
Assessment of Abenomics: 
Origin, Evolution and Achievement

Takatoshi Ito
(Columbia University, GRIPS and NBER)

This paper was prepared for the Thirty-second Asian Economic Policy Review (AEPR) Conference “The Post-Abenomics Japanese Economy,” held on October 2 and 3, 2020 via Zoom.

July 2021

Asian Economic Policy Review
Japan Center for Economic Research
To authors

If you want to introduce the same working paper you wrote and presented at the AEPR conference held via Zoom on October 2 and 3, 2020, in your own/your affiliation’s website, please be aware the following requirements.

To ensure that all citations and references to your published article are captured by the SSCI (Social Sciences Citation Index), authors are required to amend the cover page of your working paper as soon as practical after publication in AEPR. The amended cover page should include the full article citation, journal name, volume and issue, and DOI, as well as a hyperlink to the published article. The cover page of JCER Working Paper AEPR series has been already amended after publication in AEPR. The face of this working paper is an example of an amended working paper cover page.
Abstract: The first arrow, aggressive monetary policy, was successful in lifting the economy out of deflation. But the inflation target of 2 percent has not been achieved. The second arrow, flexible fiscal policy, was used to stimulate the economy in 2013. That contributed to a quick recovery from stagnation. However, in April 2014, the consumption tax rate was increased from 5% to 8%, causing stagnation in consumption. The consumption tax rate was hiked again in October 2019. An improvement in fiscal deficits was gradual from 2013 to 2019. There is a tendency that a big jump in fiscal expenditure, especially social security expenditures, is not reverse even after the crisis is over. The third arrow has a list of reform agenda. It failed to lift productivities or the potential growth rate. Many economists believe that the third arrow was a failure. It is true that there was no jump in growth rates. However, there are some specific reforms that succeeded. Some of those successful cases have roots in the reform efforts in CEFP of the first Abe administration in 2006-07.

Key words: Abenomics, unconventional monetary policy, yield-curve control, negative interest rate policy, fiscal stimulus, consumption tax, productivity increase, GPIF

1. **Introduction**

This paper is an overview paper on the economic policy package by prime minister Abe, commonly known as Abenomics. Abenomics was launched soon after he became prime minister for the second time in December 2012. It consists with three arrows: aggressive monetary policy; flexible fiscal policy; and growth strategy.

2. **Political and Economic Achievements**

   2.1. **High approval rating and the longest Tenure**

Mr. Shinzo Abe served as prime minister from September 26, 2006 to September 26, 2007 for 366 days (Abe I period); and again, from December 26, 2012 to September 16, 2020 for 2822 days (Abe II period). The latter is the longest consecutive days as prime minister in Japan’s parliamentary history since 1885.1 The Abe I and Abe II combined, 3188 days, as prime minister is also the longest.2

The approval rating of the cabinet by the NHK telephone survey is shown in **Figure 1**. Since “do not know” or “cannot answer” is an option, “approve” and “disapprove” do not add up to 100. The approval rating started at 64%, a high number for the first month of a new prime minister, and stayed above 40% during his tenure. In fact, the “approval” stayed higher than the “disapproval” except for a few months. His declining popularity after April 2020 is due to his mishandling the spread of COVID-19 in Japan. The last approval rating for Abe II in August 2020 showed “approval” at 34%, and “disapproval” at 47%—the largest adverse gap in the Abe II period. He won six parliamentary elections—three House of Representatives elections and three House of Councilors elections—with varying margins.

These stellar election and popularity results as prime minister as second time contrasts to his experience as prime minister for the first time. His initial approval rating was 65% and stayed higher than disapproval until May 2007, but quickly deteriorated from June to September. The last approval rating in September 2007 showed “approval” at 34%, and “disapproval” at 55%.

Let us put these numbers in comparisons to other prime ministers. From the NHK poll, the “net support” percentage point is calculated as the difference between “support” and “not-support.” **Figure 2** shows the net support percentage points for all the prime ministers since Mr. Keizo Obuchi in 1998. All prime ministers enjoyed “honey moon” periods, that is, the net support starts rather high, but will decline in the first 12 months. The exception is Mr. Obuchi, who started in the negative territory (“Disapprove” higher than “approval”), but rose to positive 28% point in 12 months. Prime ministers, Mori (2000-01), Fukuda (2007-08), Aso (2008-09), Kan (2010-11), and Noda (2011-12) had negative numbers in the average net

---

1 Before Abe, Eisaku Sato, serving 2798 consecutive days, had the longest record.

2 Before Abe, Taro Katsura held the second longest cumulative days, 2886 days, as prime minister. Abe broke the record in November 2019.
support percentage points over their respective tenures. These prime ministers did not last more than 16 months.

During the Koizumi (2001-2006) period, “approval” exceeded “disapproval” by more than 20 points on average. During the Abe2 (2012-2020) period, the same indicator was 14 points. Both prime ministers showed remarkable endurance. So, what is common between Koizumi and Abe II? Prime minister Koizumi’s agenda was to reform the postal system, and Abe II’s was Abenomics. Advocating and carrying out economic reform agenda seems to be a winner. Now let us examine whether the economy really got so much better under Abe II.

2.2. Growth

One might expect the growth rate during the period of Abe II was much higher than other prime ministers, given his popularity and endurance. Table 1 (Column GDP) shows the average growth rate (annualized average quarterly growth rate) for different prime ministers. Some of prime minister tenures are aggregated to secure enough samples for a period and to reflect similar policies. The growth performance of Abe II, 0.8% was the second worst, only after a three-year period under prime ministers Abe I, Fukuda, and Aso whose average growth rate was -1.5%. It should be hastily added that this period includes the impact of the Global Financial Crisis (GFC). The decline in GDP in 2008-09 was mostly due to external factors, i.e., spillover from the United States thought the trade channel. Aso cannot be blamed too much for the low growth during the GFC. The prime ministers during this period, especially Aso, were unpopular, with the average net approval to be -13.2% point. However, the correlation between approval rating and growth rate stops here. The most popular prime minister in approval rating was Koizumi, with net approval to be 21.1% point, followed by Abe II, with 13.8% point. However, the average growth rates were 1.2% and 0.8%, respectively. The Koizumi growth rate was only 1.2%, right in the middle of the pack. The Abe II growth rate (without 2020Q2 or Q3) was only at 0.8%. The number is worse than Koizumi and better than the GFC period. The best growth was achieved during the three-year period under the Democratic Party of Japan (DPJ), from 2009 to 2012. The growth rate reached 1.6%, the highest in the sampled regimes. However, this period includes a rapid recovery from GFC. They got it lucky. We cannot give too much credit to Hatoyama in the same degree that we cannot blame Aso much. The approval rating during the three-year DPJ period was -9.0 percentage points. This was one of the unpopular regimes. The DPJ period shows that there are factors, say handling diplomacy and national security, more important for approval rating than economic growth.

The real GDP level in the last twenty-six years is shown in Figure 3. There were two major shocks in the last twenty-six years: the GFC in 2007-09 and the COVID-19 in 2020. The decline in GDP during the GFC was very large and it took several years to recover the pre-crisis peak. It remains to be seen
whether the recovery after the post-COVID crisis will be reasonably quick.

Insert Figure 3.

The above analysis using the economic growth rate may not be fair to those prime ministers after 1998, when the working age (20-64) population peaked. With working-age population declining, economic growth is handicapped. Unless labor productivity is raised, labor contribution to GDP growth necessarily declines. In growth accounting, labor contribution becomes negative. In other words, the potential growth rate is lower when working-age population is declining. In order to evaluate the economic growth performance, compared to potential, for different periods, we should use GDP divided by working age population. Table 1 column “GDP per working age population” is constructed with the above observation. GDP is divided by working age population for that quarter, which is projected from once-a-year population survey published by the government. Then the annualized growth rate was calculated.

The growth rate adjusted for working-age population gives a different ranking. The worst period of Abe I-Fukuda-Aso remains the same. But the Abe II period recorded the growth rate of 1.7%, the second highest in the sample regimes, only after the DPJ period that are helped by a rapid recovery from the nadir of GFC. And, Koizumi achieved 1.5%, close to Abe II. Since working-age population was increasing until 1998, the growth during the Murayama-Hashimoto period was still boosted by positive labor input contribution. When the growth rate is adjusted for working-age population growth, the Murayama-Hashimoto period is not exceptional in growth rate.

Figure 3 seems to be show that the level of the GDP gap. Before the Abe II, the GDP gap was mostly negative. After the Abenomics, the GDP-gap improved gradually. The GDP-gap peaked in the fall of 2018.

Hence, adopting the growth rate adjusted for working-age population, the Abe II and Koizumi periods are certainly good years. Now we see a rank correlation, albeit weak, between the approval rating and growth. With a speculative jump to causation rather than correlation, Abenomics helped Abe II’s popularity by raising the growth rate considering a difficult circumstance of working-age population. Those who put emphasis on potential growth rate that is influenced by labor input give Abe II achievement of 1.7% high marks. For those who think total output, not adjusting for population, more important for the economic vitality and welfare, the lackluster performance of 0.8% growth rate is an evidence of Abenomics failure.

In sum, the growth experience does not seem to explain the approval rating or the length of tenure. But, the growth rate of GDP per working-age population seems to have a rank correlation with approval rating, with an exception of the recovery period from GFC.

