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**Ultra-low-interest-rate policy leads to
dysfunctional money markets**

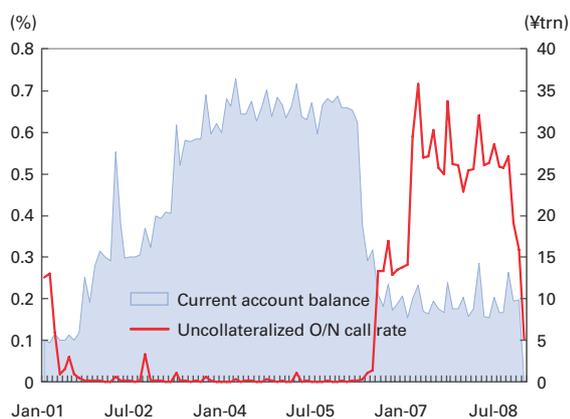


Japan’s experience with quantitative easing (“QE”) shows that an ultra-low-interest-rate policy leads to dysfunctional money markets. Specifically, it i) reduces transaction volume, ii) compresses credit and liquidity spreads, and iii) eliminates business opportunities. Moreover, Japan’s extended period of QE may have delayed the subsequent restoration of these functions. The optimal design of an “exit policy” therefore appears to remain an open question that should be answered based on lessons from the current crisis in the US and the Europe.

Dysfunctional money markets

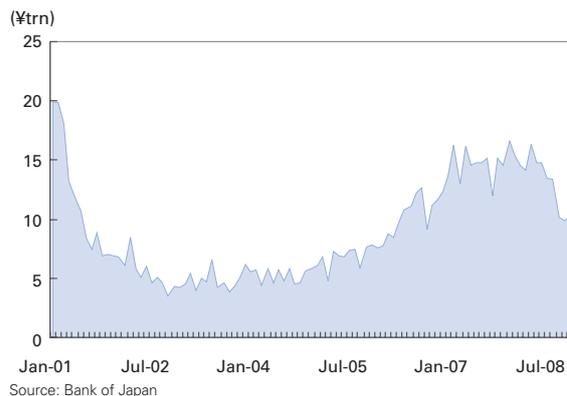
As Governor Shirakawa sometimes insists, dysfunctional money markets were seen as one cost of Japan’s ultra-low-interest-rate policy. Now the US and Europe are pursuing accelerated monetary easing, and they appear likely to experience similar problems. This note reviews Japan’s experiences under QE and examines related market costs. We define QE as the framework under which the BOJ used the current account balance as its policy instrument from March 2001 to March 2006 (Exhibit 1).

Exhibit 1. Uncollateralized O/N call rate and current account balance



the opportunity cost of maintaining reserves at the BOJ fell to virtually zero, as the call market yielded negligible returns. Zero opportunity cost was therefore a key cost of the ultra-low-interest-rate policy.

Exhibit 2. Funds outstanding in uncollateralized call market

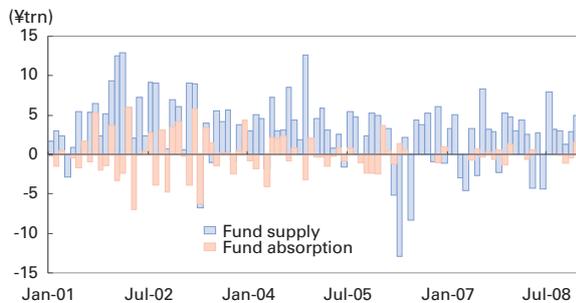


The second reason for the decline in transaction volume was counterparty risk. The financial crisis of the late 1990s had left institutions increasingly averse to lending money. Indeed, reduced transactions in call money were not a direct cost of QE. But financial institutions’ fund-raising activities were supported by the BOJ, which acted as the central counterparty. This is evidenced by the fact that the BOJ simultaneously conducted significant fund-supply and fund-absorption operations (Exhibit 3). In this sense, QE prevented further declines in turnover.

