy suffering from serious deflationary pressures. The deflation stopped immediately, and the inflation rate jumped to a positive range from two digit deflation. Despite Mr. Takahashi’s intention to control the expansion in military spending, fiscal soundness was never restored. It resulted in hyper-inflation immediately after World War II.

1.3. Identification of the Two Causes of Deflation: Excessive Yen Appreciation and Negative Natural Interest Rate

The main purpose of Abenomics is to overcome persistent deflation. In order to achieve this goal, it seems necessary to identify correctly the main causes of the Japanese deflation. In my view, there are two main causes; one is the excessive appreciation of the Yen exchange rate, while the other is the secular stagnation after the economic bubble burst in 1990.

Despite the bubble bursting, the Yen rate continued to appreciate, reaching the level of less than 80 Yen per dollar. The appreciation trend until the mid-1990s was kicked off by the Plaza Accord in 1985 when the Yen-Dollar rate was Yen 240. Corporate managers were forced to lower sales prices and cut fixed costs, including wages, in an attempt to survive in international markets.

In contrast to Lehman’s collapse, the real GDP level never dipped below the peak level in 1990, due to the massive increase of public investment at that time, as Richard Koo correctly pointed out. This is because of the international commitment by the Japanese government.

The Structural Impediments Initiative between the Japanese and US governments produced the outcome in 1989 to double the size of public investment in ten years, aiming at achieving domestic demand-oriented growth. It is curious that the US government requested both Japan and Germany to further ease monetary policy in 1987, despite the intention of the Plaza accord to depreciate the dollar rate.

It may be noted that the “U Tokyo Daily Price Index,” based on the POS data of groceries and daily commodities compiled by Professor Tsutomu Watanabe, indicates that deflation started already in spring 1992. Subsequently, the GDP deflator showed a decline in the third quarter of 1994.

After the US-Japan joint intervention in foreign exchange markets in July 1998 to appreciate the Yen rate vis-à-vis the Dollar and Asian currencies, the core consumer price index (excluding fresh foods) entered the negative territory in October 1998. From the historical record, I identify excessive Yen appreciation as one of the major causes of the Japanese deflation.

Turning to the issue of secular stagnation, the potential Japanese growth rate was lowered significantly after the bubble burst, due to the balance sheet adjustment by the banking sector, as well as non-financial sectors such as real estate and services. In addition, the sharp change in demographic factors dampened the future prospects of the Japanese economy. While the balance sheet adjustment of excess debt, excess employment and excess capital stock of non-financial firms, and the concomitant deleveraging of the banking sector are the common causes of secular stagnation of other advanced economies after Lehman’s collapse, rapid demographic changes are a more specific factor of Japanese stagnation. In 1990, the population bonus turned into an onus, and the share of the working population began to decrease since the mid-1990s. The population structure changes made the traditional wage and employment system such as life-time employment and seniority-based wage system untenable; it resulted in the trend increase of non-regular workers. The increase of non-regular workers prevented the rise of nominal and real wages to register a positive rate of change as a trend since 1997. Although labor productivity increased, though at a slow tempo, the terms of trade deterioration coupled with lower labor income share eroded real wage gains in the 2000s and early-2010s. As a result, deflation persisted, except for a short interruption.

The excessive appreciation is related to the first arrow (QQE) of Abenomics and international financial reforms, while secular stagnation bears on the third arrow (growth strategy). I will take up these three issues in the following sections.

2. Assessment of the Quantitative and Qualitative Easing Policy

2.1 *QQE and the Nominal GDP Growth Targeting Policy*

In April 2013 the new Governor of the Bank of Japan (BOJ), Mr. Haruhiko Kuroda announced the QQE policy aiming at achieving a 2% inflation target in two years by doubling the size of the monetary base from 138 trillion Yen at the end of 2012 to 270 trillion Yen at the end of 2014.

The BOJ employed monetary base as a policy instrument and set the level of monetary base as a target. It is somewhat different from the monetary targeting practice used by the Deutsche Bundesbank since the mid-1970s. The Deutsche Bundesbank used monetary base expansion as a proxy for that of the broadly defined money supply (M3) and announced a target range for the rate of change in monetary base which should be consistent with the medium-term potential growth rate plus the desired inflation rate. In any case, what is important is the fact that the employment of monetary base as a policy target by the BOJ implicitly replaces a 2% inflation target with a 3% nominal GDP target.

