

Toshiro Muto: What have we learned from “unconventional” market operations?

Speech by Mr Toshiro Muto, Deputy Governor of the Bank of Japan, on the occasion of a meeting with participants in market operations, Tokyo, 23 July 2003.

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I. Monetary policy in uncharted territory

As the Japanese economy has been facing severe adjustment in recent years, the Bank of Japan has effected various measures that are unprecedented for any central bank, including the zero interest rate policy, quantitative easing, and a commitment to continuing the current policy until the consumer price index stably reaches zero or above. Moreover, the Bank will be able to purchase asset-backed securities from the end of July, thus expanding the scope of the assets it purchases. People often talk about the so-called “unconventional monetary policy” under deflation. All of the above measures can be considered unconventional in light of traditional central banking.

Until recently, it appears that the zero interest rate policy and quantitative easing have been considered a special case for Japan, a country suffering from deflation. However, there are now several countries whose policy interest rates are approaching zero. For example, the short-term policy rate is 1 percent in the United States and zero to 0.75 percent in Switzerland. As a result, the zero interest rate policy and quantitative easing have been increasingly attracting the attention of other countries.

Since the Bank began to conduct monetary policy in uncharted territory, it has constantly made new findings in the area of financial markets and money market operations. As the pioneering central bank in this uncharted territory, the Bank is in a unique position to explain to the audience both at home and abroad the experience under the zero interest rate policy and quantitative easing. As all of you here are experts in market operations and other financial market transactions, I feel it may be stimulating to focus my talk on the issues of mutual interest related to market operations and financial markets, rather than talking about developments in the economy and monetary policy in general. It is often said that the devil is in the details. Therefore, I believe it is useful for fruitful discussion on monetary policy that we share a few findings from market operations under quantitative easing, even though these findings may appear rather technical.

II. Findings in the area of market operations

There are a few important pillars in the current quantitative easing framework. Among them, the most important is to use the outstanding balance of current account deposits at the Bank as the main operating target and to provide ample funds through market operations.

A. Increase in demand for current account deposits

Obviously, if we provide ample funds to the market, short-term interest rates will fall to zero. If short-term interest rates are significantly above zero, financial institutions will limit the amount of funds in their current account deposits, which pay no interest, roughly to the required reserves. Such behavior has been familiar to many central banks for many years. But what would happen if short-term interest rates were to decline to zero? A little more than two years ago when the target for market operations was changed from the overnight call rate to the outstanding balance of current account deposits, both market participants and the Bank doubted whether it was really possible for the Bank to provide the current account deposits with funds far in excess of around 4 trillion yen, the required reserves at the time. In fact, in the month of May 2001, only two months after a new target of 5 trillion yen for the current account deposits was introduced, we frequently observed undersubscription in market operations where bids fell short of the Bank’s offers. You may recall that undersubscription occurred repeatedly also in subsequent market operations.

However, since autumn 2002 when the target for the current account deposits was raised from “around 10 to 15 trillion yen” to “around 15 to 20 trillion yen,” undersubscription has rarely occurred. The target has been raised since then, and now stands at “around 27 to 30 trillion yen.” Indeed, this high level of the target was unthinkable when quantitative easing was first introduced. With the caveat

that there is probably a limit to increasing the target since it is inconceivable that all financial institutions hold their assets in the current account deposits at the Bank, the first of the findings from our experience of more than two years of quantitative easing is that a central bank can provide a fairly large amount of funds even under zero interest rates.

Among the factors that enabled the provision of a large amount of funds, initially considered almost impossible, the following two factors stand out in significantly increasing the financial institutions' demand for current account deposits at the Bank.

One factor is the growing conviction of many financial institutions that they would not have a problem holding current account deposits substantially exceeding the required reserves, as a result of the virtual disappearance of the opportunity cost for holding the current account deposits. At present, not only major banks but also regional banks and foreign banks' branches in Japan hold sizable current account deposits at the Bank. The interest income earned in the money market is so small that financial institutions keep their daily excess funds in the current account deposits at the Bank rather than invest them in the money market in view of administrative costs and possible losses, however unlikely, due to the defaults of counterparties.