Cost 1: Reduced transaction volume

Call market transactions were considerably reduced while QE was in effect (Exhibit 2). The primary reason was that

Exhibit 3. BOJ market operations

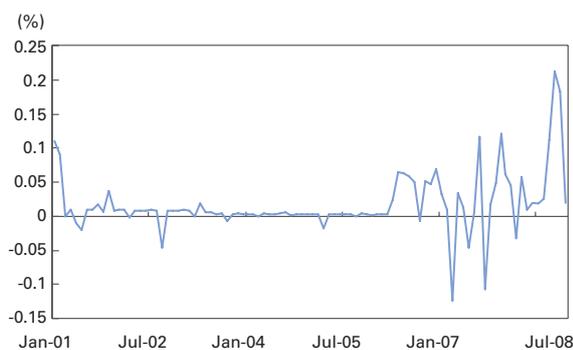


Source: Bank of Japan

Cost 2: Depressed spreads

During QE, spreads between uncollateralized call rates and the rates for repos and other collateralized transactions were clearly depressed (Exhibit 4). Tighter spreads were in fact an intended effect of the policy actions. Nevertheless, the disappearance of credit and liquidity spreads implies that money markets were dysfunctional.

Exhibit 4. Spread between uncollateralized call rates and repo rates



Source: Bank of Japan

The disappearance of such spreads was sometimes attributed to the low absolute level of money market rates. However, this hypothesis is not satisfactory because such spreads should be independent from the risk-free rate.

A better explanation for this phenomenon would be that

QE caused spreads to tighten by reducing counterparty liquidity risk. Moreover, the liabilities of financial institutions were widely perceived to have received a de facto government guarantee, which may have cut the expected loss on counterparty default, at least in the long run. These factors combined to push spreads down to near-zero levels.

This explanation is consistent with the fact that spreads remained positive, with occasional jumps, during the period preceding QE even when the absolute level of money market rates was already negligible. Thus, QE had the powerful effect of offering implicit insurance against counterparty risk.

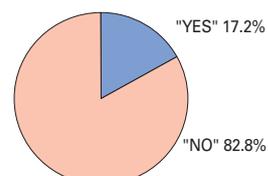
Cost 3: Elimination of business opportunities in money markets

Practitioners sometimes claim that QE deprived money market participants of business opportunities.

This is apparently due to the nearly zero opportunity cost of keeping money on deposit at the BOJ. When money market rates became too low to offer a reasonable return on investment, the rational course of action for institutions was to withdraw their business and limit the use of these markets to raising funds.

This problem was most acute in the repo market, where the cost of business is non-negligible (e.g., collateral assessment costs). A BOJ survey indicated that financial institutions were in fact reluctant to enter the repo market during this period (Exhibit 5).

Exhibit 5. "Did financial institutions facilitate repo transactions during previous year?" (November 2006)



Source: Bank of Japan

The BOJ kept interest rates at ultra-low levels for an extended period of time. As a result, it was not uncommon for financial institutions to have younger employees who had never seen significantly positive yields.

Challenge of restoring money market functions

We have examined several of the key dysfunctions of Japanese money markets associated with QE.

Many of these costs remained even after QE was terminated. Chart 2, for example, shows that the recovery of transaction volume in the uncollateralized call market was slow at best. Moreover, the level of asset trading and arbitrage activity in the money markets remained low.

The chief reason was simply that the BOJ kept interest rates extremely low even after abandoning QE. Although the Bank swiftly and smoothly drained excess reserves, the money markets remained dysfunctional as a result of ultra-low interest rates.

It is interesting to note that the BOJ considered this possibility when it ended QE. As evidence of this, the monetary policy directive released the day after QE was terminated referred explicitly to conditions in the money markets (Exhibit 6).

Exhibit 6. Monetary policy directive from 9 March 2006 (excerpt)

9 March 2006 (Exit from QE)	"(T)he reduction in current account balance is expected to be carried out over a period of a few months, taking full account of conditions in the short-term money market."
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It goes without saying that the conduct of monetary policy is not solely dependent on money market functions. Rather, the exit from QE and the subsequent monetary policy were based on the BOJ's assessment of economic and financial conditions.

After two hikes in the policy rate, the BOJ once again began easing monetary policy. Therefore, Japan's experience with QE is not relevant for policymakers seeking to determine a desirable pace of policy rate normalization in order to restore money market functions. Instead, this question should be answered with reference to US and European experiences in the current crisis.

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