The McCallum rule on monetary base as a policy instrument formulates that the desirable expansion of monetary base is a function of the difference between the target nominal GDP growth rate and the actual rate coupled with trend changes in income velocity of money. The McCallum rule can be transformed as a function of the de-trended monetary base expansion (the “modified McCallum rule”). Based on the “modified McCallum rule”, Yuji Shimanaka (2013) estimated the monetary base expansion needed to achieve nominal GDP growth rate of 3% in the January-March period 2015. The low income elasticity to de-trended monetary base (=0.11) implies a sizable rate of increase of monetary base (about 41%). Shimanaka’s estimate was 259 trillion Yen. Although there is no official statement that the BOJ endorsed the “modified McCallum rule” in setting the target level of monetary base, the announced target level was very close to the estimate provided by Shimanaka.

One of the problems in applying the McCallum rule to actual implementation of monetary policy is the treatment of the de-trended monetary base, or the trend increase of income velocity of money. If undershooting of nominal GDP growth rate persisted,

the required monetary expansion could become explosive, as the trend increase of income velocity of money must be adjusted upward.

In addition, the relationship between monetary base and nominal GDP is neither stable nor solid enough. The BOJ study incorporates the regime shift into the VAR(=the vector autoregressive) model; it demonstrates that the increase of 120 trillion Yen of current account deposits at the BOJ pushes up the CPI inflation rate by more than one percent. However the credible intervals are too wide for this estimate to be relied on (Kimura and Nakajima, 2013).

2.2 Impact of QQE on Long-term interest Rates

After the announcement of a 2% inflation target by Prime Minister Abe in November 2012, market expectations of future drastic changes in monetary policy affected asset prices significantly. Ueda examined the expected impact of unconventional monetary policy from December 2012 to March 2013, based on event study using monthly data. He found a significant impact on stock prices and the exchange rate, but no significant effect on long-term interest rates (Ueda, 2013).

At the time of the announcement of QQE in April 2013, the long-term interest rate reached a historically low level (0.31%), but it jumped to a higher level (1%). It took three months for the volatility of long-term interest rates to calm down.

The JCER study on QQE employed event study using daily data and found that QQE had a significant impact on stock prices, the yen-dollar rate and long-term interest rates (Japan Center for Economic Research, 2014a). Stock prices rose more than 60%, while the yen-dollar rate sharply depreciated more than 20%. However, the initial level of long-term interest rates was so low that QQE exerted only a limited impact on the level and shape of the yield curve.

The volatile movement of long-term interest rates reminded me of another episode of the VAR (=the value at risk) shock in June 2003. Market expectations of persistent deflation and the continued low policy rate brought the long-term interest rate to low level (0.4%). When market participants recognized that long-term interest rates had reached the bottom, they faced a one-sided risk of rising interest rates over the near future and started to sell long-term government bonds in a joint action, because the

Japanese banks employed similar risk assessment models based on the value at risk. I observed a similar reaction at the time of the announcement of QQE (Iwata, 2013).

In addition, I ascribe the limited effect on long-term interest rates to the lack of forward guidance on the policy interest rate, as well as the lack of coordinated action with debt management policy.

The effect of unconventional monetary policy on long-term interest rates can be decomposed into future expected short-term interest rate (or the neutral interest rate) and the term premium. Forward guidance is effective in influencing the future expected short-term interest rate, while a quantitative increase in purchasing of government bonds can significantly affect the term premium. Changes in future expected short-term interest rates could exert a relatively stronger impact on investment decisions by non-financial corporations and households, while changes in the term premium could directly affect asset prices.

The ongoing analysis of the JCER on the decomposition of long-term interest rates into the neutral interest rate and the term premium shows that both the quantitative easing policy in the period from March 2001 to March 2006 and QQE exerted a significant effect on the term premium, but their effect on the neutral rate was moderate and limited. This indicates the importance of providing clearer messages as forward guidance both on quantity and the policy interest rate. It may be noted that the target level of monetary base expansion is not extended beyond 2014.

Another cause of the limited impact on long-term interest rates is the lack of coordination with debt management policy. In the period of implementing the first quantitative easing policy from 2001 to 2006, the maturity structure of newly-issued bonds was lengthened, while the average maturity of government bonds purchased by the BOJ was shortened. QQE was intended to double the average maturity length of purchased government bonds. Yet, the maturity structure of newly-issue government bonds continues to become longer. The supply side change of the maturity structure worked to raise long-term interest rates significantly (Iwata and Fueda-Samikawa, 2013), as is the case for US long-term interest rates. It is desirable to have better coordination with debt management policy, if the BOJ wants to improve the effectiveness of QQE on long-term interest rates.