---

3 See for example, Ito and Hoshi (2020: Table 3.6, p. 69).
4 Population estimates are available: https://www.e-stat.go.jp/stat-search/files?page=1&layout=datalist&toukei=00200524&tstat=000000090001&cycle=7&month=0&tcsl=1=00001011679
As observed above, whether a prime minister encounters a severe external shock, such as GFC and COVID-19 influences economic performance. In order to compare the growth rates of economic expansion periods only, the growth rates of both GDP and GDP per working-age population are calculated from trough to peak, with their months being determined by the Cabinet Office. Of course, the recovery period from GFC, which mostly coincided with the DPJ period had the highest growth rate both in GDP and in GDP per working age population. The growth rate during the recovery period (1999-2000) from the Japanese banking crisis (1997-98) was second highest. The AbeII period shows a respectable growth rate in GDP per working-age population.

2.3. Economic performances
Let us examine other important macroeconomic variables in order to evaluate Abenomics, in comparison to other prime ministers. Economic variables in question are the unemployment rate, the inflation rate and the stock prices. Here I only take “results” without considering what policies were taken and whether results are due to external shocks. It is of course difficult to attribute macroeconomic performances in a particular period to policies that are taken in the period, due to policy transmission lags. But sometimes results are more important than processes in politics.

We take the time periods differentiated by prime minister(s), just like Table 1. Then we calculate the “average”; “total change from the first month to the last month”; and “Change per month” of each economic variable. Table 2 shows the result.

The average unemployment rate during the AbeII period was 3.1 percent, the lowest among the periods defined by prime minister tenures since 1998. The unemployment rate declined by 1.4 percentage points from 4.3% in December 2012 to 2.9% in July 2020. This was the lowest among the prime ministers since 1998. The unemployment rate was as low as 2.2% in November-December 2019, before the economy started to suffer from COVID-19 problem that started in China in January 2020. The average monthly reduction in the unemployment rate was 0.030 percentage points, which was the largest in magnitude of reduction among the past prime ministers.

The average inflation rate during the AbeII period was 0.4 percent. This is the highest among prime ministers since 1998. Note that the higher inflation rate is positively evaluated here since deflation was a problem. The desirability of higher inflation rate is just an opposite of what textbook of thirty years ago was preaching. The Abe government and the Bank of Japan signed an inflation targeting document in January 2013, shortly after Abe took office, which specifies the target as 2 percent. The average inflation rate of 0.4% appears quite an under-achievement, but the highest among the prime ministers since 1998. Periods of the Obuchi-Mori; Koizumi; and DPJ have negative inflation rates, namely they suffered from deflation. From the beginning to the end of AbeII, the inflation rate rose by 0.7 percentage point, the largest among the prime ministers since 1998. When divided by the long tenure, the average monthly improvement
inflation becomes less than the Koizumi or DPJ periods.

The most prominent success of the AbeII period may be the rise in stock prices. The Nikkei 225 rose from just below 10,000 yen in December 2012 to 22,500 yen in July 2020, more than double. Before the COVID hit the stock markets, the Nikkei 225 was as high as 23,600 yen. The average level was 18,600 yen. The monthly improvement was 143 yen, the highest by far among prime ministers since 1998.

Table 3 summarized the ranking of prime ministers in terms of macroeconomic achievement. According the ranking for each category of macroeconomic variable, both in average and monthly improvement, AbeII did well. In the average level of the unemployment rate, inflation rate, and the Nikkei 225, AbeII is the best. The total gains in these three variables by AbeII are also number 1. In the average monthly gain, i.e., the total gain divided by the number of months in power, AbeII yielded the number 1 spot in two indicators, changes in the unemployment rate and changes in the inflation rate.

2.4. Summary of macroeconomic performances

We can conclude this section as follows. AbeII did very well in managing the aggregate demand of the economy, so that the unemployment declined and the inflation rate rose toward the target rate. The stock market responded quite strongly to the improvement in the economy. The GDP gap went to positive, suggesting excess demand. A high approval rating for many months—in fact, the longest tenure in history—is quite natural from macroeconomic performances.

The problem was that growth performance was not particularly impressive. The average growth rate from 2012Q2 to 2020Q2 was only 0.8%, which is not only lower than other periods, except for the period including the GFC. However, the AbeII period is handicapped by declining population, in particular working-age population. The growth rate of GDP per working age population during the same period turns out to be 1.7%, which is higher than other periods, except for three DPJ years that benefited from a recovery from GFC.

In sum, Abenomics worked very well on the aggregate demand side. The unemployment rate declined; the inflation rate rose, getting out of deflation; and the stock prices rose sharply. However, the supply side, or the potential GDP, did not grow as fast as other periods under different prime ministers. These observations are consistent with a widely-shared critic’s view that the first and second arrows have mostly succeeded in managing aggregate demand, while the third arrow has been stalled or not even fired so that there was no increase in potential growth rate.

3. First Arrow: Aggressive Monetary Policy

3.1. Inflation movement

The first arrow of Abenomics is aggressive monetary policy in order to lift the economy from deflation that persisted in the preceding fifteen years. The single most important indicator in assessment of monetary policy is the price stability. Indeed, the second article of the Bank of Japan Act states: “Currency and
monetary control by the Bank of Japan shall be aimed at achieving price stability, thereby contributing to the sound development of the national economy. The law does not numerically define “price stability.” Inflation targeting of January 2013, which will be explained in details in the next subsection, defined price stability as achieving and maintaining 2%.

The price stability is commonly measured in consumer price index, and the inflation target agreement of January 2013 adopted the definition: “the year-on-year rate of change in the consumer price index.” However, the consumer price index (CPI) has variations: headline and core, where the latter exclude certain categories of consumer items that tend to have volatile, temporary price movements. When underlying price movement is in question (for policy decision), the core CPI is better indicator than headline CPI which includes prices of all items in the survey. The Bank of Japan often refers to core CPI as underlying price movement. should be the indicator, which the policy decision should be based on. However, the traditional core CPI in Japan includes energy prices. In times of large oil price movements, like in the second half of 2014 and the first half of 2020, the Core CPI becomes fluctuating that may be temporary. The consumption tax increase also has a temporary effect. Since the inflation rate of a particular month is measured as the percentage change of CPI compared to that of the same month of previous year, the inflation rate jumps up in the month of consumption tax rate hike and the higher level continues for 12 months, but on the 13th month, the inflation rate suddenly declines. With these considerations, we examine the inflation rate of the Core CPI, removing the effect of consumption tax rate hike. Figure 4 shows the Core CPI inflation without Consumption tax rate hike impact, from 1993 to 2020.

First, the Japanese economy was under deflation from 1998 to 2012. The inflation rate was negative except for several months in 1999 and 2008. In particular, the inflation rate in 2010 sank below -1%. Two years later, the inflation rate was still below zero and no sign of further increase. As soon as the aggressive monetary policy with inflation targeting was introduced, the inflation rate started to increase. It reached near 1 percent by early 2014, and above 1 percent in the fall of 2015. The inflation rate declined from the peak of 1.2 percent in November-December 2015 to just below zero in early 2017. However, the inflation rate rose to 0.5% range and stayed above zero until the COVID recession came. It is clear from Figure 4 and statistics shown in Table 2, the first arrow of Abenomics was successful in lifting the economy out of deflation.

Second, the inflation target of 2% was never achieved. In that sense, monetary policy may be regarded not successful. However, asset purchase programs have been expanded and maintained, and the long-term interest rate was kept low. Forward guidance on easing to continue has been communicated clearly. What else could monetary policy do?

Third, some economists blame the consumption tax increases in April 2014 and in October 2019.

---

5 The translation is available at http://www.japaneselawtranslation.go.jp/law/detail/?id=92&vm=02&re=01.
as a source of deflating the economic expansion and causing the inflation targeting to fail. A nice increasing trend of inflation rate from the negative territory in January 2013 to near one percent in January 2014 was halted with the consumption tax increase. As the second quarter GDP growth sank into a negative territory, it was natural that the inflation rate started to decline. However, the inflation rate later in 2014 and 2015 remained above 0.5%. Should the consumption rate hike of April 2014 have been postponed? Many economists predicted that economic decline in the second quarter of 2014 would be followed by a V-shape recovery, since the decline is mostly a temporary decline in reaction to rush-to-buy pileup of semi durables in the first quarter of 2014. However, consumption did not rise as predicted. This is a puzzle. In retrospect, going for an overheating and a bubbly asset price to break the “deflationary mindset,” which is a phrase often used by the Bank of Japan. It is a counterfactual scenario worth considering.

Fourth, a bigger puzzle in the inflation rate movement is a decline in 2016 from 1.2 percent in December 2015 to -0.1 percent in March 2017. What happened in 2016? One explanation is the energy price. The energy prices precipitously declined from mid-2014 to mid-2016. The crude oil price declined from $100 per barrel in July 2014 to below $30 per barrel in February 2016, and stayed below $50 for the rest of 2016. The headline and Core CPI inflation rate, that includes energy prices, were mostly in the negative territory in 2016. Although Corecore CPI does not include energy prices, such as gasoline prices, but many consumption items, which are affected by transportation and delivery costs, are indirectly affected by energy prices. The decline in the Corecore inflation rate in 2016 can be regarded as the lagged, indirect effect of the semi-permanent shift in energy prices from the $100 range to the $50 range. According to this view, since the energy prices are out of Bank’s control, the decline in inflation rate in 2016 is not a failure of monetary policy.