Another factor relates to the periodic rise of concern over financial system stability triggered by such events as the fall in stock prices. When the availability of funds tends to be tight as at the end of the financial year, including the mid-year book closing, or the calendar-year end, financial institutions try to smooth out their funding. This will increase the demand for holding current account deposits at the Bank. In fact, during the financial crisis of 1997-98, the money market shrank, and the liquidity shortage forced a number of financial institutions with rapidly deteriorating creditworthiness into bankruptcy. It may be quite natural that renewed memories of this period prompted extremely strong demand for current account deposits at the Bank.

B. Factors leading to undersubscription

Such an increase in the demand for current account deposits by market participants must somehow be met by supply. Otherwise, interest rates will rise. As you all know, supply is being made in the form of the Bank's funds-supplying operations, where market participants place bids against the Bank's offers. Thus, the second finding under quantitative easing is that the Bank needs to devise a variety of measures to provide ample funds. For example, even when some market operations resulted in undersubscription, others were successful. Also, the extent of undersubscription varied depending on the time of year. It is not easy to deduce these situations from the theoretical analysis of aggregate supply of and demand for the current account deposits.

Having said this, one of the main reasons for undersubscription was the growing sense of a surfeit of funds in the market. This was the case in May 2001, soon after the target for current account deposits was introduced, when sentiment that the additional supply of funds was redundant seemed to be growing stronger day by day. The undersubscription in February and March 2002 and the summer of 2002 was caused in part by such sentiment, but other factors were also at work.

Undersubscription is likely to occur when there is an increase in market participants' demand for the financial assets the Bank offers to purchase in its market operations. Funds-supplying operations are the transaction where a central bank provides funds to the current account deposits of financial institutions against its purchase of a specific financial asset. For example, during February and March 2002, uncertainty about financial system stability was heightening as full protection of time deposits was about to be lifted from April. Moreover, the demand for such risk-free assets as treasury bills (TBs) and financing bills (FBs) by all economic agents, including financial institutions, increased significantly in the market. In such circumstances, the Bank's offers to purchase TBs and FBs failed to attract a sufficient number of bids, and undersubscription ensued.

A change in the long-standing skewed distribution of funds across financial institutions also contributed to undersubscription. In the past, major banks had a balance-sheet structure in which the deposits they received fell short of their loans. At present, the deposits at these major banks are in excess of their loans reflecting an inflow of deposits. As a result, their funding needs in the market have been reduced.

It is not certain whether undersubscription will recur in the future. But what is certain is that the success of the central bank in providing a massive amount of funds under zero interest rates will depend on micro-level factors, including the funding position of individual financial institutions and the demand for specific assets used in the Bank's market operations, in addition to the overall supply of

and demand for current account deposits at the central bank. In this regard, by closely monitoring the changes in each financial market, the Bank has been carefully selecting the means by which it carries out market operations for the smooth provision of funds. For example, the Bank has recently expanded the scope of acceptable bills by lengthening the maturity period up to 12 months as well as the range of eligible counterparties for its bill purchasing operations. It has also conducted a combination of longer-term funds-providing operations and shorter-term funds-absorbing operations.

III. Challenges under quantitative easing

A. *Criteria for assessing financial market stability*

The first challenge under quantitative easing is to select the criteria by which the Bank should assess the state of financial markets when conducting market operations. Some economists may argue that the quantitative easing framework requires the Bank to do no more than mechanically maintain the target balance for current account deposits every day. Unfortunately, this is not necessarily the case. Even when the Bank maintains the target balance, there are cases in which financial markets remain unstable. In these cases, ensuring financial market stability becomes most important.

Then, the question is how to assess subtle changes in financial markets in light of maintaining their stability. In the money market, a tightening of the market will not necessarily be translated into a change in overnight interest rates, as these rates have been at around zero. For example, even when concern about financial system stability intensified in autumn 2002, the unsecured overnight call rate stayed at 0.001 percent. However, the repo rate on forward transactions, the yield on TBs with longer maturity, and the offer rate of the Bank's funds-supplying operations all increased. Thus, when conducting market operations under such circumstances, it becomes important to judge how and to what extent the target balance for current account deposits should be achieved and various interest rates should be stabilized to ensure financial market stability. Moreover, the criteria for such judgment differ depending on the economic and financial conditions. Therefore, it has become very challenging to judge whether financial market stability is being maintained.

