

## **Recent Japanese Monetary Policy: An Evaluation of the Quantitative Easing**

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### **ABSTRACT**

Japan has experienced unprecedented recession and deflation for more than 10 years, while aggressive fiscal policy was conducted under severe budget constraint during the 1990s and the Bank of Japan enforced unprecedented monetary easing, which reduced interbank interest rates to almost zero. However, because these policies were not enough to end deflation, since 2001, the Bank of Japan has implemented quantitative easing. Even now, there is much dispute over whether the quantitative easing has been effective and whether the quantitative easing achieved the current economic recovery. This paper examines the effect of quantitative easing and finds that it has been effective but limited in scope.

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## I. INTRODUCTION

Japan has experienced unprecedented recession and deflation for more than 10 years, while aggressive fiscal policy was conducted under severe budget constraints during the 1990s (except 1995–1997) and the Bank of Japan (BOJ) enforced unprecedented monetary easing, which reduced interbank interest rates to almost zero. However, because these policies were not enough to end deflation, since 2001, the BOJ has implemented quantitative easing. Of course, there is much dispute over whether quantitative easing has been effective and whether the quantitative easing achieved the current economic recovery. Therefore, this paper empirically examines the effect of the quantitative easing.

This paper is structured as follows. Section II explains why the BOJ adopted the quantitative easing policy. Section III discusses the theoretical effects of the policy. Section IV empirically verifies the effect of the quantitative easing. Section V considers how monetary policy should be conducted. Finally, Section VI concludes this paper.

## II BACKGROUND OF QUANTITATIVE EASING

In the 1990s, Japan experienced serious economic and financial crises. For example, recorded annual economic growth rates were often negative, and several major financial institutions, such as Hokkaido Takushoku Bank, went into bankruptcy. Japan's premium increased around the middle of 1990s. The financial system was unstable (Ito and Harada, 2002). To overcome these unfavorable economic situations, the BOJ adopted the so-called “zero interest rate policy” from February 1999 to August 2000. Namely, it decided to “flexibly provide ample funds and encourage the uncollateralized overnight call rate to move as low as possible” in February 1999 to avoid a possible intensification of deflationary pressure and to ensure that the economic downturn would come to a halt. Subsequently, in April 1999, BOJ declared its commitment to the zero interest rate until deflationary concerns were dispelled. This policy was intended to affect market expectations regarding the future course of monetary policy actions, thereby stabilizing interest rates (Fujiki and Shiratsuka, 2002).

Introduction of the zero interest rate policy seemed to create an atmosphere of economic recovery. The BOJ stopped the zero interest rate policy. It encouraged the uncollateralized overnight interest call rate to rise on average. However, after the decision, the economy again dropped. The BOJ then tried a more aggressive monetary easing policy. That is, on March 19, 2001, the BOJ decided to increase the outstanding balance of the current accounts at the Bank by one trillion yen to around 5 trillion yen. This is called quantitative easing. In this scheme, the main operating target for money market operations changed from the uncollateralized overnight call rate to the outstanding balance of the current account at the BOJ. The target of the current account balance has been increased several times since then, and the current upper limit level is 30-35 trillion yen.

Under the new procedures, the BOJ provides ample liquidity, and the uncollateralized overnight call rate is determined in the market at a certain low level

below the ceiling set by Lombard-type lending facilities. In reality, the call rates have been almost zero percent since the introduction of quantitative easing policy.<sup>1</sup>

It is also notable that the BOJ announced that it would continue the policy until “the inflation rate measured in the consumer price index (perishable foods are excluded) is stably 0% or higher.” This announcement may have the “time duration effect” argued by Krugman (1999).

To realize the target, purchase of long-term Japanese government bonds by the BOJ has gradually increased with the present purchase at 14.4 trillion yen, which corresponds to about 40% of the new national debt (i.e., 36.4 trillion yen in fiscal 2003). Additionally, the BOJ started to purchase stocks held by private banks.

### III. HAS QUANTITATIVE EASING BEEN EFFECTIVE?

Now, few disagree that the Japanese economy is on the road to recovery and growth. However, there is no consensus as to whether the reason for the recovery is the BOJ’s monetary policy, especially the quantitative easing. This is partially because theoretical grounds for quantitative easing are not fully developed at this time.