Fifth, the decline in the inflation rate in 2016 had another aspect. In January 2016, the Bank of Japan introduced the negative interest rate policy (NIRP). The policy rate, which is applicable to excess reserves at the Bank of Japan, was set -0.1%. It was intended to induce more lending from commercial banks rather than depositing back to the Bank of Japan. However, in order to limit the real losses from holding excess reserves, the Bank of Japan grandfathered the existing reserves by continue paying positive 0.1 percent, and some of excess reserves will be classified as excess reserves applicable to 0.0% after several months in the -0.1% category. So, the NIRP was designed to have a lending incentive on the margin without having imposing much losses on banks who hold large excess reserves. An unintended consequence of introducing NIRP was that the long rates declined more than the overnight rate, flattening, or sometimes inverting, the yield curve. This prompted a concern on the profitability of commercial banks.

In sum, the inflation movement shows that the Japanese economy got out of deflation thanks to QQE and QQE2. However, the inflation rate did not reach 2%. The inflation rate declined in 2016, partly due to the decline in energy prices. The decline was reversed in 2017. The inflation rate was stable in 2018 and 2019, around 0.5%, persistently in the positive territory but far below 2% target.
3.2. Inflation Targeting

After Shinzo Abe won the leader position in LDP, then the opposition party, in September 2012, he started to criticize the Bank of Japan for its monetary policy that caused deflation and low growth. It became Abe’s campaign promise to make monetary policy much more eased in order to end deflation. A snap election was called and the LDP led by Abe won it with a big margin. As soon as Abe became Prime Minister on December 26, 2012, he put a pressure on the Bank of Japan to agree on an inflation targeting framework, with the target of 2%.

Before Prime minister Abe raised the issue, the Bank of Japan had been quite resistant to a call from economists for adopting an inflation targeting regime. Ito (2004) summarized the debate over inflation targeting inside and outside the Bank. Proponents argued inflation targeting is good for the Bank since it would clarify the goal, make it easier to communicate policy actions based on the goal, and protect the Bank from misplaced political pressure. The Bank had argued that introducing inflation targeting of 2% would imply more easing. However, the policy rate being at zero, there is no instruments to bring up the inflation rate.

In some countries, inflation targeting was established based on an agreement between the government and the central banks, and in some other countries, it was introduced unilaterally by the central bank. It was not quite unusual that the government was calling for introduction of the monetary policy framework.

Prime minister won the debate and the Bank agreed to introduce inflation targeting and signed a document specifying 2% as a target in January 2012. The joint statement (Bank of Japan (2013a)) mentioned that “The Bank recognizes that the inflation rate consistent with price stability on a sustainable basis will rise as efforts by a wide range of entities toward strengthening competitiveness and growth potential of Japan's economy make progress. Based on this recognition, the Bank sets the price stability target at 2 percent in terms of the year-on-year rate of change in the consumer price index.” The joint statement also required the government to stimulate the economy, but with sustainable fiscal policy: “The Government will, in order to revitalize Japan's economy, not only flexibly manage macroeconomic policy but also formulate measures for strengthening competitiveness and growth potential of Japan's economy, … the Government will steadily promote measures aimed at establishing a sustainable fiscal structure with a view to ensuring the credibility of fiscal management.” The document does not seem to violate independence of the central bank, but to enhance independence by imposing conditions on both the government and the central bank.

Prime minister then moved to replace Mr. Shirakawa at the end of his term with someone sympathetic to inflation targeting and additional easing. Mr. Haruhiko Kuroda, then President of Asian  

---

6 Some critics are worried that Mr. Abe was violating the independence of central bank. However, the term of Governor would be ending in next spring. Use of appointing someone who agrees with him would not violate independence.
Development Bank and formerly Vice Minister for International Affairs at Ministry of Finance, was appointed as Governor, the Bank of Japan. Governor Kuroda led the policy board where the majority is firmly committed to inflation targeting of 2%.

3.3. Unconventional Monetary Policy

3.3.1. QQE and Initial Success

Governor Kuroda, only a few weeks in position, unveiled an aggressive monetary easing on April 4, 2013. The policy package, named “quantitative and qualitative easing” (QQE), was designed to “double the monetary base and the amounts outstanding of Japanese government bonds (JGBs) as well as exchange-traded funds (ETFs) in two years, and more than double the average remaining maturity of JGB purchases.” (Bank of Japan, 2013b, p.1) Doubling the monetary base and JGB holdings in two years was translated to be concrete amount of annual purchase: “the monetary base will increase at an annual pace of about 60-70 trillion yen. … With a view to encouraging a further decline in interest rates across the yield curve, the Bank will purchase JGBs so that their amount outstanding will increase at an annual pace of about 50 trillion yen.” (Bank of Japan, 2013b, p.1) Doubling the purchase amounts of JGB, with long maturity, was favorably received by market participants. Expectations of lower interest rates along the yield curve led the yen to depreciate and the stock prices to rise. However, it should be hastily added that aggressive actions had been anticipated ever since the snap election was announced in November 2012, since Mr. Abe repeatedly said that monetary policy had to change and that he would act on it by introducing inflation targeting and appointing someone who would carry out the mission. The yen had been depreciating and stock price had been rising since late November. So, the challenge that Governor Kuroda faced was to go beyond the market expectation. And he succeeded.

How the foreign exchange and stock markets responded to various events and announcements are shown in Ito and Hoshi (2020, Figures 6.5 and 6.6, p. 187). The yen was stable around 80 yen/dollar and the Nikkei 225 index fluctuating below 9,000 yen before the snap election was announced in November 2012. The yen had already depreciated to 93 yen/dollar and the Nikkei rose above 12,000 yen before the QQE announcement on April 4. One peculiar aspect of this sustained yen depreciation and stock price rally was that most of the intraday yen depreciation occurred in the European and US business hours (overnight hours in Japan), as shown by Fukuda (2015). Ueda (2013) also noted that these movements were mostly driven by foreign investors. In the week following the announcement, the yen depreciated to 102 yen/dollar and Nikkei rose above 15,500 yen by May 22.

7 Then prime minister Noda agreed to a proposal of snap election by LDP leader Abe in the leaders’ debate on November 14, saying that the Diet would be dissolved two days later, and Noda followed through with the promise. November 14, 2012 was the day the market was convinced that Abe will take the power soon.

8 The yen depreciation and stock price increases had stalled after May 22 when the news about possible tapering in the US caused global market turmoil. The incident is known as the taper tantrum. The yen and
The reason it was called QQE, as opposed to another QE, was to clearly differentiate it from earlier quantitative easing (QE) that had been in place in Japan from March 2001 to March 2006. Some critics regarded the QE from 2001 to 2006 as a failure, both in implementation and in results. The Bank of Japan was perceived to be only half-hearted in believing the effect of QE on the economy. It ended in 2006 when the inflation rate became positive for just a few months. The QQE was sold as quick a different framework. The “qualitative part” of QQE refers to risk assets the Bank decided to buy to lower the long-term interest rate and depress credit spread.

The QQE was also compared to the US unconventional monetary policy, which is commonly referred to QE, since September 2008 to 2014. The aspect of large amount of asset purchases is the same. The difference lies in the contents of assets. BOJ bought equities in the form of ETF, while the Federal Reserve is not allowed to; and BOJ did not buy mortgage backed securities which the Federal Reserve bought along with Treasury bonds.

Thanks to QQE, and other fiscal policy measures, the yen depreciated; the stock prices rose; the inflation rate turned positive; and the growth rate rose in 2013. With the favorable economic conditions, the consumption tax rate hike was reaffirmed in October 2013 and implemented in April 2014. The political economy of consumption tax hikes will be discussed in Section 4.

Maybe due to a result of dampening effects by the consumption tax hike, or something else, the momentum of inflation rate rise seemed to have been lost. Then the Bank of Japan introduced another policy push on October 31. The JGB purchase amount was raised from 50 to 80 trillion yen annually; the ETF purchase was raised from 1 trillion yen to 3 trillion yen; and the REIT from 3 billion to 90 billion; and monetary base from 50-60 trillion to 80 trillion yen. We may call this expansion of asset purchases as QQE2.

QQE2 produced further yen depreciation, stock price increases in 2015, reached 120 yen/dollar and 20,000 yen, respectively. Up to 2015, it seems that QQE, or equivalently large-scale asset purchases, worked through yen appreciation and stock price increases.

### 3.3.2. Asset Purchase: Transmission and Effectiveness

Economists seem to be divided on the issue of effectiveness of BOJ’s QQE and FRB’s QE. Many believe that an expansion of balance sheet by asset purchases have three channels of stimulating the economy and raising inflation. But some economists remain skeptical about the effectiveness.¹¹

---

³ For several years, Federal Reserve officials did not accept a nickname QE. Instead, they referred to the program as Credit Easing (CE) or Large-Scale Asset Purchases (LSAP).

¹⁰ The decision was made with a 5 to 4 majority.

¹¹ There is a rich literature on this issue: see for example Eggertsson and Woodford (2003), Curdia and Woodford (2011) on theoretical conditions that make asset purchases a potent policy instrument. Hausman and Wieland (2014) estimated the effect of the first arrow of Abenomics on GDP growth and
First, QE/QQE lowers the long-term interest rate and depresses the credit premium. This increases business investment and housing investment, as well as equity prices. Second, the large expansion of balance sheet gives a signal that the effectively zero interest rate will not be raised quite a long time. Thus, inflation expectation will rise. Third, ample liquidity will stimulate investment abroad, thus depreciate the domestic currency. This will stimulate exports and imported inflation.

