Japan: Outright Purchases of Commercial Paper

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Abstract

Following the collapse of Lehman Brothers in September 2008, the global commercial paper (CP) market began to tighten as interest rates rose and investors sought more-liquid money market securities. The Bank of Japan (BOJ) introduced several operations in late 2008 to promote liquidity in the CP market. In January 2009, the BOJ began to purchase CP and asset-backed CP outright from banks and other financial institutions. BOJ could purchase up to ¥3 trillion of CP with a residual maturity of up to three months, among other short-term securities, via 10 purchases of up to ¥300 billion each. The BOJ limited its purchases to CP with a credit rating of a-1, or guaranteed by a company rated a-1. The BOJ would conduct purchases until March 31, 2009; it later extended the measure until December 31, 2009. As the CP market normalized, usage of the outright purchase measure decreased, with the last bid occurring in September 2009. The measure is seen as relatively successful as interest rates on CP decreased during its first few months and the program provided needed liquidity to financial institutions during a period of market stress.

Keywords: commercial paper, asset-backed commercial paper, Bank of Japan, Japan

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At a Glance

In 2008, Lehman Brothers bankruptcy greatly disrupted short-term funding for nonfinancial companies, particularly through the commercial paper (CP) market. As CP tightened and investors turned to safer assets, investor demand for CP fell and interest rates on money market securities rose. The Bank of Japan (BOJ) introduced three facilities to promote liquidity in the commercial paper market. First, the BOJ enhanced its repo operations to cover a wider range of eligible collateral, including CP. The BOJ then introduced a special funds-supplying operation to provide unlimited liquidity in return for eligible CP collateral. Finally, the BOJ authorized a measure to conduct outright purchases of CP in January 2009. Under the program, the BOJ purchased CP and asset-backed CP (ABCP) with a credit rating of a-1 and a residual maturity of up to three months.

Summary of Key Terms	
Purpose: The measure had the "aim of ensuring stability in financial markets as well as facilitating corporate financing by conducting appropriate money market operations."	
Introduction Date	December 19, 2008
Operational Date	January 22, 2009
Termination Date	December 31, 2009
Legal Authority	Article 33, Bank of Japan Act 1997
Size of the Fund	¥3 trillion (~US$27 billion)
Purchase Amount	10 purchases of ¥300 billion each
Covered Maturities	Residual maturity of up to 3-months; rating of a-1
Purchase Price	Counterparty yield spread plus BOJ minimum spread
Usage	¥2.68 trillion; 0.0988 avg. yield spread

The measure was initially set to expire on March 31, 2009. The BOJ could purchase up to ¥3 trillion of CP, doing so in ten purchases of ¥300 billion each. The purchases would occur under a reverse-auction format, where the issuing counterparty would present a yield spread – the difference between desired yield by bank and minimum yield determined by the BOJ – and the BOJ would then purchase CP with the smallest spread. Purchases were limited to ¥100 billion per issuer.

The BOJ extended the measure twice, once until September 30 and again until December 31. During its February 2009 Monetary Policy meeting, the BOJ also extended the range of collateral eligible for purchase under the measure. According to the BOJ, firms issued more CP as a combined result of the measure and other BOJ CP facilities. Throughout the measure's lifespan, the BOJ purchased ¥2.68 trillion worth of CP and other eligible short-term securities. The BOJ also noted that the there was a progressive undersubscription to the measure throughout 2009 as CP markets stabilized, and average yield spreads between banks and the BOJ's minimum yield decreased. Although the measure was still open to Japanese banks, it wasn't used after September 2009.

Summary Evaluation

Some studies and regulators concluded the measure was an attractive method of moving credit risk to the BOJ, especially during a time that many banks saw declining credit ratings due to the riskiness of the CP and other corporate financing vehicles they held. CP rates decreased noticeably. One study found a correlation between the implementation of the measure and the issuance of new CP in Japan. By March 2009, as CP market began to stabilize, issuers used the measure less, relying instead on other official liquidity operations. This may have been because the penalty rates on purchases discouraged counterparties from using the measure; banks viewed other BOJ operations as less expensive and were more equipped to offload risky CP.