2.3 Impact of QQE on the Exchange Rate

In contrast to the policy recommendation by Mr. Keynes, Abenomics does not directly address the issue of exchange rate policy. The underlying assumption is that the higher inflation target comparable to other major economies, and massive expansion of the monetary base will induce depreciation of the Yen, leading to higher domestic prices through the rise of import prices.

Yet, Ueda (2013) clearly denied the view that base money expansion relative to that in the US generates depreciation of the yen-dollar rate. He interpreted the market's response as an illusion by investors about monetary base expansion, or irrational "beauty contest" behavior.

When Frank Hahn assessed monetarism within the framework of the general equilibrium model, he argued that monetary expansion under a flexible exchange rate system could affect the exchange rate, while the impact on domestic prices is questionable under rigid wage-price setting in the domestic economy (Hahn, 1980). Extending the tradition of Hahn's general equilibrium analysis to a growing economy, Komiya (1969) pointed out that excess supply of money leads to the country's balance of payments deterioration under a fixed exchange rate system. Then, as a corollary, under a flexible exchange rate system, excess supply of money will lead to depreciation of the exchange rate.

The experience of unconventional monetary policy by the Bank of England demonstrated that large scale purchases of government bonds had no effect on the exchange rate. The exchange rate depreciated sizably immediately after the emergence of financial crisis in the UK. I conjecture that its impact on the exchange rate depends on the initial conditions. If the exchange rate is overvalued, as compared with the fundamental rate, at the time of announcement of unconventional policy measures, it will be effective in correcting the misalignment of exchange rate.

2.4 Impact of QQE on Inflation Expectations

The core issue of the effectiveness of QQE is its effect on inflation expectations. The BOJ emphasized the channel of transmission mechanism through the rise in inflation expectations which can lower the real interest rate even under the zero lower bound on

nominal interest rates. It seems to me that the BOJ believes that the firm commitment to a 2% inflation target within two years, combined with action to double the size of the monetary base could raise inflation expectations soon to 2%. The breakeven rate measured by the index bond actually rose, yet some part of this rise was due to the anticipated increase in consumption tax by 3% in April 2014. According to the JCER study (Japan Center for Economic Research, 2014a), we found that the estimated rate of inflation expectations after the 3% consumption tax rate hike was raised only to 0.5%, instead of 2%, in spite of the announcement of QQE. In addition, the BOJ provided the forecast that a 2% inflation target can be achieved in two years, while the market consensus forecast differs significantly from the BOJ projection.

Aoki (2013) pointed out that, where unconventional monetary policy measures act as a signal of coming shocks to economic fundamentals in “sun-spot equilibria”, they are “self-confirming” in the sense that they are consistent with data.

According to Sargent (2001), “self-confirming equilibrium” can emerge under the conditions that (1) the policy maker optimizes the growth and inflation paths (=the solution of the Phelps problem), (2) expectations of market participants are rational, and (3) an expectational Phillips curve actually governs the inflation-unemployment relationship.

In self-confirming equilibrium, erroneous beliefs about the Phillips curve (=the coefficient of slope of the Phillips curve) held by policy makers become consistent with the data, because the policy makers’ model of beliefs about the private sector’s behavior are chosen to fit historical data.

Within the model framework of self-confirming equilibrium, regime shifts can occur due to changes in beliefs created by policy makers’ econometric procedures. Both policy makers and market participants can learn and change their beliefs about the counterparty’s economic behavior by employing the recursive least squares method. This discounts past data in providing estimates.

Hence we see the role of the 1990’s version of adaptive expectations in the working of the model. There are two versions of adaptive expectations: one is the 1950’s version (=Friedman=Phelps adaptive expectations) and another is the 1990’s version (=Kreps’s anticipated utility function). The first version makes market participants’ expectations a geometric average of past values of the inflation rate. If the

inflation rate remains constant in the past, the expected inflation rate is equal to the constant value. With respect to the 1990's version, it is important to note that the likelihood function of the 1990's version model of adaptive expectations produces the same cross-equation restrictions as the rational expectations models.

In a case of regime shifts in monetary policy due to changes in beliefs by policy makers and market participants, there is a question as to whether policy makers can manipulate expectations of market participants as an additional extra-policy instrument.