The QE experience back in 2001-2006 in Japan did not seem to be strongly stimulating. However, when the Federal Reserve, the Bank of England, and ECB expanded their balance sheet very quickly in 2008-2009, while the Bank of Japan did not, the yen appreciated sharply. The latter experience suggests that if other central banks expand the balance sheet rapidly, the Bank of Japan should expand the balance sheet to keep the yen stable. But, can we test this hypothesis?

Figure 5 shows the total size of assets (balance sheet) of BOJ, FRB and ECB. For each central bank, its balance-sheet size in January 2007 is normalized to 100 and the change afterwards are the ratio to this benchmark. In the last three months of 2008, the size of balance sheet of FRB more than doubled, while that of ECB nearly doubled, in response to liquidity squeezes in their respective financial markets. The BOJ did not act at this period, believing that Japanese financial institutions were not affected by global financial crisis. The Japanese financial institutions did not hold toxic assets, more than small amount, at that time. However, the Japanese exports declined sharply due to the yen appreciation and decline in demand for Japanese exports. The decline in the Japanese GDP in 2009 turned out to be more than other G7 countries. Had the Bank of Japan acted to expand the balance sheet, not for financial stability purposes but as a monetary policy tool, could the sharp yen appreciation be prevented or at least mitigated?

A rigorous test would be difficult since the balance sheet expansion also lower the interest rates along the yield curve, depending on which assets the central banks buy. It also influences on credit spread, which may influence the stock prices and capital flows. With all these caveats, let us examine the relation between the relative balance sheet expansion of the Federal Reserve and the Bank of Japan and the yen/dollar exchange rate.

Figure 6 shows the movement of the US-Japan difference in monetary base (relative to January 2007, as shown in Figure 5, horizontal axis) and the yen/dollar movement (in vertical axis, inverted). The correlation between 2008 to 2012 is striking. The yen appreciated from 100 to 80 between 2008 to 2011 is basically in tandem with the widening monetary base gap between U.S. and Japan. However, the yen appreciated from January 2007 to September 2008, while the monetary base in both countries stayed the same, so that the difference is zero. Also the yen depreciation under the first arrow of Abenomics, from December 2012 to mid-2015 is not is not at all correlated with the relative monetary base movement.

Hausman, Unayama, and Wieland (2019) pointed out that the low long-term interest rate did not have a strong stimulative effect, compared to the U.S., because the refinancing of housing loans (house mortgages) was costly and cumbersome in Japan.
Monetary base from 2013 to mid-2014, the FRB balance sheet expansion, QE3, outpaced BOJ’s under QQE. It was only after mid-2014, when QE3 was stopped, the relative monetary base became lower and lower as balance sheet expansion of BOJ continued.

One explanation for the sharp depreciation from December 2012 to mid-2014 without relative expansion of BOJ balance sheet is that it was all on “expectation.” Electing Abe, who criticized BOJ inaction made investors to expect balance sheet expansion. It was followed by appointment of Kuroda, who pledged sustained gradual balance sheet expansion. Investors became more convinced that this would eventually overtake FRB balance sheet expansion. If we could use the “expected” balance sheet expansion, maybe the correlation between the exchange rate and the relative balance sheet can be shown clearly.

3.3.3. Failure to lift inflation expectation
As mentioned in earlier subsections, the Corecore inflation rate became above 1 percent at the end of 2015, but the inflation expectation was hardly rising. Unless the expected inflation rate becomes closer to the target 2% and get anchored, the inflation targeting framework would not work at its maximum strength. Although QQE was successful in bringing up the inflation rate above 1%, there was no evidence that inflation expectation was rising fast. (There are several surveys on inflation expectation, no definitive survey is available.) When the inflation rate became stable around 0.5% in 2018-19, the inflation expectation seems to become stable around the level.

The Bank of Japan explained why the inflation expectation was not rising with two factors. First, inflation expectation formation seems to follow an adaptive expectation, namely the expected inflation is the actual inflation in the recent past. Second, since deflation continued so long from 1998 to 2012, it is hard to change people’s expectation which was stuck at 0% inflation expectation.

3.3.4. NIRP, Reversal Rate and YCC
On January 29, 2016, the Bank of Japan announced the adoption of NIRP as a decision of the Monetary Policy Meeting. Although NIRP was widespread among central banks in Europe, such as Switzerland, Sweden and ECB, its adoption in Japan was rather a surprise. The three-tier system—having three categories of excess reserves with different interest rates—was also not well understood initially by the market participants. The market reacted to lower the long rates faster than the overnight call rate. On the day of announcement, the interest rates JGBs with remaining maturities from 5 year to 8 year went into the

---

13 See for example, Kuroda (2016) for reasons of inflation expectation not moving up. See also Maruyama and Suganuma (2019) for estimating inflation expectation over different horizon.

14 The introduction of NIRP was decided with the 5 to 4 majority.
negative territory from the positive territory on the previous day. The 10-year bond rate became negative on February 24, and continued to be negative until mid-November.

The flattened or even inverted yield curve became a source of complaints and screams from the banking sector. CEOs of large commercial banks openly criticized the NIRP. Many regional banks had become reliant on making profits from maturity transformation rather than commercial lending. Thus, the flat yield curve particularly hit regional banks hard.

As the magnitude of the negative interest rate had become large, the Bank of Japan became worried. In the early July, the 10-year rate sank to -29 basis points, inverting the yield curve. Some economists started to argue that the stimulative effect of lower interest rates will become the adverse effect if the interest rate becomes lower than some threshold rate (see Brunnermeier and Koby (2019)). With a lower interest rate, prices of long bonds on the asset side of bank balance sheet will rise, while interest income from new lending will decrease. When the retail deposit rate has a floor by zero, lower lending rate directly hit the profitability. Some European commercial banks were successful in passing on the negative policy rate to corporate deposit rates, the Japanese banks had hard time charging the negative deposit rate to retail and corporate customers. The reversal rate would go up as the NIRP continues, since the revaluation of long bonds stops after the magnitude of NIRP is maintained, while lowering of profits from new lending including rollovers with lower interest rate continues.

There was also a concern that holdings of JGBs are increasing indefinitely. The share of BOJ holding of JGBs would be approaching 50% in the near future. Another criticism of buying JGBs indefinitely was that the Bank of Japan is engaging in deficit financing, providing free money to the government. Another point is that if the lower long-term interest rate is an objective of QQE in order to stimulate investment, then why not target the long-term interest rate.

However, announcing to reduce the purchase amount of JGBs would certainly cause a market turmoil like the taper tantrum in 2013 in the United States. A creative way is needed.

After hitting the effective lower bound, the QQE was introduced. It had some effects, but the effect seems to be uncertain on investment and consumption, except its power to generate yen depreciation and stock price increases. The Bank of Japan was not alone, other central banks in advanced countries are suffering from the inflation rate persistently below the inflation rate, the interest rate at the effective lower bound, and slack in the labor market. Many proposals on monetary policy and fiscal policy have been floated.

The Bank of Japan introduced the yield-curve control (YCC) and Inflation-overshooting commitment in September 2016. The YCC is to control the policy rate at -0.1% (NIRP) and the 10-year JGB rate around zero percent. The market quickly figured out that “around” means plus/minus 10 basis points. Although the statement goes on to explain that the annual pace of JGB purchases will be 80 trillion

yen, “aiming to achieve the target level of the long-term interest rate,” it was clear that the amount of JGB purchase became endogenous. You cannot control both quantity and price at the same time.

The overshooting commitment stated: “The Bank will continue expanding the monetary base until the year-on-year rate of increase in the observed CPI (all items less fresh food) exceeds the price stability target of 2 percent and stays above the target in a stable manner.”

The zero percent target of long bonds is both a ceiling and a floor. It can be interpreted as a commitment to keep the long rate down. This will keep stimulus on business and housing investment. But it can be interpreted as a commitment to keep the long rate up, so that the yield curve will be positively sloped, or at least prevent the inverted curve. The YCC was welcomed the banking sector, which shows the latter was important.

Now let me comment on the implication of YCC regarding the cooperation on the monetary and fiscal authorities. Before directly making an observation on this point, let us review a view on how stimulus should be applied.

Advocates of strong stimulus to the economy argued that fiscal policy should be adopted as the monetary policy came to the end of its push. Maybe the fiscal policy is better and more effective. If the government is willing to issue government bonds to finance expenditure for stimulus, the central bank can purchase those government bonds. A cooperation between the monetary and fiscal authorities are called for. Variations of this policy have names like “helicopter money,” “fiscal financing,” “monetization (of debts),” and, most recently, “modern monetary theory.”

Traditional economists and central bankers would strongly oppose to the monetary-fiscal coordination, because the monetary history shows that when the government forces the central bank to monetize the debt, sooner or later hyperinflation follows. Cooperation leads to the loss of central bank independence.

Now let us think about consequence of YCC. Under YCC, purchases of JGBs become endogenous, namely the amount of purchase is excess supply at the zero JGB interest rate. If the demand goes up, maybe due to higher demand for safe assets, then BOJ purchases will decrease. If the supply goes up, possibly due to increased issuance of JGB by the government, then BOJ purchases will increase.

