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Bank of Japan versus Eurosystem: A Comparison of Monetary Policy Institutions and Conduct in Japan and in the Euro Area*

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Abstract

Measured by the size of their respective currency areas, the Bank of Japan and Eurosystem both belong to the most important central banks in the world. Though they have many institutional features in common and conduct monetary policy almost in similar ways, there are still important differences. These common features and differences are discussed in this paper. Due to its hybrid character as a joint supranational and national institution the Eurosystem decision making board is much bigger than the Bank of Japan's Policy Board. Both central banks enjoy a high degree of independence from their governments but Eurosystem's personnel and functional independence seem to be higher; on the other hand, members of BOJ's supreme decision making body can be held individually accountable for their decisions while the Eurosystem only applies collective accountability.

Similar differences between the Bank of Japan and Eurosystem can be found with respect to monetary policy strategies and policy instruments. Under its "quantitative easing policy" the Bank of Japan conducted a policy of zero interest rate targeting until March 2006; since then it changed to a policy of flexible inflation targeting and therefore to a monetary policy strategy which is similar to the one used by the Eurosystem since 1999. Eurosystem, however, pays more attention to the growth rate of money supply than the Bank of Japan. Both central banks operate actively on the money market through open market operations. The Bank of Japan uses this instrument more frequently and applies longer maturity than Eurosystem.

Keywords: Central banks, Bank of Japan (BoJ), Policy Board, Monetary Policy Meeting, European Central Bank (ECB), Governing Council, Quantitative Easing Policy (QEP)

JEL-Classification: E 52, E 58, P 52

1. Introduction

Viewed form the perspective of new institutional economics, a central bank can be regarded as a set of rules which are given to the central bank by the legislator ("heteronymous rules") or are set by the central bank itself ("autonomous rules"). The outcomes of monetary policy conduct are often dependent on the quality of these rules. In the case of the Bank of Japan (BoJ) the conditions under which monetary policy decisions are taken are formulated into the Bank of Japan-Law (BoJ-Law) which originated in 1942, but has been amended several times, with the latest revision in June 1997, when it was completely revised under two principles: "independence" and "transparency."

In the case of Eurosystem, rules for monetary policy conduct are laid down in the 1991 Maastricht Treaty and in the Statute for the European System of Central Banks and the European Central Bank. Beside these legislative rules, both central banks have taken decisions over what policy strategy to follow and which instruments they choose. In the cases of both central banks the rules determine who has to take monetary policy decisions and what their relationship to the government is.

This paper is organized as follows. The next section compares the BoJ Policy Board against the ECB Governing Council. Section three discusses the concept of independence and accountability for both central banks. Section four describes the monetary policy strategies of the BoJ and Eurosystem. Finally, section five shortly presents exchange rate policies and section six compares policy performances.

2. BoJ Policy Board versus ECB Governing Council

The supreme decision making bodies of the BoJ and the ECB are the "Policy Board" and the "Governing Council", respectively. At the moment, the BoJ Policy Board consists of 9 members who are led by the Governor (currently *Toshihiko Fukui*) and his two Deputy Governors. Furthermore, there are six so called "Other Members of the Policy Board".[1] The ECB Governing Council is much bigger than the BoJ Policy Board. At present, it consists of 18 members, the six members of the "Executive Board" and the twelve Governors of the Euro area National Central Banks (hereafter called NCBs).

The nine members of the BoJ Policy Board are appointed by the Cabinet, subject to the consent of the House of Representatives and the House of Councillors[2]. The six other Members have to prove professional expertise in economics and finance. The Cabinet further appoints Executive Auditors. However, Executive Directors and Counsellors are appointed by the Minister of Finance on the recommendation of the Policy Board. The BoJ Policy Board is chaired by a chairman, who has to be elected by the board members from among themselves; as of September 2000, the Governor has been elected chairman of the Policy Board.[3] The chairman calls for board meetings and decisions are made by simple majority. In case when votes are equally split, the chairman has the decisive vote. Though the Policy Board meets twice a week, meetings where matters related to monetary policy are decided are called Monetary Policy Meetings (MPMs). In principle, they are held twice a month.[4] Here, the official discount rate and reserve requirement ratio are set and the instruments for open market operations, such as types of collateral, are decided.