First, we need to examine whether the change (increase) in the current account balance is really possible. Demand for the current account balance depends on the nominal interest rate, which is the opportunity cost of maintaining the current account balance. Therefore, in general, to increase the balance, we need to decrease the interest rate. As the interest rate is already almost zero, increasing the balance seems difficult.

In reality, the current account balance has increased greatly. We can point out the following reasons. First, telecommunication expenses and various costs associated with funds transactions may not be paid as the market interest rate is very low. So, private institutions cannot invest funds held at the BOJ’s current account into money market instruments. Second, financial institutions feared that obtaining capital from the short-term market would become difficult because of the unstable financial markets.

How does the increase in the balance of current accounts affect interest rates and other asset prices? Of course, short-term interest rates are theoretically expected to decrease in response to an increase of the current account balance. Similarly, stock prices would rise and the yen would depreciate. However, the influence on interest rates and stock prices largely has not been realized.<sup>2</sup> The main reason is that there was no room for short-term interest rate to decline. For the exchange rate, the Japanese yen actually depreciated from 116.44 yen/\$ (February 2001) to 133.89 yen/\$ (February 2002), but this is mainly because of the economic recovery of the United States and the instability of the Japanese financial system. Furthermore, it is noted that the depreciation of yen would end deflation but it is costly to Japan (Meltzer, 2001).

How does the policy affect the depository institutions? Theoretically, the portfolio rebalance effect exists. In general, financial institutions consider the changes of interest rates and construct their optimal portfolios by increasing or decreasing loans, bonds, stocks, and other assets. When the short-term interest rate drops, banks expect to increase their lending activities. However, the interest rate seemed not to have a strong influence on banks’ behaviors. The reason is that the interest rate in Japan was near zero,

and Japanese financial institutions could not increase their risk-taking because they had large nonperforming loans. Thus, the portfolio rebalance effect was not realized.

Finally, let's consider how the quantitative easing affects the economy. It is important to consider the movement of the monetary base, money supply, and gross domestic product (GDP). These three indices exhibited similar trends around 1995. Since then, the increase of the monetary base has been remarkable; on the other hand, the increase of the money supply was not so large, and the GDP leveled off.<sup>3</sup>

Raising the reserve target may have been perceived as a signal indicating the BOJ's accommodative policy stance (Oda and Ueda, 2005). Most economists also argue that quantitative easing policy has contributed to financial stability. However, the above-mentioned brief evidence may suggest that quantitative easing has not been very effective. In addition, many Japanese economists have stated that the recent economic recovery is not due to the quantitative easing policy. However, there is some possibility that the "time duration effect" is effective. Therefore, I think that it is appropriate to evaluate the effect of the quantitative easing policy by using an econometric model.

#### IV. IS QUANTITATIVE EASING NECESSARY?

Fukao (2000), Ahearne et al. (2002), and Shinpo (2002) argued that deflation and severe economic recession in the 1990s were caused not by the structural factors but by the macro supply and demand gap and that the insufficient monetary easing was the principal cause of deflation and recession. However, I would argue that both factors might influence the Japanese economy because the structural elements (e.g., increasing low-price imports, the IT revolution, and deregulation) seem to have been significant factors. In sum, it is difficult to determine a single cause, and we will best measure the relative importance of these factors by econometric analyses.

First, we regress the growth rate of GDP deflator on both the structural and the macro gap factors. The result is shown in Table 1. To focus on the post-bubble period, the sample period is from 1992 Q1 to 2004 Q3.

**Table 1**  
Analysis of inflation

Sample Period	Constant	Growth Rate of GDP Gap (-1)	Expected Rate of Inflation (+1)	Growth Rate of Import Price (-1)	adj. R <sup>2</sup>
1992 : Q1	-0.76	0.21	0.42	0.008	0.47
2004 : Q4	(-4.93)	(2.39)	(2.16)	(0.40)	

Notes. Potential GDP is quoted from Economic Outlook (OECD) and other data are from IFS (IMF). Expected rate of inflation is assumed to be equal to actual rate. All data are seasonally adjusted. The figures in the parentheses are t-values.