Whether BOJ intended or not, YCC made the cooperation of fiscal and monetary policies automatic. The government can issue more JGBs to expand expenditures without worrying about the interest rate increasing, because the BOJ will purchase whatever the amount that is necessary to keep the interest rate at zero. Or the BOJ is implicitly saying to the government, “please feel free to exercise fiscal policy and we support the efforts by keeping the rate down. In that sense, YCC and Modern Monetary Theory are observationally equivalent.

Does this mean that the BOJ lost independence? No, when an economic boom occurs and the inflation starts to go up, the BOJ may terminate YCC, invoking the inflation targeting document. Thus, the inflation targeting framework guarantees the BOJ independent.
3.3.5. Overshooting commitment

The overshooting commitment states: “The Bank will continue expanding the monetary base until the year-on-year rate of increase in the observed CPI (all items less fresh food) exceeds the price stability target of 2 percent and stays above the target in a stable manner.” This is a form of forward guidance. The inflation targeting framework may be misinterpreted as a rigid rule in that as soon as 2% is achieved, tightening may happen.

In the literature, inflation targeting is a framework where 2% should be achieved on average, over the cycle, and not all the time. Shocks cannot be offset all the time, and there are lags from decision to result. So, the content of Kuroda’s pledge is not surprising. What was surprising was to be explicit about exceeding 2% and “stay above.” A natural question is how long. There was no guidance in the statement, how long overshooting (i.e., above 2%) would continue. One interpretation is that the actual inflation rate stays above 2% until the inflation expectation, which is adaptive to the actual, comes up to 2%. Another interpretation is that this is a form of the price level targeting, in that the level of the CPI catches up to the trend line of 2%. The purpose of this policy is also to influence inflation expectation. If the overshooting commitment is explained in the price level targeting framework, it has an answer to a question how long it would stay above 2% quite easily.

Jay Powell (2020) clearly stated that after recession where the inflation rate stayed below 2%, the inflation rate should go above 2% in a boom, so that the average inflation rate becomes 2%. Otherwise the inflation expectation would be be 2%. Thus, “we will seek to achieve inflation that averages 2 percent over time.” In a sense, Kuroda’s overshooting commitment was stating the same four years earlier than Powell.

3.4. Assessment

The Bank of Japan has adopted quite innovative unconventional monetary policy. The initial step of the first arrow, QQE, and its quantitative expansion, QQE2, was a combination of the balance sheet expansion, lowering the long-term interest rate, and trying to raise inflation expectation. The QQE policies made a huge success lifting the inflation rate out of the negative territory, ending deflation for the rest of the Abe period; further lowering the unemployment rate, improving the GDP gap, and raised the stock prices. YCC and overshooting commitment announced in September 2020 were also quite innovative. Unfortunately, the inflation rate never came up to 2%, although it stayed in the positive territory most of the Abe II period.

4. Second Arrow: Flexible Fiscal Policy

16 See for example the discussion and Figure 2.1 of Ito and Mishkin (2006).
4.1. Stimulus first, followed by austerity

The second arrow of Abenomics is flexible fiscal policy. The press, as well as financial market participants, interpreted “flexible” to be synonymous to “stimulative.” However, theoretically, “flexible” should mean that the fiscal stance should be stimulative (i.e., tax cut and/or expenditure increase) when the economy is in recession, but should be consolidating (i.e., tighter) when the economy is in a boom. Over the business cycle, the fiscal balance (or at least primary balance) should be balanced.

As soon as he was elected, Abe instructed to form a large supplementary budget. The supplementary budget of 13.1 trillion yen, along with the inflation targeting and QQR, produced strong growth, rising inflation rate and declining unemployment rate. This is a stimulative part of the flexibility. The 2012 supplementary budget and the 2013 ordinary budget combined supported a boom in 2013. Although it is hard to distinguish stimulus from the fiscal stimulus and that of QQR, the strong push toward getting out of deflation in 2013 was a success.

As the economy was doing quite well, Abe reaffirmed in October 2013 that the consumption tax rate would be increased in April 2014. It was forecasted by economists that a mini-boom of rush-to-buy would happen in the first quarter of 2014, followed by a dip of consumption, mainly durables and semi-durables, in the second quarter. These forecasts were more or less realized. The forecast for the third and fourth quarters was a V-shape recovery in consumption to a pre-tax hike normal level. But this forecast turned out to be wrong. Consumption did not come back to the previous level and economic activities stayed subdued in 2014. Those who opposed to the April 2014 tax rate hike claimed a victory in predicting an adverse effect. Sufficiently alarmed, Prime Minster Abe postponed twice the second tax rate hike originally scheduled in October 2015. The second tax rate hike took place in October 2019, but to lessen the impact, an increase from tax hike was diverted from deficit reduction to be spent on free college education and free kindergarten for low-income families. Also, the reduced tax rate was introduced for food. The original 8% is applied to food items, while 10% is applied to other items. The second consumption tax rate hike did not help much in terms of deficit reduction.

---

17 The consumption tax rate hikes, 5% to 8% in April 2014 and 8% to 10% in October 2015 were scheduled by the law that had passed in November 2012 as a part of the broad agreement in June 2012 by the three major parties, DPJ, LDP and Komei to reform social securities and taxes. The law had an escape clause to suspend tax hike in case the economy is not expanding fast enough. That is why Abe had to check economic conditions to give a go. For the examination of economic conditions, Abe invited about 70 economists to prime minister’s office to take a poll and to have a debate over the appropriateness of consumption tax rate hike. The meetings were held in several groups in August 2012. The two-thirds of invited economists argued that the tax rate hike should go as scheduled.

18 November 2011, prime minister Abe decided to postpone his second tax rate hike from October 2015 to April 2017. The decision was made based on the escape clause. The economy was deemed not strong enough to withstand the tax increase. He pledged that there will be no further postponement. He dissolved the House of Representatives to ask judgement of this postponement by the public, and win the general election. In June 2016, prime minister Abe declared to postpone the tax rate hike from April 2017 to October 2019.
4.2. Fiscal Sustainability

4.2.1. Expenditure

Total fiscal expenditures, total tax revenues and the new debt issues are shown in Figure 7. As is clear from the figure, the general account of national budget has not been balanced since 1990.

Expenditures increased and tax revenues declined in the 1990s, resulting in widening the gap, which was financed by new bond issues (shown in bars in the figure). From 2000 to 2008, the expenditure was held almost constant or slightly declining, while tax revenues were gradually increasing, thus, the deficits (bond issues) were gradually declining. An increase in tax revenue during this period was generated by steady economic expansion, generating higher corporate income. The deficit reduction without tax hike was basically the achievement of Koizumi who insisted on the expenditure cap, or “zero ceiling,” on ministries’ request for the next year’s budget.

Deficits soared in 2009 in response to global financial crisis. Social security expenditures, which includes welfare payments, tend to increase in a deep recession. A problem, viewed from the fiscal conservative perspectives, is that the social security expenditures did not roll back to the pre-crisis level, around 20-23 trillion yen in 2001-2008, after the 2008-09 crisis. Between 2010 and 2019, the level of total expenditures stayed around 100 trillion yen and the social security related expenditures was gradually increasing from 30 trillion to 33 trillion yen.

In response to the COVID-19 recession in 2020, the fiscal year 2020 budget was ballooned by two supplementary budgets and reached 160 trillion yen, in which social security expenditures jumped to 40 trillion yen, up from 33 trillion yen. A question is whether the level bounces back to the 33 trillion-yen level whenever the COVID problem is over. Figure 8 shows the very simple simulation of social security expenditures with two scenarios. The figure shows, from 1975 to 2020, the population aged 65 and older, denoted by P65+, social security expenditures (deflated by CPI), denoted by SS, and its ratio SS/P65+. For the future, simulation I assumes the ratio SS/P65+ is fixed at the average from 2010 to 2019 and simulation II assumes the ratio SS/P65+ stays at the 2020 level.

The difference between the two simulations amounts to 5.4 trillion yen in 2021, increasing to 5.8 trillion yen at the peak in 2042. A failure to revert to the pre-COVID level would need the additional 2 percentage point increase in the consumption tax.

However, the increase in the elderly population causing an increase in social security expenditures may not have a devastating effect. An increase of the consumption tax rate by 1 percentage point (in Simulation I) or 3 percentage point (in Simulation II) would take care of it. A bigger danger is the jump in SS during a crisis to become irreversible after a crisis.

In sum, the following observation is important. The levels of total expenditures and social security expenditures have a tendency to jump up during a crisis and stay high even after the crisis. It seems
that there is a ratchet effect in expenditures. All the fiscal consolidation (i.e., reducing deficits) efforts during the economic expansion period is more than offset by the crisis.

4.2.2. Tax revenues
There are three major tax items in Japanese central government: the personal income tax, the corporate income tax and the consumption tax. Figure 9 shows the changes of these three tax revenues since 1990. It shows (i) the consumption tax revenues are stable if nominal GDP is stable; and its revenue jumps in accordance with its rate hike; (ii) the corporate income tax revenue is very sensitive to GDP fluctuation. The global financial crisis in 2008-09 reduced the corporate income tax revenue by nearly 8 trillion yen. There is a downward trend since 1990, reflecting both the stagnant economy and its tax rate cut. The personal income tax revenue declined from more than 25 trillion yen in 1990-92 to below 15 trillion in 2009-12. During the Abe II period, it increased from 15 trillion in 2013 to 20 trillion in 2018-19. However, it is the consumption tax that gained the weight in tax revenues. It was just 5 trillion in 1990 but increased to 20 trillion, thanks three tax rate hikes, in the last 30 years. The consumption tax revenues will increase automatically as the nominal GDP rises.