Due to the Eurosystem's hybrid character, the members of the ECB Governing Council are appointed on different levels. The six members of the Executive Board are appointed on a supranational level, i.e. by common accord of the Heads of States or Governments of the Euro area countries. The Governors of the Euro area NBCs (at the moment twelve) are appointed on the national level and according to national central banking laws. The Governing Council is chaired by the President of the ECB or – if he is absent – by the Vice President. Like in the BoJ, decisions are made by simple majority. Each member has one vote, but in the case of a tie the President's vote is decisive. The Governing Council meets twice a month, but only the first meeting each month is dedicated to monetary policy affairs.

Both, the BoJ Policy Board and the ECB Governing Council formulate the monetary policy of their central banks. According to Article 15 of the BoJ-Law the Governing Council decides on "….determining or altering the basic discount rate, …..and the types and terms of bills to be discounted, ….determining or altering the basic loan rate, …. and the types, terms, and value of collateral to be used for loans, …. determining, altering or abolishing reserve requirement ratios….". It also determines or alters "the guidelines for money market control." Likewise, the ECB Governing Council takes decisions on "intermediate monetary objectives, key interest rates and the supply of reserves" in the Eurosystem (Article 12.1 of the Statute of the ESCB).

These decisions are executed by different entities. Article 21 of the BoJ-Law stipulates that the executives of the BoJ are comprised out of, at the moment 28 persons, i.e. the nine members of the Policy Board, who are assisted by three Executive Auditors, six Executive Directors, and a number of Counsellors. Therefore, in Japan the Executive comprises more members than the decision making Policy Board. In contrast to the Japanese case, the Executive Board of the ECB is smaller than its Governing Council and encompasses only the six members who are appointed on a supranational level. The Executive Board is responsible for current business and implements the guidelines and decisions made by the Governing

Council. As long as not all Member States of the European Union have adopted the Euro as their national currency the General Council of the ECB will exist as a third body. It consists of the President, the Vice-President of the ECB and the Governors of the NCBs of all EU Member States (25 at the moment). It has no responsibility for monetary policy decisions in the Euro area but coordinates monetary policies between the ECB and prospective member states of the Euro area. Furthermore, the ECB fixes the exchange rates of EU Member States that have not yet adopted the Euro.

In March 2003, the European Council approved a modification of the voting modalities in the Governing Council. This adjustment was regarded as necessary to ensure that monetary policy decisions are made timely and efficiently within an enlarged monetary union. According to the new rules, the voting rights will rotate among the Governors of the NCBs once their number exceeds 15; the six members of the Executive Board will still retain a permanent voting right.

3. Concepts of central bank independence and accountability

Central bank independence describes the relationship between a central bank as the agent responsible for monetary policy decisions and the general public or the elected government as the principal. In the literature, a central bank is typically said to be independent when two conditions are met. First, the central bank has different preferences about monetary policy goals than the government; usually, it is supposed to be more "conservative" with respect to price stability than the latter. Second, the government has to bear some costs if it ex post reverses monetary policy decisions made by the central bank. The degree of independence, therefore, can be measured by the degree of conservativeness and/or the size of the government's costs of overruling the central bank. Consequently, an absolute independent central bank solely strives for price stability, i.e. it completely ignores all other thinkable goals for monetary policy, and can not be forced by the government to reverse its monetary policy decisions ex post. The more independent a central bank is, the lower will be the medium term rate of inflation. This gain in credibility is, however, counterbalanced by a loss in output stability as a more independent central bank will react less to macroeconomic supply shocks.[5]