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I. Overview

Background

Early in the 2007-09 financial crisis, Japan's economy was relatively stable, withstanding spillover effects from the housing crisis in the United States and the deteriorating conditions in Europe. However, after Lehman Brothers declared bankruptcy in September 2008, investors saw commercial paper (CP) as increasingly risky. (Komine 2009) Unlike the CP market in the United States, where most borrowers were banks, financial companies, or asset backed CP (ABCP) sponsors, nearly two-thirds of issuers in the Japanese CP market were nonfinancial corporations. For that reason, the deterioration in Japan's CP market hit these corporations particularly hard. (BOJ Market Report 2008, p. 24)

The Bank of Japan (BOJ), seeking to stabilize its commercial paper market and facilitate financing for nonfinancial corporations, cut interest rates in November 2008 and January 2009, and implemented a variety of special market operations. (Ibid.) First, the BOJ enhanced its repo operations, extending eligible collateral to include CP. Next, it introduced a special funds-supplying operation to provide financial institutions unlimited liquidity against corporate debt collateral. (Ibid.) The government also channeled support to the business sector through the Shoko Chukin Bank and the Development Bank of Japan, which was specifically authorized to purchase up to ¥2 trillion of CP.

In December 2008, the BOJ introduced an operation to conduct outright purchases of CP to back the deteriorating CP market. (Outright Purchases Terms and Conditions) The Policy Board passed the measure on January 22, 2009 and conducted its first purchases on January 30. (BOJ PR, 01/22/2009)

Program Description

The objective of the measure was to "ensure stability in financial markets as well as facilitate corporate financing by conducting appropriate money market operations." (Outright Purchases Terms and Conditions) The measure allowed the BOJ to purchase most types of CP.[2] (Ibid.) The BOJ required eligible CP to have a maturity date of three months or less and to have been issued on or before the day of auction. Eligible CP had to have an a-1 rating, or had to be guaranteed by a company with an a-1 rating.[3] (Ibid.)The BOJ allotted ¥3 trillion to purchase CP and planned to conduct ten purchases of ¥300 billion each, with no

2 At the time, the Japanese financial system was in the process of transitioning from physical certificates to electronic transactions, a process described as "dematerialization." Both physical and electronic transactions were allowed under the outright purchase program (JASDEC 2008).

3 Japan utilizes credit ratings from five major rating agencies: Ratings and Investment Information, Inc. (R&I), Japan Credit Rating Agency (JCRA), Standard and Poor's Rating Services (S&P), Moody's Investors Service (Moody's) and Fitch Ratings (Fitch). R&I is Japan's largest domestic ratings agency. R&I rates short-term obligations, such as commercial paper programs, with a high rating of "a-1" and a low rating of "c." The R&I "a-1" rating used here is equivalent to JCRA's "J-1", S&P's "A-1", Moody's "P-1", and Fitch's "F-1".

more than ¥100 billion purchased from a single CP issuer. Initially, the BOJ would have conducted outright purchases until March 31, 2009. (Ibid.)