The total tax revenues decreased from 60 trillion in 1990 to below 40 trillion in 2009, then increased gradually to 47 trillion in 2013.

The second arrow, “flexible” fiscal policy, worked as it was designed, automatic decline in tax revenue (automatic stabilizer) in a crisis, and steady consolidation with consumption tax rate hikes in the economic expansion period. The two consumption tax rate hikes during 7 years under Abe II are a remarkable achievement to maintain, or “restore”, fiscal sustainability. This is hailed by fiscal conservative economists, while hated by MMT advocates.

4.2.3. Sustainability
There are several ways to evaluate sustainability of the fiscal situations. The survey of the literature and its applications to Japan are discussed in Hoshi and Ito (2013, 2014) and Ito and Hoshi (2020, chapter 7). Here, we raise two new issues: how to consider the central bank holding of JGBs; and implications of decreasing household saving.

The Bank of Japan has purchased a significant amount of JGBs under QQE. At the end of March 2020, the Bank of Japan holds 487 trillion, or 47.2% of outstanding JGBs, out of the total JGB outstanding of 1033 trillion yen. If one can assume that the Bank of Japan will continue to hold, or even increase, its holding of JGBs, the sustainability of JGBs will improve substantially. However, if one assumes that if time will come when sufficiently strong economic expansion and high inflation rate occurs, then the Bank of Japan may have to sell its holding of JGBs. That would add pressure on the long-term rate hike, which may prompt an exodus from the JGB market, a fiscal crisis.
The latter scenario should be qualified that the Bank of Japan can tighten the monetary policy without shrinking its balance sheet. Just like the Federal Reserve tried from late 2015 to the end of 2019, the policy rate can be raised without selling government bonds. This is possible by raising the interest rate that is applied to excess reserves that the commercial banks hold at the central bank.

Thus, the central bank holding is a factor that would lower the probability of fiscal difficulties. But that is exactly the point people in the fiscal conservatism camp and the central independence camp cite a reason for objection. The central bank buying government bonds will encourage the government to issue more government bonds and other efforts to contain deficits will be compromised. Moreover, when time comes for the central bank to raise the interest rate, the government would intervene to stop it for the fear of rising financing costs (mainly interest payments) of outstanding bonds. Which of these views is correct? It depends on trust or distrust on the prudent behavior on the part of the government behavior in the future.

The second issue for discussion is whether there will be enough domestic saving in the future to demand outstanding and new issues of JGBs. Hoshi and Ito (2013, 2014) argued that the low long-term interest rate can be maintained only when almost all JGBs are purchased by domestic financial institutions and domestic residents. Foreigners would demand high risk premium if they are asked to buy JGBs. The JGBs are sustainable as long as they are absorbed by domestic private sector saving, namely household saving and corporate saving. Corporate saving, which are deposited in financial institutions, has increased in the last decade. However, it is inconceivable that corporations will continue to pile up their saving of low return. Household saving will decline in the future as the young population will decline. The young save and build up financial assets and the elderly dissave to consume in the typical lifecycle model. As the Japanese demographic transition in the next several decades imply that household saving will be declining. Thus there will be a point of time in future that the domestic saving will not be enough to support outstanding JGBs. Hoshi and Ito (2013, 2014) showed simulation results of government debts and household saving. Whether household saving continues to exceed the government debts crucially depends on the growth rate and the reinvestment ratio of interest income from government debts, as well as the tax and expenditure policy. They argued that without substantial changes in tax and expenditure policy, the fiscal situation would become unsustainable in the mid-2020s. The simulation if done today has to be modified in two important ways. First, the consumption tax increases took place, the expenditure has been contained, and most importantly the Bank of Japan is increasing JGB holding.

4.3. Assessment

Some critics think that Abe II failed to put fiscal consolidation on course, because the incremental revenues from consumption tax increases were mostly spent on some populist agenda and not for fiscal consolidation.

---

19 Only 7.7% of outstanding JGBs are owned by foreign residents. For Treasury bills (short term government securities), 67.9% are held by foreign residents. Most treasury bills are issued to finance foreign reserves in the special account managed by the Ministry of Finance.
i.e., reducing fiscal deficits. The target of making the primary balance in surpluses was postponed from 2020 to 2025, and then quietly withdrawn. A huge deficit in 2020, about 60% of the budget total, is a concern, because once deficits jumps to a higher level due to a crisis, history shows that deficits do not come down even after the crisis. Abe II could have done better in reducing deficits faster.

Critics on the other side of the spectrum argue that the failure of the second arrow of Abe II is that Abe hastened to switch to fiscal austerity in 2014 after the initial push for stimulus in 2013. The consumption tax rate hike of April 2014 was a huge mistake. The tax hike cut short the nascent economic recovery and pull the air out of rising inflation rate and inflation expectation that tends to follow the actual. Too much attention to fiscal consolidation is making economic growth weaker than otherwise. Just issuing government bonds to support a weak economy, when the monetary policy is bound by the effective lower bound

Let me take a compromise position. The fact that the consumption tax rate was raised twice during the Abe II period is a respectable achievement in the direction of restoring sustainability. Never mind expenditures increased at the same time to minimize reduction in deficits. In the future, as nominal GDP rises it would be automatic to have consumption tax revenues rise as a reliable source of revenues. That would certainly contribute to reduction of deficits. However, the timings of tax rate hike could have been different, in retrospect. The April 2014 hike by 3 percentage point really had a huge dent in consumption with no recovery. Delaying for one year, or better yet, raising the rate 1 percentage point every year for three consecutive years would have been better.

By raising the consumption tax rate from 5% to 10% in two steps in 5 years apart, Abenomics contributed to fiscal sustainability. Tax revenues during Abe II increased sharply, before the COVID-19 crisis. The second arrow was a success in this regard. The full impact of COVID-19 is not yet known, but it poses a great threat to fiscal sustainability if expenditures that rose to support the economy do not come down after the COVID-19 crisis is over.

5. Third Arrow: Growth Strategy to Stimulate Private Sector Investment

5.1. The Third Arrow in growth theory

The third arrow of Abenomics is “growth strategy.” The strategy is not that the government makes public investment for growth, but to give sufficient confidence and regulatory reforms so that private investment will be induced. It is more reform oriented than economic planning. As will been shown below, items that are covered under the third arrow are many across different sectors.

What were planned and how much of them were achieved were followed in annual reports, initially called “Japan Revitalization Strategy” from 2013 to 2016; “Growth Strategy” Strategy of Investment for Future, in Japanese) in 2017 and 2018; and “Growth Strategy” in 2019 and 2020. The convenient portal site is available:
I found growth strategy of early years, detailing the projects and initiatives, are well organized and theoretically coherent. Let us investigate the first two years of “Japan Revitalization Strategy.” (Prime Minister’s Office (2013, 2014). I have summarized the various initiatives into a growth theory framework.

In economic theory, output growth ($\Delta Y/Y$) is achieved as a sum of contributions of labor input growth ($\Delta L/L$), capital input growth ($\Delta K/K$) and total factor productivity growth ($\Delta A/A$). When the production function is in the form of the Cobb-Douglas function,

$$Y = AL^\theta K^{1-\theta}$$

then the output growth rate can be decomposed in the three types of contributions:

$$\frac{\Delta Y}{Y} = \frac{\Delta A}{A} + \theta \frac{\Delta L}{L} + (1-\theta) \frac{\Delta K}{K}.$$  

A strategy to boost potential growth can be categorized into those work on total factor productivity growth (TFP), labor growth (gL) and capital growth (gK).

**Capital Growth Strategy (gK):** “Regain Japan’s earning power”
1. Enhance Corporate governance
2. Reforms for management of public and quasi-public funds
3. Promotion of venture business
4. Corporate tax reform

**Reinforcing Workforce (gL)**
5. Enhancing women’s participation and advancement
6. Enable flexible working practice
7. Attract talent from overseas

**Nourish new drivers of growth (TFP)** Raise A in heavily regulated industry
8. Aggressive agriculture policy
9. Stimulate innovation through science technology and a ‘Robotics Revolution’
10. Healthcare industry and high-quality service

The revitalization plan has some prominent features compare to any economic stimulus packages in the past. First, the capital growth strategy is not targeting to increase physical capital stock. Instead, it focuses on the efficient use of capital and the increase in returns to capital. This is quite new in thinking. Second, for labor growth, it recognizes the problem of declining working age population. It attempted to increase labor force by promoting and inducing more women to participate in work and allowing more foreigners to come in. Third, agriculture was identified as a sector to grow instead of a sector to be protected by high tariff. This is to lessen objections by agricultural sectors to FTAs. In the rest of this section, I will pick

---

20 This was first presented in a conference Ito (2014).
several topics that deserve attentions.

5.2. Progress

5.2.1. Corporate Governance Reform

Corporate governance reform is an instrument to increase returns to capital by either shedding unprofitable operations and subsidiaries. An increase in the return on equities (ROE) can be achieved either by an increase in dividend or stock buy-back by idle cash for example. Many Japanese corporations have cross-share holding and parent-subsidiary listing in the stock exchange. These are identified as undesirable features of the Japanese capital market. How to induce corporations to do so? The answer is to establish “Corporate Governance Code” (the first edition, established in December 2015, and most recently revised in June 2018), and list good practices.