Lucas (1979) once criticized the view of the McCracken report by the OECD. The report recommended that "Governments should try to promote good expectations to achieve 5% growth rate". Lucas criticized the point in the report that it treats expectations as though they were an extra policy instrument. Further, he mentioned that the report misinterpreted the meaning of rational expectations. Most rational expectations are formed as a function of policy makers' policy and exogenous variables. Cross-equation restrictions link expectations to laws of motion for government instruments and other exogenous variables in the case of rational expectations.

I had the experience to work at the OECD Secretariat in 1976-79. My first task at the OECD in 1976 was to produce the fiscal indicators as one of the analytical tools employed for the McCracken report.

The report aimed to resume a sound recovery path of 5% economic growth rate after the two oil price hikes and the subsequent stagflation, by the combination of expansionary fiscal and monetary policies. The fiscal expansion strategy was named the "locomotive theory"; the US, Japan and Germany should play the role of locomotive of the world economy. The German government resisted strongly against the use of short-term Keynesian policy measures, but eventually Germany accepted the fiscal stimulus in the 1978 Bonn Summit.

In retrospect, I was informed that in the process of forming the locomotive theory, the Japan Center for Economic Research led by Dr. Saburo Okita was involved together with the Brookings Institution.

On the monetary policy front, monetary targeting was recommended, following the US Fed and the German Bundesbank in the mid-1970s.

I was much impressed by Lucas's critique of the report's interpretation of rational expectations. At the same time, I remember well that Professor Ryutaro Komiya, as one

of the members of the McCracken Group, consistently expressed his minority view: he denied the importance of “concerted action” by the OECD member countries to achieve a high growth rate, pointing to need for each country to keep its own house in order.

Coming back to the second version of adaptive expectations, it applies to a recursive statistical method for updating estimates of an empirical relationship. It is important to note that it has no free parameters governing expectations. This implies that policy makers cannot manipulate expectations as an additional policy instrument, as Lucas rightly pointed out.

However, this does not mean that policy makers cannot achieve a target inflation rate. It implies that it may take a much longer time than two years to pass through the learning process about changes in beliefs.

In addition, the induction hypothesis reinforces the case that market participants’ expectations will become equal to policy makers’ target value: the induction hypothesis restricts people’s expectations in such a way that people’s expectations of a variable will equal the constant value, if that variable remains constant long enough.

Cho and Matsui (1995) argued that the public will come to set their expected inflation rate at nearly the policy target rate, if policy makers keep repeating a constant inflation targeting policy.

My view on the formation of inflation expectations in the Phillips curve is close to the 1990’s version of adaptive expectations. But it will take time for the force of the induction hypothesis to work out.

From these considerations I insisted that the BOJ should attain the inflation target of 2% over a time horizon of five years.

Until the time when the BOJ can succeed in completely wiping out deflationary expectations and confirm the shift and changes in slope of the Phillips curve, the BOJ should not abandon the 2% inflation target policy, and should keep repeating it.

In order to move out from deflation to achieve an inflation rate of 2%, we need excess demand to create momentum. The potential growth rate in Japan is estimated to be in the range of 0.5-0.6%. If the government succeeds in achieving the target growth rate of 2% for five years by implementing a powerful growth strategy which focuses on structural reforms and innovations, it will create changes in the GDP gap of 7.5%. This

will turn the current deflationary GDP gap of 2-3% in FY2013 into an inflationary gap of more than 2%.

Historical data shows that a 2% inflation rate was realized under very tight labor market conditions with unemployment rate below 3%, although there remains the possibility that changes in inflation expectations work to push up the Phillips curve at an early date. Concerning the excess demand required to achieve a 2% inflation rate, I remember well one historical episode: the deflationary GDP gap turned into an inflationary gap of 2% in early 2008, whereby the inflation rate recorded the level of 2.4% helped by a sharp increasing trend of the oil price since mid-2000s. Yet deflation came back after the collapse of the oil price bubble in July 2008. We need to create excess demand of sufficient scale in our economy. This fact adds to the appropriateness of a longer time-horizon.

3. Reform of the International Financial System

3.1 The Bretton Woods System, Reversed

As mentioned in section 1, Mr. Keynes pointed out the importance and role of the exchange rate for securing the domestic price level. The Bretton Woods system implicitly assumes that domestic price stability is secured by fixing the exchange rate close to the fundamental rates. After the collapse of the Bretton Woods system major economies moved to adopt flexible exchange rate. Today, domestic price stability is presumed to be secured by adopting an inflation target. This new system can be described as Bretton Woods, reversed.