B. *How to evaluate the functioning of financial markets*

The second challenge is to maintain the functioning of financial markets. The word "call" in the money market derives from the phrase "money at call," referring to the money available on demand. The amount outstanding of the call market decreased substantially after financial institutions felt that it would not be a problem to hold reserves far in excess of required reserves. Since the call market is the market in which participants lend and borrow short-term funds, the shrinking of the market implies a possibility that financial institutions may not be able to appropriately perform their banking activity. Therefore, the Bank inevitably has a serious concern about maintaining the functioning of the market. Lenders in the money market are reluctant to lend when market rates fall to virtually zero. Some regional banks have closed down their Tokyo branches. It has also been pointed out that, with liquidity in the call market declining as a result of less market participation, the market may not function effectively in funds procurement in times of emergency.

Let me elaborate by illustrating these points with examples.

The amount outstanding of the call market stood at 26.5 trillion yen at the end of February 2001 just before the introduction of quantitative easing. This amount fell by roughly 10 trillion yen in two years to 16.5 trillion yen at the end of February 2003. In addition to the introduction of quantitative easing, two factors among others are considered to have contributed to this reduction: one is the progress in consolidation among large financial institutions, and the other is the shift of deposits to large banks, which are usually on the funding side in the call market, as a result of the partial removal of blanket deposit insurance.

Let us look at the contrast between call transactions involving overnight instruments and those involving term instruments. The amount outstanding of overnight transactions fell by some 20 percent, from 15.3 trillion yen at the end of February 2001 to 12.3 trillion yen at the end of February 2003. During the same period, the amount outstanding of transactions involving term instruments decreased from 11.2 trillion yen to 4.2 trillion yen, about one-third the level at the end of February 2001. Looking at the money market in terms of secured transactions, the total amount of bond gensaki and repo transactions hardly changed, remaining at around 18 trillion yen per business day during the same

period. In fact, the amount outstanding of the secured call market now is even larger than before the introduction of quantitative easing. These facts suggest that the deterioration in the functioning of the money market is a phenomenon related not only to zero interest rates, but also to the extremely cautious attitude of market participants in taking on credit risks.

I have just mentioned that in Japan, with short-term market rates declining virtually to zero, lenders become reluctant to lend, and that some regional banks have closed down their Tokyo branches. Similarly, in the United States, with the decline in the federal funds rates, there is heated discussion as to how far the interest rate on money management funds could decline relative to the returns on trust funds, and whether the decline in interest rates would interfere with the effective functioning of this major channel of funds intermediation. In essence, the discussions in the United States and Japan have something in common. The transaction and settlement of funds and securities as well as the assessment of credit risks always entail some fixed costs. And when short-term market rates approach zero, interest revenues may fall short of these costs. This tends to hinder the smooth implementation of various financial transactions.

The relationship between the zero interest rate policy or quantitative easing and the market functioning requires a multifaceted examination. Thus, we would like to examine this issue from a broader perspective, not focusing narrowly just on the decline in the amount outstanding of the call market.

IV. Outright purchase of long-term Japanese government bonds (JGBs)

I commented earlier that one of the findings under quantitative easing was the need for the Bank to devise a variety of measures to provide ample funds. I have also just mentioned financial market stability and the deterioration of market functioning in the context of concern and challenges under quantitative easing. As an application of these discussions, I would now like to turn to the outright purchase of long-term JGBs by the Bank.

Many central banks in major industrialized countries conduct monetary policy mainly through money market operations. It is only those in the United States and Japan that also conduct the outright purchase of long-term government bonds on a large scale. Even before the Bank began quantitative easing, it was effecting the outright purchase of long-term JGBs to provide liquidity for sustainable growth in line with the long-term trend increase in banknotes. When introducing quantitative easing, the Bank adopted a new framework for market operations according to which it would increase the amount of its outright purchase of long-term JGBs when it considered such an increase necessary for the smooth provision of liquidity, subject to the limitation that the outstanding amount of long-term JGBs effectively held by the Bank should be kept below the outstanding balance of banknotes issued. Based on such thinking, the Bank increased the amount of its outright purchase of long-term JGBs four times, from an initial 400 billion yen per month to the current 1.2 trillion yen per month. As a result, the Bank now holds more than 60 trillion yen of long-term JGBs, which accounts for about 60 percent of the monetary base.