Several measures for progress in corporate governance are presented below. First, Figures 10 and 11 show the distribution of firms in terms of the number of outside directors and independent directors, respectively. So more firms have selected outside directors and independent directors. They are supposed to act to protect shareholders’ interest rather than executive directors of the company who may have different objectives. When there are controlling shareholder(s), outside and independent directors are most important in protecting minority shareholders’ interest. With voices to enhance shareholders’ interest in the board meeting will eventually increase the capital efficiency.

Another reform the Tokyo Stock Exchange introduced was to create a stock index that emphasizes ROE. The JPX-Nikkei 400 includes only firms with high ROEs as well as large capitalization. It was introduced in November 2013.

5.2.2. GPIF Reform

Another pressure on increasing capital efficiency can be applied from asset owners and asset managers. They can engage in firms to pressure for better governance to increase returns to investment. The largest asset owners in Japan is the public pension fund, with a total asset of about 160 trillion yen (or approximately 1.5 USD). Before Abe II, two-thirds of its portfolio was invested in JGBs. The 2013 version of “Japan Revitalization Strategy” had a section on the reform of the Government Pension Investment Fund (GPIF) and other public funds to introduce more modern portfolio management to increase returns for the fund, which is held for future short fall of pension due to demographic change. Public pension funds in most advanced countries have invested in equities and alternatives (including real estates and infrastructure) to increase returns. As a long-term investor, the public pension fund is in a unique position to benefit from equity premium, without being worried a type of deposit withdrawal that is a problem for depository institutions.

The reform commission was formed over the summer of 2013 and the report was disclosed in
November 2013. The report recommended that the GPIF lower the ratio of JGB holdings. Since GPIF holds four asset classes—domestic bonds, domestic equities, foreign bonds and foreign equities—the report implied that GPIF should increase shares of equities and foreign bonds. The report set off the series of reforms at the GPIF. Gradually the GPIF increased its portfolios increasing the weights of other asset classes. Table 4 shows how GPIF benchmark portfolios have been changing since 2013. In the most recent benchmark, introduced in April 2020, the four asset classes have equal weights, 25%. It has come a long way to reduce domestic bonds from 67% to 25%, but it is still too high considering the interest rate of 10 year bond is just around 0.0%.

The FSA introduced in 2013 Japan’s Stewardship Code, the guidelines to establish fiduciary duty by institutional investors, including GPIF. As the GPIF made a shift from JGBs to equities, it has gained the status of being influential on corporate governance. The GPIF outsources its portfolio management to asset managers and the GPIF requires them to report how they voted in shareholders’ meeting. The mechanism applies pressure on firms to enhance their corporate governance.

5.2.3. Womenomics

Womenomics, or more active labor market participation by women, has been one of the prominent successes of the third arrow of Abenomics. The Japanese women tend to drop out of labor force when they have babies and stay out until the youngest goes to school. Thus the labor participation rate by age bracket has a dip in the age bracket of 30-34 (and 25-29 until the 1990s). The shape looks like a M-shape. So this is called the M-shape curve for female labor participation rate. This was common among advanced countries many decade ago. But by late 1990s, it was only Japan that had the M-shape. The M-shape is quite remarkable in the curves, 1975, 1985, 1995, and 2005, in Figure 12.

Abenomics promoted that women continue to work even after child birth. The maternity and child care leaves were reformed to give more choices to working mothers. Firms were also encouraged to be flexible in offering short-hour and/or flex works. As a result the female participation rate rose and the labor participation curves in 2015 and 2019 show that the M-shape has basically disappeared. So, it looks great.

Two caveats. First, although female workers are participating in the labor market while children are still small, many of them tend to work in part-time jobs rather than full time jobs, so a full-time career tends to be broken. Second, public child care facilities – nurseries and kindergartens – tend to have a long wait list and not all mothers can place infants and small children in qualified child care facilities. In the Revitalization strategy of 2013, it stated that the aim is zero wait list. But seven years later, the problem is still there.

5.2.4. Agriculture and FTA

Prime minister Abe declared that he would ask to join the on-going negotiation of Trans-Pacific Partnership agreement in March 15, 2013, shortly after he took power. The DPJ government considered to do so but they could not persuade within-the-party oppositions. The opposition came from agricultural lobby who are worried about possible lowering of agricultural tariffs. The LDP had a similar agricultural lobby. So the Abe’s decision showed a strong leadership and his conviction that free trade is good. Although he said he would protect sacred five products—rice, wheat, beef and pork, dairy products and sugar (cane)—in the negotiation, he did not mean no change. Indeed, the tariff rates on some of the above products were lowered in the final agreement.

How could Prime minister Abe survive attacks from the agricultural lobby. He deployed two tactics. One is that the growth strategy encouraged “strong agriculture.” In other words, he promoted Japanese agricultural products from beef to water melons, to sake, to foreign countries. The export drive gave the impression that Japanese agricultural products are strong enough to withstand the lowering tariffs. The boom of Japanese food globally helped some of exports. The agricultural exports increased. Prime minister Abe replaced protection with an export drive. This was quite effective. Another tactic was to place a wedge between agricultural cooperatives and farmers. By attacking agricultural cooperatives for their monopsony power, Abe could win the support of some (not all) farmers.

With less resistance from the agricultural lobby, many FTAs/EPAs were agreed and ratified during the Abe II period. (See Ito and Hoshi (2020, table 11.5)

5.2.5. Haneda Airport Re-internationalization

Building the fourth runway at the Haneda airport in 2010 gave more capacity than filling all demands for domestic routes. Since the Haneda airport is much closer to central part of Tokyo than the Narita airport, it makes sense to open (“reopen,” to be precise as the Haneda was the international airport before the Narita airport opened) the Haneda airport for international routes. The capacity for international travels at both airports increased substantially. Many new routes were introduced by ANA and JAL. Some surplus landing slots at Narita were allocated to Low Cost Carriers (LCC) so that not-so-wealthy tourists from Asia can visit Japan. In the beginning it was not clear whether the Narita would suffer from Haneda re-internationalization. However, as Figure 13 shows that the number of passengers at both airports increased and contributed a rapid increase of passengers.

The visa restrictions to Asian countries were relaxed in the Abe II period. LCCs and visa waivers contributed a rapid increase in foreign passengers. The target for inbound tourists was upward revised. The foreign tourists boom helped Japanese tourism and local economy. This is another success story of Abenomics.
5.3. Most successful reforms have roots in Abe I

Ito (2021) argues that most of the success cases described above have roots in the Abe I period. For example, in anticipation of the Haneda fourth runway, a vigorous debate took place in the Council of Economic and Fiscal Policy (CEFP) in 2006-07. Ministry of Land, Infrastructure, Transport and Tourism wanted to restrict the international routes from Haneda to short-range destinations. However, business and academic members insisted that there should not be restrictions by the government. In the end the private sector members of CEFP won the debate to reopen the Haneda airport to international routes without restrictions on destination in 2008. The credit of Haneda re-internationalization should not go to DPJ or Abe II, but it should go to Abe I and Fukuda.

An attempt for the GPIF reform was briefly discussed in the Abe I CEFP, but it was flatly denied by the Minister of MHLW at the time. Preparation was not enough to push back.

CEFP of Abe I was keen on expanding FTA/EPA. However, resistance from the agricultural lobby was well anticipated. The study group was formed to bring in both trade economists and agricultural economists to map out a strategy. Although some reports from the study group were written, it did not materialize into a concrete action. But prime minister Abe was exposed to the issue then. It might help when he considered whether to join negotiation of TPP in the Abe II period.

5.4. Assessment

The issues illustrated above are several of rather successful ones. There are many that did not progress enough. Even today, the consensus among economists and investors is that the third arrow did not work, or did not get attempted. This section is to show examples of successes, but not meant to be a total rebuttal. In some cases, discussion of reforms took place in the CEFP in the Abe I-Fukuda period. One thing we learn from this is reforms take a long time to see fruits out of it.

6. Concluding Remarks

Contents of Abenomics became well-known among global investors in the U.S. and Europe. There was tremendous interest in Abenomics and the Japanese economy from 2013 to 2016. Improvements in the demand side, namely the first and second arrows, were remarkable, as described in Sections 2, 3, and 4. Investors were waiting for the third arrow to be fired to increase productivity and the growth rate. It never happened in the mind of global investors. Although the successes in several areas described in Section 5 were well known, but overall impacts on the potential growth rate were not big enough.

Agenda of the third arrow still has relevance at the end of the Abe II period. Prime Minister Suga has pledged that he would continue Abe II policies. It would benefit Japan if he can finish the mission of shooting the third arrow.
References


Figure 1. Approval Rating of the Abe administration after 2013

Source: NHK Broadcasting Culture Research Institute.
Note: Survey is taken by randomized digit dialing (RDD). In June 2016, sampling was expanded from 20 years and older to 18 years old and older. From April 2017, mobile phones are added to landlines for sampling.
Figure 2. Net Support over duration of Prime Minister tenure 1998 – 2020 (NHK poll)

Source: Creation by the author from the data publicly available from NHK.

Notes. "Net support" is defined as the "Support" percentage minus "Non-Support" percentage. The horizontal axis is the number of months during duration of prime ministership. "Support" and "Non-support" do not add up to 100% net support.