As long as the exchange rates remain close to the fundamental rates, this new system will work well. Yet, exchange rates show wide fluctuations and deviate substantially from the fundamental rates, leading to over- and under - shooting. This could potentially undermine the effort to attain the target rate of inflation, as was demonstrated by the experience of excessive Yen rate appreciation in the mid-1990s, as well as in the period after the global financial crisis from 2010 to mid-2013.

3.2 The Shortage of Safe Assets in a Global Economy

After the global financial crisis, the stability of the international monetary system has been undermined by large-scale fluctuations of major reserve currencies, due to the search for safe assets by global investors. The history of the international monetary system since the end of WWII can be interpreted as the endless search for safe assets.

The choice of Swiss francs and Japanese yen as safe haven currencies led to excessive overvaluation of the two countries. Both countries suffered from deflation. We need new international financial arrangements in order to secure price stability and safe assets at times of global financial crisis.

With respect to Japan being exposed to strong appreciation pressures during the course of the European sovereign debt crisis, I once made a proposal to establish a crisis prevention fund jointly managed by the Ministry of Finance and the BOJ. The fund would engage in purchasing foreign bonds to prevent crises and sharp changes in the exchange rate (Japan Center for Economic Research, 2013).

Turning to the international front, we can identify the two main problems of the current international monetary system as follows:

(1) Shortage of safe international assets and construction of more solid global safety network against global financial crisis

(2) Lack of adjustment mechanism to avoid misalignment of exchange rates among major currencies and the associated global imbalance problems

The IMF estimated a likely shortage of safe international assets in 2016 amounting to 9 trillion USD, mainly reflecting the downgrade of ratings of European countries suffering persistent sovereign debt crises.

Potential sovereign debt crises loom large in advanced economies, because the private debt problem was shifted to become a government debt problem after the global financial crisis. During the course of the global financial crisis inside liquidity (private debt) disappeared, due to deleveraging by financial institutions, while outside liquidity provided by central banks and governments surged.

Japan is no exception. There is a risk of a “Day of Reckoning” in FY 2018-2028, due to the limited absorption capacity of government bonds by savings of non-financial firms and the household sector (Matsuoka and Terada, 2012). Over the long-term the

US also faces a future debt of 66 trillion USD by 2060. In this sense US government bonds can be regarded as “relatively clean dirty shirts” among other government bonds of major economies.

3.3 Construction of More Solid Global Safety Network

Against the background of the potential risk of shortage of safe assets at a time of crisis, the IMF should play a more active role in providing safe assets and liquidity. There are two ways to provide safe international assets.

First, swap arrangements among major central banks contributed significantly to securing the stability of the international financial system through the ample provision of liquidity. The IMF should play the central role in providing a safety network through swap arrangements by central banks among major member countries.

Second, the IMF should issue SDR-denominated bonds to accommodate the demand for international safe assets. The new provisions will transform the function of the IMF as a credit union to that of a bank in the global economy.

The international monetary system will return to the original idea of Mr. Keynes for the Bretton Woods system. I named the new system equipped with provision of SDR-denominated debts as “Bretton Woods III”.

Bretton Woods II emerged after the Asian currency crisis. The Asian countries attempted to accumulate USD-denominated safe assets, while the US engages in FDI activities in Asian countries. This system can be described as a total return swap arrangement between bonds and equities, whereby the current account deficit on the US side can be regarded as the collateral for this arrangement. In this sense we can say that the global imbalance problem has been associated with a shortage of and a distorted supply of safe assets.

3.4 Avoidance of Misalignment of Exchange Rates and Global Imbalance Problems

Another task for the new international monetary system is the avoidance of misalignment of exchange rates and the associated global imbalances. It is important to solve the problem of misalignment of exchange rates among major reserve currencies. We should not repeat the overvaluation of the US Dollar in the first half of the 1980s,

the Yen in the mid-1990s and 2010 - mid-2013, and the Euro in 2006-2007. At the same time we cannot disregard the complaints by emerging economies about the “currency war” triggered by unconventional monetary policy adopted by major advanced economies. The emerging countries argued that the central banks of advanced countries manipulate the exchange rate and maintain artificially low values. This impeded the international competitiveness of emerging economies and created appreciation pressure on their exchange rates, due to massive capital inflows.

If all the countries in the world adopt the flexible exchange rate system and “domestic currency pricing,” which means 100% pass-through of changes in the exchange rate to export prices, the currency war argument are entirely wrong. There would be no “beggar-thy-neighbor effect” induced by expansionary monetary policy (Iwata and Takenaka, 2012).