From the viewpoint of conducting market operations, the outright purchase of long-term JGBs, after the adoption of quantitative easing, has greatly contributed to achieving smoothly the target outstanding balance of current account deposits at the Bank. Undersubscription has not yet been repeated in the Bank's market operations. However, should such cases arise again, it would be highly reassuring from a practical standpoint that the Bank has a means of securing a fixed amount of increase in the outstanding balance every month.

Let me share with you some observations in relation to the significant increase in the outright purchase of long-term JGBs.

The first observation is that we regard the outright purchase of long-term JGBs as a market operation that does not result in undersubscription. The question is why market participants take the trouble to bid on the Bank's offers for the outright purchase of long-term JGBs when they can sell these bonds in the market.

If asked, market participants give the following explanations to this question. First, the Bank requires market participants to bid actively against its offers, which is one of the Bank's requirements for participation in market operations. Second, selling a large amount of long-term JGBs through the Bank's outright purchase has a smaller effect on market prices than selling them in the market. And third, unlike short-term interest rates, interest rates on long-term JGBs have not yet reached zero. All these explanations appear plausible, but cannot be conclusive. The first explanation also applies to

the Bank's market operations for providing short-term funds, and these operations have actually experienced undersubscription. The second one may hold true to some extent. The third explanation that interest rates on long-term JGBs have not yet reached zero seems the most convincing. Whatever the explanations, from the viewpoint of providing ample funds and analyzing the effect on market prices of JGBs, we should pay more attention to the motivation of market participants for bidding on the Bank's offers.

The second observation is that the provision of funds dependent largely on the outright purchase of long-term JGBs has created concern in the Bank's market operations. The Bank is currently conducting the outright purchase of long-term JGBs at a high rate of 1.2 trillion yen per month. Its balance sheets at the end of March 2003 revealed that the total of banknotes and current account deposits increased by about 6.5 trillion yen from a year earlier on the liability side. On the asset side, the outright purchase of long-term JGBs increased substantially, while money market operations decreased. In fact, the amount outstanding of long-term JGBs held by the Bank at the end of March 2003 increased by roughly 9 trillion yen from a year earlier, while the amount of funds provided by money market operations decreased by about 7 trillion yen. The difference of about 3 trillion yen between the increase in the total of banknotes and current account deposits and the amount of funds provided by the Bank is explained by the decrease in government excess funds, which were paid to the private sector.

If the decrease in the volume of transactions in the money market were to cause difficulties to financial institutions in smoothly raising short-term funds, the Bank's money market operations may provide an alternative means of securing smooth funding. In this context, a decrease in the Bank's money market operations could be a destabilizing factor for financial markets. Even when there is a surplus of funds in the money market as a whole, money market rates could rise slightly due to a decrease in the supply of short-term funds by the Bank. If money market rates were sufficiently positive and there were no concern about financial system stability, the Bank would be free to use any assets for its operations, because a surplus or shortage of funds would ultimately be adjusted in the market. However, this is not currently the case in Japan.

The outright purchase of long-term JGBs is a means to smoothly increase the outstanding balance of current account deposits, and has played a significant role in securing financial market stability. At the same time, such a purchase has engendered some unexpected side effects, such as fewer opportunities for the Bank to conduct money market operations, which has in some cases led to a slight rise in money market rates.

Let me briefly touch upon the relationship between long-term interest rates and the outright purchase of long-term JGBs. Market participants often point out that the decline in long-term interest rates up until mid-June was partly due to the Bank's outright purchase of long-term JGBs. The outright purchase of long-term JGBs of 1.2 trillion yen per month could facilitate the adjustment of dealers' position in the market. And it appears easy to understand that when long-term interest rates fall for some reason, the existence of such a purchase would make dealers more bullish than otherwise. But, based on the observation that the yield on ten-year JGBs has been fluctuating between 0.4 percent and 1.4 percent for the past month or so, the relationship between long-term interest rates and the outright purchase of long-term JGBs may not be as simple as it appears.