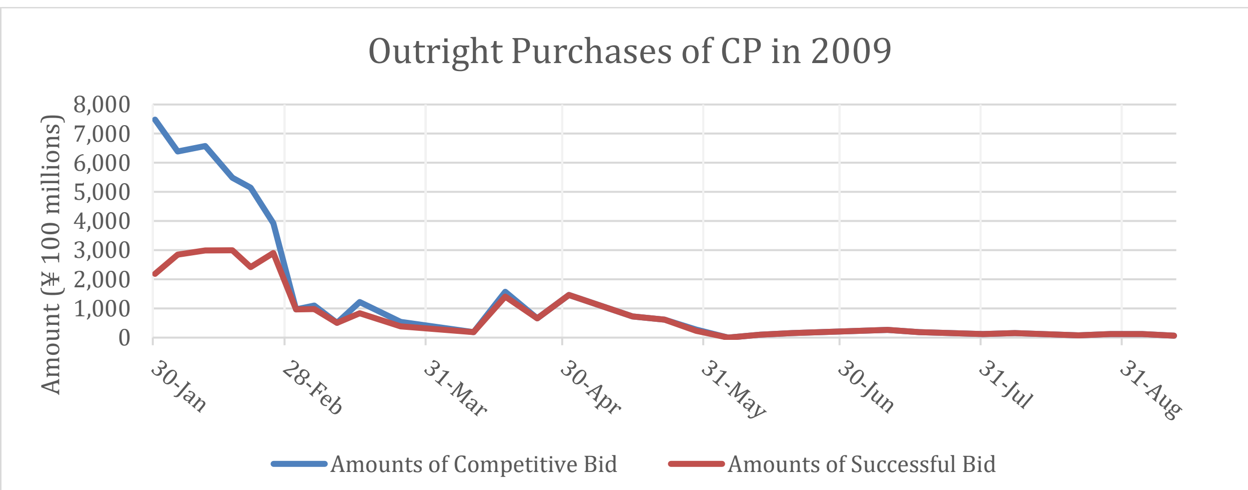
Any purchase of CP would be conducted as a "multiple-price competitive auction." (Ibid.) The counterparty would formulate a yield spread by taking the yield it wished to sell the CP minus the BOJ established minimum yield. The BOJ would then purchase CP at a price based on the yield spread it had accepted plus the minimum yield for the corresponding CP. (Ibid.)

Outcomes

The BOJ Policy Board amended the measure twice after its inception to extend the expiration date. On February 19, 2009, the BOJ extended the measure until September 30, 2009. (BOJ Meeting, February 2009) It extended the measure once more until December 31, 2009. (BOJ Meeting, July 2009) Over the summer of 2009, the Japanese CP market was seeing improvement and financial institutions lessened their dependence on the measure. The BOJ conducted its final purchase of CP on September 11.

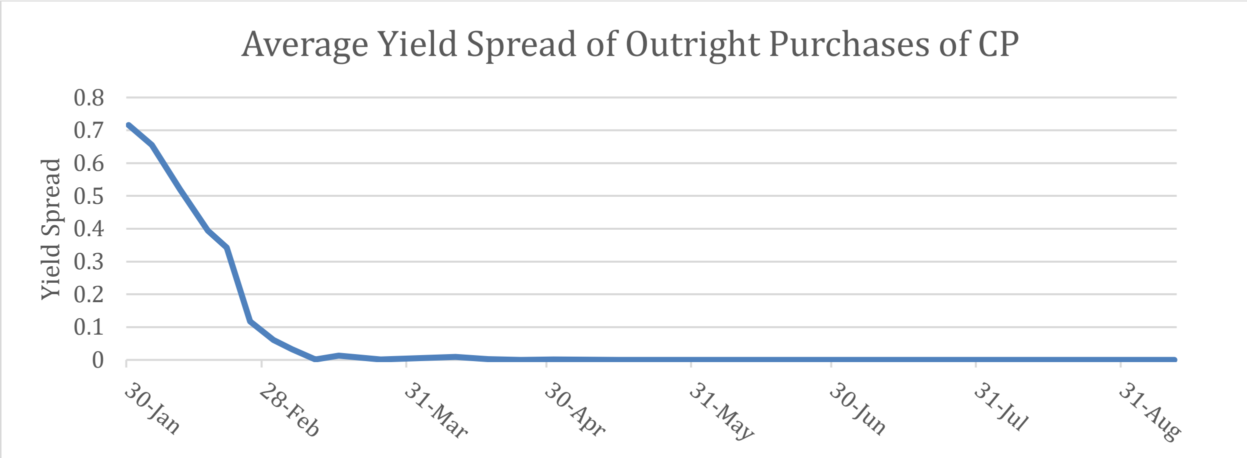
Overall, the BOJ purchased approximately ¥2.68 trillion in CP at an average yield spread of 0.0988. (BOJ Market Operations 2009) Table 1 shows the amount of CP put up for auction against the amount of CP purchased by the BOJ on each purchase date. Table 2 shows the changing yield spread of the purchases. Both tables show that bids and successful bids decreased between January and September 2009, while the average yield spread also decreased as prices became more compatible between the BOJ and financial institutions by year's end.