But the opposite is true if all the countries adopt the flexible exchange rate system and “local currency pricing” which means zero pass-through of changes in the exchange rate to export prices. In the actual world a great number of countries adopt a de facto fixed exchange rate system or pseud-flexible exchange rate system. On the choice of pricing, most US firms adopt “domestic currency pricing”, while about half of Japanese firms employ “local currency pricing”. A majority of domestic firms in emerging economies choose “local currency pricing” or third currency pricing, such as the US Dollar or the Euro.

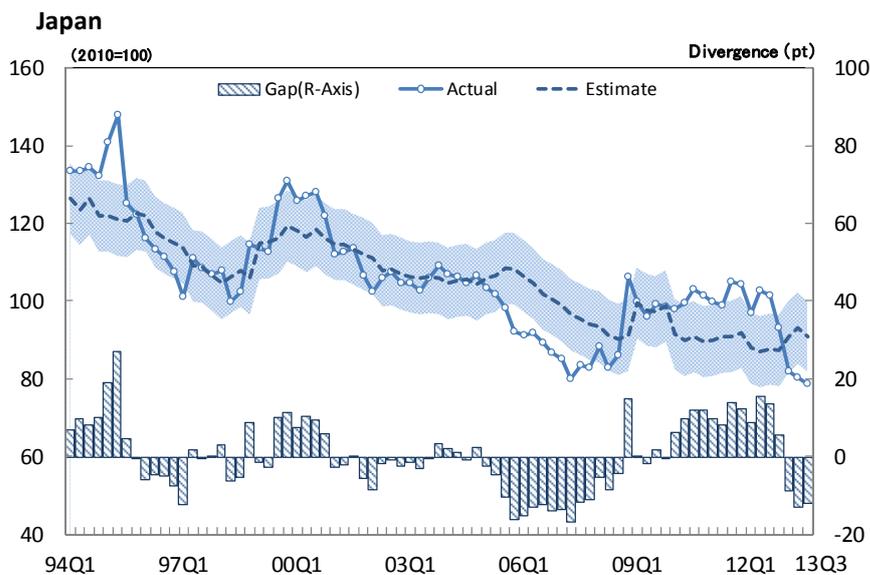
In order to create the circumstances in which the fluctuations of exchange rates among major reserve currencies are maintained within reasonable limits around the fundamental rates, we need more international coordination, and new rules to avoid the misalignment of exchange rates among major economies.

In the case of Japan there seems to exist both an upper and a lower limit of exchange rate fluctuations. The upper limit is set by the need for the export industry to survive in international markets, while the lower limit is determined by the terms-of-trade deterioration arising from excessive depreciation. The terms-of-trade worsen, if the imported oil price hike adds to the real income loss. Excessive depreciation squeezes profit margins of energy-intensive firms and erodes real wage increases. This decreases consumer spending and thus the utility level of households. In 2008 the combination of the Yen rate between 110-120 Yen per Dollar with a sharp oil price rise brought about

recession and a consumer price rise above 2%. This demonstrates a case of the “beggar-thyself effect” arising from domestic monetary expansion.

Figure 1 shows that Japan’s real effective exchange rate revealed significant deviation from the fundamental rate, which is estimated by employing model of the “behavioral equilibrium exchange rate”. This estimate is derived by employing a number of variables representing fundamental factors such as (1) the terms of trade, (2) the Balassa=Samuelson effect, (3) the real interest rate differential and (4) net foreign asset position. It demonstrates marked excessive Yen rate appreciation in the periods of the first half of the 1990s and 2010 - mid-2013, while excessive Yen rate depreciation took place in the period of 2004-2008. The current Yen rate after mid-2013 points to the risk of excessive depreciation.

Figure-1: Divergence from Behavioral Equilibrium Exchange Rates



Source: JCER estimates based on Bank for International Settlements

4. Growth Strategy and Future of the Japanese Economy

4.1 Growth Strategy of Abenomics

Coming back to the risk of secular stagnation which is one of the main causes of the persistent deflation in Japan, there are two causes of secular stagnation: one is demand shortage, while the other is supply constraint. The first two “arrows” of Abenomics may solve the demand shortage, while the supply constraint problem can be solved by a sound growth strategy.

One serious issue concerning secular stagnation is the possibility of a negative natural interest rate (= equilibrium real long-term interest rate). If an economy once enters into deflation, it becomes extremely difficult to escape from deflation. Given the zero lower bound on nominal interest rates, the real market interest rate cannot be negative. As the Swedish economist, Knut Wicksell, argued convincingly about a hundred years ago, deflation will continue, if the real market interest rate remains above the natural interest rate.