V. Relationship between the Bank and its counterparties in market operations

A. Findings in the area of supply and demand for funds

The number of counterparties in the Bank's market operations is close to 150 at present. When financial institutions become eligible as a counterparty in the Bank's market operations, they are requested to bid actively against the Bank's offers for market operations, process transactions accurately and swiftly, and provide the Bank with market information and analyses useful in conducting monetary policy. In addition, the Bank recently began considering the amount of successful bids in the previous year as a criterion for the selection of counterparties for market operations in the following year. These requests are being made because the central bank needs to effect monetary operations through the smooth provision of funds. Also, the eligibility criteria for counterparties must be as transparent as possible since it is impossible to conduct transactions with all market participants.

Having said all this, let me note that the Bank and its counterparties in market operations are important to each other as trading parties in financial markets. In my opinion, the term “trading party” has two significant implications.

The first implication is that both the Bank and its counterparties aim to achieve their respective goals through the transactions in funds and JGBs. The Bank controls the amount of money in the market or the level of interest rates, while the Bank’s counterparties adjust their position in funds and JGB holdings and improve profitability.

Let me take the example of undersubscription. Undersubscription in the Bank’s funds-supplying operations occurs in the following cases: financial institutions have already secured enough funds to satisfy reserve requirements for the period; they have managed to raise sufficient funds in the market to cover themselves over interim and fiscal year-end book closings; and, they can sell any TBs or FBs or CP they hold to end-investors without difficulties. Thus, undersubscription occurs when counterparties do not need the Bank’s market operations. This implies that, in order to smoothly conduct market operations, the Bank must understand and satisfy its counterparties’ need for market operations. It also means that the Bank must devise market operations that create such a need.

This rather obvious point was not clearly recognized under the past framework where interest rates were the target. In that framework, the Bank was rather passive. It provided funds when interest rates rose higher than the target, and absorbed funds when interest rates fell below the target. In contrast, under the present framework where funds are amply provided to achieve the target balance of current account deposits, the Bank has been under pressure to increase funds held in current account deposits in line with the target. This has increased more than ever our awareness of the significance of transactions in financial markets.

For example, if for some reason we observe a tightening of the conditions in a certain market in the money markets, the Financial Markets Department of the Bank will consider providing funds to that market. Given its responsibility to ensure market stability, the provision of funds in such a circumstance would clearly be an appropriate decision. Looking at this differently, a tightening of market conditions suggests that there is a demand for funds in that particular market. As the Bank is trying to maintain the balance of current account deposits at unprecedentedly high levels, it should take advantage of such a demand for the smooth provision of funds.

B. *Exchange of information through market operations*

The second implication of a trading party is that the Bank and its counterparties exchange information. As is suggested by the term “market intelligence,” we may be able to obtain a variety of information and knowledge by carefully monitoring market movements. This is the reason why we request the counterparties to provide us with market information and analyses useful in conducting monetary policy.

We conduct market operations daily, and the results of these operations are a very important source of information for us in gaining insight into the counterparties’ assessment of our offers. Of course, this is not a one-way flow of information. Presumably the results of market operations offer the counterparties valuable information on overall market conditions, including insight into the action of other participating players. It may perhaps seem counterintuitive, but the results of market operations have come to play an increasingly important role, given the reduced number of transactions taking place in the money market.

I would like to add that, as players in the same market, the Bank and its counterparties in market operations should exchange information and ideas on how to improve the market infrastructure and make the market function more smoothly.

Concluding remarks

My talk today has focused on technical aspects of market operations conducted under quantitative easing. It includes a number of issues that are of fundamental importance when thinking about the conduct of monetary policy. Market functioning, which I touched upon, is one of these important issues. We at the Bank will continue to exert every effort to enhance the transmission mechanism of monetary policy, while ensuring the smooth provision of funds within the framework of quantitative easing.

We are closely monitoring the market for even the slightest change through various channels, including daily market operations. However, we believe it is major market players like yourselves who possess the most reliable information and insight into market conditions through direct dealing with a variety of customers. As we are now in uncharted territory for monetary policy, we appreciate your sharing with us your insight so that we can together navigate these waters safely.