Table 1: Amounts of CP Bid vs. Amounts of CP Purchased (Jan 2009 – Sept 2009)



Source: BOJ Market Operations 2009

Table 2: Avg. Yield Spread of Outright Purchases of CP (Jan 2009 – Sept 2009)



Source: BOJ Market Operations 2009

II. Key Design Decisions

1. **The BOJ sought to ease capital constraints on financial institutions and improve access to funding for nonfinancial companies**

According to the BOJ Policy Board, the intent of the measure was to "ease capital constraints" on financial institutions, with the idea that institutional lending would increase across the financial system. (BOJ Meeting, December 2008) During the BOJ's Monetary Policy Meeting in December 2008, members of the Policy Board stated that tight credit markets contributed to a "limited availability of funds," and thus a decrease in the issuance of CP, corporate bonds, and other corporate debt instruments. Financial institutions of all sizes found conditions to be "severe" and that there was little positive effect of maintaining low interest rate. (Ibid.) A large part of the discussion surrounded how to introduce policy measures aimed at lowering interest rates on short-term paper. The consensus view was that such measures would likely be effective and improve access to funding for nonfinancial corporations, while "boosting business and consumer sentiment." (Ibid.)

The BOJ hoped the purchases would "enhance the price-discovery function in the CP market." (Ibid.) The BOJ also hoped that if financial institutions could sell CP to the BOJ, those financial institutions could then go on to fund CP for other issuers or extend funding directly to cash-strapped businesses, particularly small firms. (Nishimura 2009, p. 10) One Policy Board member stated that the outright purchase measure was "designed to provide a backstop and was not intended to be used actively on a regular basis." (Mizuno 2009)

2. **The BOJ could purchase up to ¥3 trillion in CP.**

3. **Initially, the measure was limited to 10 purchases, of ¥300 billion each, before the end of March, but the BOJ extended the amount and expiration date**

Initially, the BOJ said it would conduct 10 purchases between Jan. 30 and March 31, 2009. The short timeframe was to "ensure that the purchases are a bridging measure until the market function recovers." (Shirakawa 2009)

The BOJ twice extended the amount of purchases and expiration date of the facility. According to one Policy Board member, the BOJ decided to extend the temporary measure because nonfinancial companies continued to struggle with financing. Moreover, financial institutions expected that lending rates would continue to increase if credit rating agencies downgraded their CP and other debt securities, due to poor conditions in the overall credit market. (Mizuno 2009) The Policy Board member stressed still that the BOJ's goal was to shrink the measure as overall market conditions improved and the need for the outright purchases would decline. (Ibid.)

4. **The program could purchase CP from financial institutions that were counterparties of the Bank of Japan under the Bank of Japan Act**

Eligible counterparties were already counterparties in the BOJ's CP repo operations or were already eligible to borrow funds in the Bank's Funds-Supplying Operations against Pooled Collateral. These counterparties included banks and other financial institutions, financial instrument firms, securities finance companies, and tanshi (broker) companies.[4]

5. **Most types of domestic and foreign CP were eligible for purchase, but CP issued by REITs was excluded before the program launch**

The measure allowed the BOJ to purchase most types of CP, including corporate CP and asset-backed CP (ABCP) issued by domestic corporations, or by foreign corporations with a guarantee from an a-1 rated company.[5] The BOJ Policy Board excluded commercial paper issued by real estate investment trusts (REITs) on Jan. 22, before the first auction, at the same time announcing that it would begin to accept REIT securities as collateral in the CP repo program (BOJ Amendment January 2009).

6. **The BOJ conducted purchases of CP as "multi-price competitive auctions."**

The BOJ chose to implement a competitive auction format to prevent financial institutions from just selling risky CP under their own terms to the BOJ. (BOJ Market Report 2008)

Any purchase of CP would be conducted as "multi-price competitive auctions." (Ibid.) This type of auction requires market participants, or counterparty, to bid a yield spread on CP it

4 Financial institutions are defined in Article 37, Paragraph 1 of the Bank of Japan Act, Act No.89, 1997. Eligible financial instrument firms, securities finance companies, and Tanshi companies are defined in Article 10, Paragraph 1, Clauses 2-4. Eligible instruments are defined in Article 28, Paragraph 1 of the Financial Instruments and Exchange Act, Act No. 25, 1948. The program excluded bridge banks. (Outright Purchases Terms and Conditions).