Certainly, Japan experienced a negative natural interest rate during the course of the financial crisis of 1997-2003. A negative natural interest rate implies that the per capita consumption growth rate becomes negative in the neo-classical growth model, if its negative value dominates the time preference rate.

Over the medium- and long-term perspective we need a powerful growth strategy in order to completely overcome persistent deflation. With a view to maintaining the level of the natural interest rate above the market real long-term rate we need to raise the expected per capita consumption growth rate, and stop the declining tendency of our population. A declining population brings with it not only a decrease of labor inputs, but also a decrease of capital inputs due to a reduction in the savings ratio arising from the increasing share of the retired generation. Furthermore, some empirical studies show that a decreasing working population can exert a negative impact on total factor productivity.

4.2 Importance of Institutional Reforms

I find a missing link in the existing government’s growth strategy (= the third arrow of Abenomics) and the goal of a 2% medium-term growth path. There are gaps between

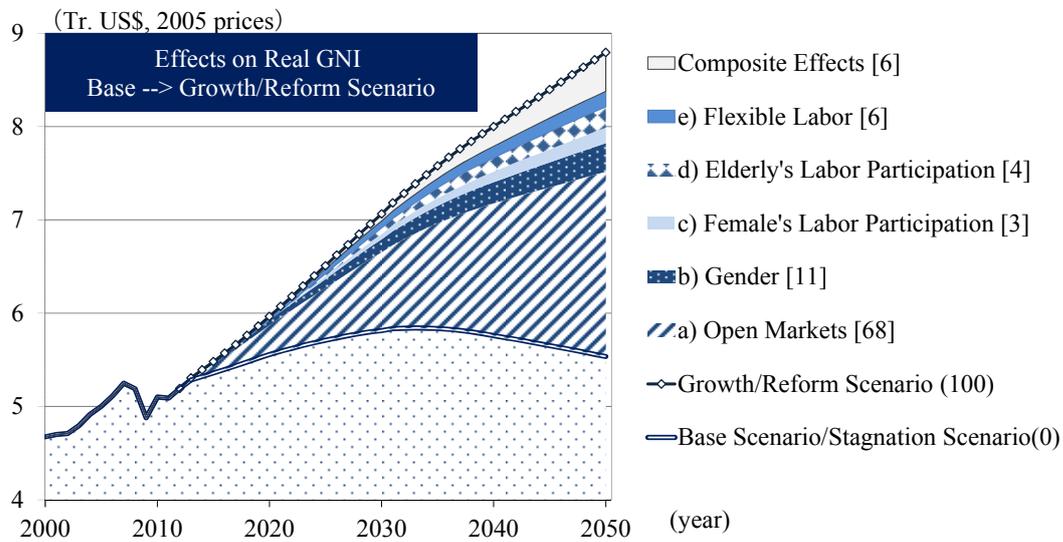
the menu of policy measures and growth performance. It seems to be uncertain whether the government can achieve a 2% growth rate over the medium-term.

The JCER provided one of the links between policy measures and improvement of total factor productivity. We focused on the importance of reforms covering political, social and economic institutions. The wide range of reforms can cause the differences in total factor productivity levels among different nations in a certain category of endogenous growth models (Hall and Jones, 1999, Acemoglu and Robinson, 2012). We can identify five categories of institutional factors such as (1) political system stability (2) openness of economy (3) gender gap (4) ease of business start-up (5) flexible labor market.

Given the fact that Japan is relatively weak with respect to openness of economy, gender gap, flexible labor market and ease of business start-up, as compared with other advanced economies, it is desirable to improve Japanese institutional factors to match the “best practice” in the world, notably in the areas of women’s active participation in more flexible labor markets, and the ease of new entry and start-up of businesses centering on university innovations. We employed the evaluation function of institutional factors on total factor productivity. We found that Japan should strongly promote the openness of our economy. The TPP negotiations are the corner-stone of further expansion of a number of mega-FTA arrangements such as the Japan-EU FTA, the RCEP and the FTAAP.

Figure 2 demonstrates the decomposition of differential growth between the base case scenario and growth/reform scenario in our forecast to 2050. The main differences come from openness of the economy, the gender gap and flexible labor markets. It seems very important for the survival of Japanese firms to construct global value-chain networks by removing trade and investment barriers. According to some estimates, the removal of barriers against global value-chain networks would achieve 2.6 trillion USD world gains, while the removal of all trade tariffs brings only 0.4 trillion USD.