**Table 2**  
Analysis of nominal growth rate

Sample Period	Constant	Growth Rate of Money Supply	Growth Rate of Government Expenditure	Growth Rate of Export	Inflation Rate (-1)	adj. R <sup>2</sup>
1992 : Q1	3.42	0.13	-0.77	0.05	-0.99	0.53
2004 : Q4	(6.78)	(2.24)	(-4.65)	(2.96)	(-4.28)	

Note. See notes in Table 1.

**Table 3**  
Analysis of money supply

Sample Period	Constant	ln Monetary Base	ln Money Supply (-1)	adj. R <sup>2</sup>
1992 : 1	1.69	0.05	0.71	0.98
2004 : 4	(4.77)	(4.73)	(11.57)	

Note. Data (monthly) are retrieved from [http://www.boj.or.jp/stat/stat\\_f.htm](http://www.boj.or.jp/stat/stat_f.htm) (Bank of Japan).

The result shows that the main reason for deflation was the deterioration of the macro supply and demand gap. The import price variable has an insignificant but positive coefficient, which suggests that lower import prices accelerated deflation.

Second, I examine the influence of monetary easing on economic growth. Jinushi (2000) and Kurihara (2003) showed that monetary easing in the 1990s was insufficient. On the other hand, there is some possibility that the relationship between money supply and GDP is unstable because of the zero interest rates and Japanese households' strong preference for safe assets.

To demonstrate the influence of monetary easing on economic growth, Table 2 shows a regression result in which nominal GDP growth rate is regressed on the rate of money supply, the rate of government expenditure, the rate of export volume, and inflation rate. The sample period is also from 1992 Q1 to 2004 Q3.

Note that the coefficient of the money supply is significant and large. The result suggests that quantitative easing is needed because it should increase money supply.

Of course, there is some criticism that money supply would not increase even if monetary base increases rapidly. If money supply and monetary base are not related, quantitative easing becomes groundless. A similar econometric analysis is performed to confirm the relation. The results are shown in Table 3.

Table 3 suggests that although the increase of the money supply was not as large as that of the monetary base, monetary base has a significant effect on money supply. This result supports the quantitative easing policy. In addition, although we do not provide evidence here, monetary expansion may also have prevented the appreciation of the yen.<sup>4</sup>

## V. HOW SHOULD MONETARY POLICY BE CONDUCTED?

The BOJ has adopted traditional methods that are used all over the world, such as official discount rates, open market operations, reserve requirements, and so on, as monetary policy instruments. However, when these have been insufficient, the Bank has adopted Lombard-type lending and started to purchase long-term government bonds, stocks possessed by financial institutions, and asset-backed securities (ABSs). As central banks usually do not purchase assets accompanied by credit risks, purchases of stocks and ABSs are unprecedented policies not only in Japan but also all over the world.

Among these policies, the buying up of long-term government bonds has been remarkable. Its volume is quite large as mentioned before. However, there is a possibility of misinterpreting government bond prices, that is, “price support policy.” Furthermore, when inflation is expected, the BOJ will face a dilemma because monetary tightening decreases the value of long-term government bonds, causing BOJ’s huge losses.

Some argue that the BOJ should consider purchasing foreign loans, real estate investment trusts (REIT), and exchange traded funds (ETF/index shares).<sup>5</sup> These policies are designed to respond to future situations. Whether the BOJ needs to provide more liquidity is a key to the introduction of these measures. The policies must be introduced with great care, as there are some serious side effects. Fortunately, as the economic situation is now improving, the BOJ does not have to implement these policies.

Another important point that should be taken into account is the role of expectations. A long-term interest rate is an average of the present value of current and expected future short-term rates. The short-term interest rate is almost zero, so changing the long-term rate means changing future expectations. To realize this, some policies, for example, “time duration effect,” would be needed and effective.

Clouse et al. (2000) stated that a zero interest rate policy pursued by using the short-term financial instruments in open market operations would not be a useful way to increase the amount of the monetary base because short-term financial instruments and the monetary base are essentially perfect substitutes for each other. However, the effect obtained via expectations regarding the future paths of the nominal interest rate, the inflation rate, and asset prices would be useful. Manipulating policy duration may become important in the future.