5 At the time, the Japanese financial system was in the process of transitioning from physical certificates to electronic transactions, a process described as "dematerialization." Both physical and electronic transactions were allowed under the outright purchase program (JASDEC 2008).

wishes to sell to the BOJ. The counterparty would formulate a yield spread by taking the yield it wished to sell the CP minus the BOJ-established minimum yield.

The BOJ set a minimum yield for purchases to incentivize financial institutions to gradually reduce their usage of the BOJ's measure as market conditions improved. (Ibid.) Moreover, the counterparties could offer multiple-priced bids, often at lower and lower prices, to outbid their competitors and make the spread more attractive for the BOJ to purchase.

The BOJ would first purchase CP from the bidder who submitted the lowest yield spread, since it was the least costly for the BOJ. The BOJ continued to purchase CP from other bidders in ascending order until it utilized up to, or around, the maximum amount the BOJ planned to purchase, in this case ¥300 billion per purchase date. (Outright Purchases Terms and Conditions)

7. **The BOJ charged a minimum yield that was intended to be more favorable than rates during the crisis but less favorable than in normal times**

For the first five months of the program, the Bank of Japan set the minimum yield at 0.300% for CP with a residual maturity of up to 1 month and 0.400% for CP with a residual maturity of more than 1 month and up to 3 months. The BOJ raised those minimums to 0.500% and 0.700% in June, respectively, and lowered them back to 0.300% and 0.400% in November, after bidding had ceased.

BOJ Governor, Masaaki Shirakawa, said that the bid rates were intended to be "more favorable than the market interest rates when the market is malfunctioning, but not more favorable than the market interest rates of normal times;" since losses on any purchased CP would come at the taxpayer cost, a penalty rate on the interest would ensure that taxpayers were compensated for taking on the credit risk. (Shirakawa 2009)

8. **To limit credit risk, the BOJ set limits on the total outstanding amount of a single issuer's CP that it would purchase**

The BOJ set two limits on the total outstanding amount of a single issuer's CP that it could accumulate. First, it would never hold more than ¥100 billion of a single issuer's CP. Second, the total outstanding CP purchased of a single issuer could not exceed 25% of the peak amount of CP that issuer had outstanding at the end of any month in the second half of 2018. "Since the losses of the purchases impose costs on taxpayers, it is important to avoid the concentration of credit risks in a specific firm," the BOJ Governor said in a 2009 speech. (Shirakawa 2009)

9. **CP had to have a rating of a-1, or it had to have a guarantee from a company with an a-1 rating.**

The BOJ set minimum credit rating standards to protect itself against loss. "Given the higher risk of incurring losses compared to other monetary policy measures, the Bank will properly manage credit risks arising from outright purchases." (BOJ PR, 01/22/2009)

10. **After purchase, the BOJ would hold the CP to maturity.**

III. Evaluation

While the three CP operations may have had a collective effect on the overall market, an analysis by Hirose and Ohyama show that the outright purchase measure may have lowered the CP rate by 25 bps in January and 11 bps in February. (Hirose and Ohyama 2010) Nevertheless, they found that the participation of banks in the measure was unrelated to the interest rate levels. Instead, banks found that the transfer of credit risk from their balance sheets to the BOJ allowed them to issue new, less-risky CP. (Ibid.) Following the improvement of the CP market in March 2009 and afterwards, the incentive to utilize the measure declined as banks could rely on the other CP operations, which they saw as less expensive options. (Ibid.)