<table>
<thead>
<tr>
<th>Average Net Support</th>
<th>Obuchi</th>
<th>Mori</th>
<th>Koizumi</th>
<th>Abe1</th>
<th>Fukuda</th>
<th>Aso</th>
<th>Hatoyama</th>
<th>Kan</th>
<th>Noda</th>
<th>Abe2</th>
</tr>
</thead>
<tbody>
<tr>
<td>支持する－支持しない</td>
<td>-3.3</td>
<td>-38.5</td>
<td>21.1</td>
<td>6.1</td>
<td>-12.9</td>
<td>-31.2</td>
<td>12.4</td>
<td>-16.4</td>
<td>-14.7</td>
<td>13.8</td>
</tr>
</tbody>
</table>
Table 1. Approval Rating and macroeconomic indicators

<table>
<thead>
<tr>
<th>Prime Ministers in Office</th>
<th>t₀</th>
<th>tₜ</th>
<th>Approval Rating</th>
<th>GDP</th>
<th>GDP per working age population fn3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obuchi-Mori</td>
<td>1998Q3</td>
<td>2001Q2</td>
<td>-17.2</td>
<td>1.3%</td>
<td>1.4%</td>
</tr>
<tr>
<td>Koizumi</td>
<td>2001Q2</td>
<td>2006Q3</td>
<td>21.1</td>
<td>1.2%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Abe1-Fukuda-Aso</td>
<td>2006Q3</td>
<td>2009Q4</td>
<td>-13.2</td>
<td>-1.5%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Hatoyama-Kan-Noda</td>
<td>2009Q3</td>
<td>2012Q4</td>
<td>-9.0</td>
<td>1.6%</td>
<td>2.2%</td>
</tr>
<tr>
<td>Abe2 before COVID-19 hit</td>
<td>2012Q4</td>
<td>2020Q1</td>
<td>13.8</td>
<td>0.8%</td>
<td>1.7%</td>
</tr>
</tbody>
</table>

Notes. 1. "Net Support" is defined as "Support (Approve)" minus "Non-Support (non-approval)" from the monthly NHK poll.
2. The quarterly compounding growth rate from the first quarter to the last quarter, \( g = \exp((\ln(Yn) - \ln(Y0))/N) - 1 \), and then it is annualized by compounding for four times, annualized \( g = ((1+g)^4)-1 \).
3. Quarterly GDP is divided by estimated population of the first date of the quarter. The population on October 1 every year is published in the government statistics, from which other months are calculated by linear projection in between.
Table 2 macroeconomic variables

<table>
<thead>
<tr>
<th>Prime Ministers in Office</th>
<th>t₀</th>
<th>t_N</th>
<th># months incl. both ends</th>
<th>Unemployment rate</th>
<th>Inflation rate</th>
<th>Nikkei 225</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Average</td>
<td>Average</td>
<td>Average</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total CHG from t₀ to t_N</td>
<td>Total CHG from t₀ to t_N</td>
<td>Total CHG from t₀ to t_N</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CHG per month</td>
<td>CHG per month</td>
<td>CHG per month</td>
</tr>
<tr>
<td>Obuchi-Mori</td>
<td>1998/07</td>
<td>2001/04</td>
<td>34</td>
<td>4.6</td>
<td>0.7</td>
<td>0.021</td>
</tr>
<tr>
<td>Koizumi</td>
<td>2001/04</td>
<td>2006/09</td>
<td>56</td>
<td>4.9</td>
<td>-0.7</td>
<td>-0.013</td>
</tr>
<tr>
<td>Abe1-Fukuda-Aso</td>
<td>2006/09</td>
<td>2009/09</td>
<td>37</td>
<td>4.2</td>
<td>1.3</td>
<td>0.036</td>
</tr>
<tr>
<td>Hatoyama-Kan-Noda</td>
<td>2009/09</td>
<td>2012/12</td>
<td>40</td>
<td>4.7</td>
<td>-1.1</td>
<td>-0.028</td>
</tr>
<tr>
<td>Abe2</td>
<td>2012/12</td>
<td>2020/09 *</td>
<td>92</td>
<td>3.1</td>
<td>-1.4</td>
<td>-0.016</td>
</tr>
</tbody>
</table>

* 2020/07 for data analysis

Source: Author’s calculation based on publicly available data.
### Table 3: Rank order of macroeconomic performances

<table>
<thead>
<tr>
<th>Approval rating</th>
<th>Net Approval rating, average (%)</th>
<th>GDP growth, average (%)</th>
<th>Growth rate of GDP per working-age population, average (%)</th>
<th>Unemployment rate, average (%)</th>
<th>CHG unemployment rate per month (% point)</th>
<th>Inflation rate, average (%)</th>
<th>CHG Inflation rate per month (% point)</th>
<th>Nikkei 225, average (Yen)</th>
<th>CHG Nikkei225 per month (Yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Koizumi</td>
<td>21.1</td>
<td>DPJ</td>
<td>1.6% DPJ</td>
<td>2.2% Abe2</td>
<td>-0.036 AFA</td>
<td>0.6 Koizumi</td>
<td>0.081 Abe2</td>
<td>18.660 Abe2</td>
</tr>
<tr>
<td>2</td>
<td>Abe2</td>
<td>13.8</td>
<td>OM</td>
<td>1.3% Abe2</td>
<td>1.7% AFA</td>
<td>0.007 AFA</td>
<td>0.2 DPJ</td>
<td>0.007 OM</td>
<td>16.134 Koizumi</td>
</tr>
<tr>
<td>3</td>
<td>DPJ (Hatoyama-Kan-Noda)</td>
<td>9</td>
<td>Koizumi</td>
<td>1.2% Koizumi</td>
<td>1.5% OM</td>
<td>-0.011 OM</td>
<td>-0.5 Abe2</td>
<td>-0.006 AFA</td>
<td>13.413 DPJ</td>
</tr>
<tr>
<td>4</td>
<td>AFA (Abe1-Fukuda-Aso)</td>
<td>-1.3</td>
<td>Abe2</td>
<td>0.8% OM</td>
<td>1.4% DPJ</td>
<td>0.021 Koizumi</td>
<td>-0.5 AFA</td>
<td>-0.007 Koizumi</td>
<td>11.599 OM</td>
</tr>
<tr>
<td>5</td>
<td>OM (Obuchi-Hashimoto)</td>
<td>-1.7</td>
<td>AFA</td>
<td>-1.5% AFA</td>
<td>-0.7 Koizumi</td>
<td>0.036 AFA</td>
<td>-0.9 OM</td>
<td>-0.050 DPJ</td>
<td>9.571 AFA</td>
</tr>
</tbody>
</table>
Figure 3. GDP gap

Figure 4. Movement of the Core core inflation rate, removing the effects of consumption tax hike

Notes: Figures for the CPI are adjusted to exclude the estimated effects of changes in the consumption tax rate. Source: Ministry of Internal Affairs and Communications.
Figure 5 Balance Sheet of the Bank of Japan, FRB and ECB, 2007=100

Source: FRED, Economic Data by Federal Reserve Bank of St. Louis
Figure 6. The yen/$ rate (inverted) and the US-Japan monetary base difference
Figure 7. Fiscal Deficits

Data Source: Ministry of Finance
Notes: From 1990 to 2018, final (ex post) budgets are shown and for 2019 and 2020, the sum of initial and supplementary budget(s) is shown.
Figure 8. Elderly population and social security expenditures

Note: Population forecast is taken from forecasts (middle birth rate; middle mortality rate) of the National Institute of Population and Social Security Research. Social security related expenditure is taken from Ministry of Finance budget various years.
Figure 9. Tax revenues

**Source:** Ministry of Finance. General Account Budget, various years.

**Notes:** From 1990 to 2018, the final budget (Kessan); From 2019 to 2020, the initial and supplementary budgets.
Figure 10.

The number of outside directors, distribution of firms, (TSE 1st section)
Figure 11

The number of independent directors, distribution of firms (TSE 1st section)
<table>
<thead>
<tr>
<th></th>
<th>traditional benchmark (prior to 2013/06)</th>
<th>old benchmark (2013/06)</th>
<th>new benchmark (2014/10)</th>
<th>most recent benchmark (2020/4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic Bonds</td>
<td>67% (+/- 8%)</td>
<td>60% (+/- 8%)</td>
<td>35% (+/- 10%)</td>
<td>25% (+/- 7%)</td>
</tr>
<tr>
<td>Domestic Equities</td>
<td>11% (+/- 6%)</td>
<td>12% (+/- 6%)</td>
<td>25% (+/- 9%)</td>
<td>25% (+/- 6%)</td>
</tr>
<tr>
<td>Foreign Bonds</td>
<td>8% (+/- 5%)</td>
<td>11% (+/- 5%)</td>
<td>15% (+/- 4%)</td>
<td>25% (+/- 8%)</td>
</tr>
<tr>
<td>Foreign Equities</td>
<td>9% (+/- 5%)</td>
<td>12% (+/- 5%)</td>
<td>25% (+/- 8%)</td>
<td>25% (+/- 7%)</td>
</tr>
<tr>
<td>Short-term assets (others)</td>
<td>5%</td>
<td>5%</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>
Figure 12. Female Labour force participation rate

Panel A. Women (Japan)

Source: Ministry of Health, Labor and Welfare
Figure 13

Figure 13. International Passengers, Narita and Haneda Airports

Source: Ito (2021, Figure 5.3)