## VI. CONCLUSION

I admit that we should evaluate BOJ’s recent monetary policy with great care. In particular, the transmission mechanism should be presented more clearly, and clear evidence about the portfolio rebalancing effect is needed.

This paper suggests that monetary expansion is effective. However, I am not ignoring other policy efforts. Structural reforms for bad debt, excessive debt, over-employment, and so on should be considered at the same time. To make quantitative easing fully effective in restoring Japan’s economy to a sustainable growth

path, progress in structural reforms with respect to the financial system (e.g., resolution of the nonperforming assets problem) is essential. Of course, structural reform may be accompanied by painful adjustments. Without such adjustments, however, neither improvement in productivity nor sustainable economic growth can be obtained. Finally, I want to emphasize that it is important to eliminate excessive pessimism.

#### ENDNOTES

1. It seems that zero interest rate and quantitative easing policies have targeted almost the same policy effect. The difference is that quantitative easing policy can more clearly set conditions for termination.
2. However, Bank of Japan should not be blamed, as the central bank is not a long-term capital supply organization. See Komiya (2000).
3. Money supply grows at about 7%, though the monetary base has increased about 70% since March 2001. GDP growth rate was 1.7% during that period.
4. The effect of quantitative easing on acceleration of inflation may be small. Refer to Priscilla (2003).
5. Recently the syndicated loan claim was deemed acceptable as BOJ's collateral (November, 2003).

#### REFERENCES

- Ahearne, J., J. Gagnon, K. Haltmaier, and S. Kamin, 2002, "Preventing Deflation: Lesson from Japan's Experience in the 1990s," *International Finance Discussion Papers*, 729.
- Clouse, D., A. Henderson, D. Orphanides, D. Small, and P. Tinsley, 2000, "Monetary Policy When the Nominal Short-Term Interest Rate Is Zero," *Finance and Economics Discussion Series*, 2000-51, Board of Governors of the Federal Reserve System.
- Fukao, M., 2000, "The Bank of Japan Should Conduct Monetary Easing More," in K. Iwata, *The Discussion of Monetary Policy*, Toyokeizai-shinposha (in Japanese).
- Fujiki H., and S. Shiratsuka, 2002, "Policy Duration Effect under the Zero Interest Rate Policy in 1999–2000: Evidence from Japan's Money Market Data," *Monetary and Economic Studies*, 20(1), 1-32.
- Ito, T., and K. Harada, 2002, "Japan's Banking Crises: Empirical Findings with the Japan Premium and Stock Price," *The Journal of Economics* (Tokyo University), 68(1), 2-28.
- Jinushi, T., 2000, "Monetary Policy in Japan since the late 1980s: Delayed policy Actions and Some Explanations," in R. Mikitani and A. Posen, *Japan's Financial Crisis and Its Parallels to U.S. Experience*, Institute of International Economics, 13.
- Komiya, R., 2000, "Some Problems about Exchange Rate and Financial Policy," in K. Iwata, *The Discussion of Monetary Policy*, Toyokeizai-shinposha (in Japanese).

- Kurihara, Y., 2003, "Is the Application of Taylor to Japan Reasonable?," *Business and Economics Society International Society Anthology*, 2003.
- Krugman, P., 1999, "Japan Heads for the Edge," *Financial Times*, January 20.
- Meltzer, A.H., 2001, "Monetary Transmission at Low Inflation: Some Clues from Japan in the 1990s," *Monetary and Economic Studies*, 19 (Special Edition), 13-34.
- Oda, N., and K. Ueda, "The Effects of the Bank of Japan's Zero Interest Rate Commitment and Quantitative Monetary Easing on the Yield Curve: A Macro-Finance Approach," *Bank of Japan Working Paper*, 05e06.
- Priscilla, C., 2003, "Transparency versus Constructive Ambiguity in Foreign Exchange Intervention," *BIS Working Paper*, 144.
- Shinpo, S., 2002, "What Is the Cause of Deflation," in R. Komiya, *Financial Policy in Japan*, Nippon Keizai Shimbun (in Japanese).