The BOJ conducted an analysis of all its money market operations aimed at the CP market and found that operations contributed to lower rates for CP rated a-1 than CP rated a-1+. Issuance rates for lower-rated CP, which was not eligible for purchase, only felt limited effects from the monetary policies. (BOJ Markets Report August 2009)

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V. Key Program Documents

Summary of Program

Principal Terms and Conditions for Outright Purchases of CP (Bank of Japan – January 22, 2009) – *Principal terms of the measure to outright purchase CP includes purchasing up to ¥3 trillion worth of commercial paper and asset-backed commercial paper, under ten purchases of ¥300 billion each. The CP must be rated a-1 and have a residual maturity of three months from purchase. The BOJ could not purchase more than ¥100 billion from an issuer during a single purchase date.*
https://www.boj.or.jp/en/mopo/measures/term_cond/yoryo42.htm/

Implementation Documents

Principal Terms and Conditions for Outright Purchases of CP (Bank of Japan – January 22, 2009) – *Principal terms of the measure to outright purchase CP includes purchasing up to ¥3 trillion worth of commercial paper and asset-backed commercial paper, under ten purchases of ¥300 billion each. The CP must be rated a-1 and have a residual maturity of three months from purchase. The BOJ could not purchase more than ¥100 billion from an issuer during a single purchase date.*
https://www.boj.or.jp/en/mopo/measures/term_cond/yoryo42.htm/

Guidelines on Eligible Collateral (Bank of Japan) – *The Bank of Japan Policy Board prescribes a set of guidelines that the Bank of Japan follows to conduct monetary and currency operations, where collateral is only accepted if creditworthy and marketable.*
https://www.boj.or.jp/en/mopo/measures/term_cond/yoryo18.htm/

Minutes of the Monetary Policy Meeting on December 18 and December 19, 2008 (Bank of Japan – January 27, 2009) – *The Bank of Japan Policy Board introduced a temporary measure of outright purchases of commercial paper and asset-backed commercial paper.*
https://www.boj.or.jp/en/mopo/mpmsche_minu/minu_2008/g081219.pdf

Minutes of the Monetary Policy Meeting on January 21 and January 22, 2009 (Bank of Japan – February 24, 2009) – *The Bank of Japan Policy Board passed a vote to implement the temporary measure of outright purchases of commercial paper and asset-backed commercial paper until March 31, 2009.*
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Minutes of the Monetary Policy Meeting on February 18 and February 19, 2009 (Bank of Japan – March 24, 2009) – *The Bank of Japan Policy Board passed a vote to extend the measure of outright purchases of commercial paper from March 31, 2009 until September 30, 2009.* https://www.boj.or.jp/en/mopo/mpmsche_minu/minu_2009/g090219.pdf

Legal/Regulatory Guidance

Article 37 of the Bank of Japan Act 1997 – *Article 37 of the Bank of Japan Act 1997 states that the Bank may provide financial institutions uncollateralized loans and when the institutions "unexpectedly experience a temporary shortage of funds necessary for payment due to accidental causes…" https://www.boj.or.jp/en/about/outline/data/foboj12.pdf*

Press Releases/Announcements

Outright Purchases of Corporate Financing Instruments (Bank of Japan – January 22, 2009) – *The Bank of Japan announced the implementation of temporary measures to conduct outright purchases of commercial paper and asset-backed commercial paper.* https://www.boj.or.jp/en/announcements/release_2009/un0901b.pdf

Statement on Monetary Policy (Bank of Japan – July 15, 2009) – *The Bank of Japan announced that it would extend the measure of outright purchases of commercial paper from September 30, 2009 until December 31, 2009.* http://www.boj.or.jp/en/announcements/release_2009/k090715.pdf

Media Stories

BOJ to spend ¥3 trillion on CP, mull buying bonds (The Japan Times – 01/23/2009) – *news story that covers the Bank of Japan's implementation of outright purchases of commercial paper, where it will by up to ¥3 trillion worth of CP.* https://www.japantimes.co.jp/news/2009/01/23/business/boj-to-spend-3-trillion-on-cp-mull-buying-bonds/#.WsZ1cZch2Uk

Early in, early out (The Economist – 01/22/2009) – *news story summarizing effect of the credit crunch and financial crisis on Japan's economy and banking system.* https://www.economist.com/node/12998246

Key Academic Papers

Government, Business and Markets after the Lehman Shock: A Review of Aid to the Business Sector in Japan (Komine – 10/2009) – *This paper summarizes the effects of Lehman Brothers and other economic events in the United States on Japan's economy and marketplace. The author reflects on the increase in state intervention to maintain financial stability and the advantages or disadvantages using state intervention has on the market.* https://www.jcer.or.jp/eng/research/pdf/komine.pdf