Figure-2: Difference between base scenario and growth/reform scenario



Note: Numbers in brackets are average contributions to the gap between the Base Scenario and the Growth/Reform Scenario in percent

Source: JCER Long-Term Forecast: Vision 2050

4.3 Three Scenarios and the Growth Strategy

The JCER produced three scenarios of the future development of the Japanese economy to 2050, depending on the different degree of success of institutional reforms; (1) secular stagnation as a base case, (2) the growth scenario, (3) the fiscal bankruptcy scenario (Japan Center for Economic Research, 2014b). In the first scenario we predicted virtually zero growth rate over the long-run. Although the per capita growth rate is 0.7% annually, the per capita consumption growth rate is negative, due to the increasing public burden: this increases from 38% of national income to 57%. This will squeeze disposable income, particularly, that of the young working generation. In order to avoid the fiscal bankruptcy scenario, it is necessary to raise the consumption tax rate to 25%.

In the growth scenario, we can achieve 1.4% growth rate on average. The per capita Gross National Income will rise to 88 thousand dollar in 2050 from 42 thousand dollar in 2010. This can be described as “Japan is back” scenario, because the ranking

of per capita GDP will return to the second position as recorded in the early-1990s (Table-1).

The third scenario assumes no progress in institutional reforms and tax increases. Fiscal dominance arises due to the limited absorption capacity by domestic non-financial firms and the household sector. In this case the central bank will be unable to control long-term interest rates and inflation rate, while the unpleasant fiscal dynamics dominate the government bond market.

Concerning demographic factors we recommended to stop the population decline at 90 million in 2060 by raising the fertility rate from 1.4 to 1.8 in the early-2030s, while allowing immigration to increase from the current 50 thousand a year to 200 thousand in 2050. We welcome the government is adopting the population target of 100 million by raising the fertility rate from 1.4 to 2.1 in the early 2030s.

Table-1: Per Capita Gross National Income in 2050

(nominal, thousand US dollar)						
Rank	1990		2010		2050	
1	Switzerland	35.0	Norway	86.9	Norway	154.0
2	Japan	27.6	Switzerland	73.7	Switzerland	121.5
3	Sweden	26.6	Denmark	59.6	Japan (Growth Scenario)	90.0
4	Norway	26.0	Sweden	50.9	Sweden	87.2
5	Finland	25.2	United States	49.0	Canada	87.0
6	United States	24.2	Netherlands	48.5	United States	84.5
7	Denmark	24.1	Finland	47.1	Australia	79.2
8	Germany	20.6	Austria	47.1	Denmark	76.5
9	Austria	20.2	Australia	46.3	Singapore	73.4
10	Canada	20.2	Belgium	45.8	Austria	71.9
11	France	20.1	Germany	43.3	Finland	70.0
12	Belgium	19.0	Canada	43.3	Belgium	67.6
13	Netherlands	18.8	Ireland	42.8	France	67.0
14	Italy	17.9	Singapore	42.5	Netherlands	64.9
15	Australia	17.4	France	42.3	Israel	64.0
16			Japan	42.2	Germany	62.9
18					Japan (Stagnation Scenario)	56.7
22					Korea	43.1
23					Japan (Bankrupt Scenario)	40.7
	Korea (25)	6.00	Korea (26)	19.72		
	India (49)	0.39	China (48)	4.24	China (45)	12.52
	China (51)	0.33	India (54)	1.29	India (53)	6.44

Note: Numbers in parentheses for Korea, China and India stand for rank.

Source: JCER Long-Term Forecast: Vision 2050 based on World Bank Statistics.

5. Concluding Remarks

We can draw several conclusions remarks from my lecture. The first is that Abenomics is an integrated policy package of measures. In order to eradicate persistent deflation in Japan, we should implement not only expansionary monetary and fiscal policies, but also activate a powerful growth strategy focusing on institutional reforms and demographic policy.

Second, given the insight by Mr. Keynes on the relationship between domestic price stability and exchange rate arrangements, we need some international monetary reforms to correct for the misalignment of exchange rates and the shortage of safe assets for avoiding global financial crisis. This may facilitate the transformation of the current Bretton Woods, reversed into “Bretton Woods III”. Third, it will take longer to realize a 2% inflation rate than two years, primarily because of the adaptive process entailing learning about the behavior of the private sector and the central bank.

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