Reports/Assessments

The Conduct of Monetary Policy in Japan and Abroad: Excerpts of a Speech at a Meeting with Business Leaders in Okayama (Bank of Japan – 08/2009) – *In a speech, the Bank of Japan Governor said that the Bank decided to extend the outright purchases on commercial paper because although the commercial paper market has been recovering greatly, financial firms hoped the operation would still be in use to "facilitate corporate financing," in case of any imminent debt downgrades or credit slides.*
https://www.boj.or.jp/en/announcements/press/koen_2009/data/ko0908b.pdf

Identifying the Effect of the Bank of Japan's Liquidity Facilities: The Case of Commercial Paper Operations during the Financial Turmoil (Bank of Japan – 10/2010) – *This paper studies the effects of the Bank of Japan's three commercial paper operations it implemented between October 2008 and May 2009. It found that outright purchases of commercial paper had visible effects at the onset of its implementation, but subsided as the commercial paper market recovered.*
https://ideas.repec.org/p/boj/bojwps/09-e-7.html

Financial Markets Report – Developments in the Second Half of 2008 (Bank of Japan – 03/31/2009) – *The Bank of Japan stated using competitive auctions as the method to conduct outright purchases of commercial paper was to ensure that financial institutions didn't utilize the as arbitrary. The temporary nature and minimum yields placed on purchases also were set in order to discourage firms from selling commercial paper to the Bank as the market recovered.*
https://www.boj.or.jp/en/research/brp/fmr/mkr0903.htm

Financial Markets Report – Developments in the First Half of 2009 (Bank of Japan – 08/31/2009) – *An analysis by the Bank of Japan found that CP operations have contributed to a decrease in issuance rates, but that effects on CP rated a-1 were greater than CP rated a-1+ or lower.*
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VI. Appendix

Due to the strains throughout global financial markets and the subsequent credit crunch, Japan's commercial paper (CP) market was shaken in late September 2008, following Lehman Brothers' bankruptcy. In response to weakened money market operations and short-term financing on Japan's financial institutions, the Bank of Japan's Policy Board issued a number of operations to alleviate liquidity anxieties in the CP market.

First, the BOJ expanded the conditions for the pre-existing repo operations for CP to facilitate short-term money market financing for financial institutions as a response to the credit crunch. (CP Repo Operation Terms and Conditions) The BOJ increased the frequency of the from being conducted on a quarterly basis to twice-a-week, while also increasing the fund supply per operation from ¥300 billion to ¥600 billion. (BOJ Markets Report March 2009) Moreover, the BOJ expanded eligible loan collateral to include dematerialized CP issued by real estate investment corporations and government-guaranteed dematerialized CP. (BOJ Amendment January 2009)

In early November, the BOJ then introduced a special funds-supplying operation that would provide unlimited liquidity in exchange for an equal amount of commercial paper collateral from financial institutions. (Special Operation Terms and Conditions) The special operation would provide a loan, at a low fixed loan rate of 0.1%, up to the equal value of collateral posted by the counterparty. Loan collateral could be posted in the form of corporate bonds, dematerialized CP issued by domestic corporations, dematerialized CP issued by foreign corporates with guarantees, bills drawn by companies, commercial paper (excluding ABCP and, later, CP issued by real estate investment corporations), and loans on deeds to companies. (Ibid.)

Finally, the BOJ passed a measure to conduct outright purchases of CP from financial institutions, aiming to transfer some of the risk from bank balance sheets onto the BOJ's own sheet. (Outright Purchases Terms and Conditions) The decrease in risky CP would help institutions avoid credit downgrades, thus allowing them to continue borrowing liquidity in the general credit market in order to meet financing needs. However, the amount of CP the BOJ was limited to ¥3 trillion overall, limited to ¥300 billion per auction date, and limited to ¥100 billion per issuer per auction. (Ibid.) Moreover, the purchases included an interest rate equal to the overnight call rate plus a penalty rate, making the outright purchases of CP the most expensive of the three CP operations. (Ibid.)