In the literature it is common to distinguish several dimensions of central bank independence and to differentiate between five areas of independence. There is institutional independence, legal independence, personal independence of the members of the central bank's decision-making body, functional and operational independence and financial and organizational independence.[6] A central bank is institutionally independent if its status is enshrined in central bank law; it is legally independent if the central bank enjoys its own legal personality and if it has a right to bring actions before a court. Members of the central bank's decision-making body enjoy personal independence if they are granted a long term of office which is not renewable and if they cannot be dismissed in a discretionary manner on grounds of past performance. A central bank is functionally and operationally independent if it has assured all competences necessary for maintaining price stability. Finally, it enjoys financial and operational independence if the central bank has its own financial resources and can autonomously choose its organizational form.

Transparency and accountability are regarded as complements to central bank independence because in a democratic society any independent public institution has to be transparent in its decisions and has to be accountable to the general public for its policies. In principle, any central bank can be transparent in an ex ante or an ex post sense:[7] Ex ante transparency means that the central bank explains to the public how it has accomplished externally given goals; ex post transparency means that the central bank reveals whether it has fulfilled its internal goals. Moreover, central banks can pursue collective accountability or individual accountability.[8] If it is collectively accountable it only publishes the results of the decisions taken by the decision making body; if it is individually accountable, it publishes the votes of every individual member of the decision making body.

3.1. Objectives and independence of the BoJ and the ECB

The Bank of Japan and the Eurosystem both share the same legal tasks. According to Articles 1 and 2 of the new 1998 BoJ-Law, the Bank of Japan's objective is to issue banknotes and to carry out currency and monetary control. It also has to ensure smooth settlement of funds among banks and financial institutions and to contribute to the maintenance of an orderly financial system. Currency and monetary control should guarantee price stability and this is regarded as a contribution to the sound development of the national economy. Hence, the BoJ-Law explicitly claims a harmony between price stability and economic development. This is also true for the ECB. Although this presumption is neither stated explicitly in the EC Treaty nor in the Statute of the ESCB it is often repeated by the Eurosystem in its public statements.[9] According to Article 105(1) of the EC Treaty, the primary objective of the ESCB is to maintain price stability. As long as this goal is not endangered, the ESCB shall support the general economic policies in the Community and contribute to the achievement of the objectives of the Community as laid down in Article 2. However, the mandate to support general economic policies in the Euro area does not give the ESCB a responsibility for any other objective than price stability.[10]

Both central banks, the BoJ and the Eurosystem, enjoy institutional and legal independence from their respective governments. Article 3 of the BoJ-Law states that the "…..Bank of Japan's autonomy regarding currency and monetary control shall be respected…" and Article 5 of BoJ-Law states that "….due consideration shall be given to the autonomy of the Bank's business operations." Moreover, as stipulated in Article 6, the Bank of Japan is a legal person. Likewise, the ECB's independence has constitutional status since it has been enshrined in both the EC Treaty and the Statute of the ESCB rather than in secondary legislation.[11] Article 108 states that, "when exercising their powers and carrying out their tasks and duties, neither the ECB nor an NCB nor any member of their decision-making bodies shall seek or take instructions from Community institutions or bodies, from any government of a Member State or from any other body." This prohibition to accept instructions is complemented by a self-commitment of the Community institutions and bodies and Governments of Member States "not to seek to influence the members of the decision-making bodies of the ECB or of the NCBs in the performance of their tasks." Their institutional independence is supported by legal independence since the ECB and the NCBs enjoy their own legal personality. It includes the ECBs right to bring actions before the European Court of Justice in order to uphold its prerogatives if they are impaired by a Community institution or a Member State.

Members of the BoJ's and the ECB's decision making bodies, however, differ in their degree of personal independence. According to Article 24 of BoJ-Law, the term of office for the Governor, the Deputy Governors, and the other members of the Policy Board shall be five years, but they may be reappointed. If their position becomes vacant during a term of office, the term of appointment of the successor shall be limited to the remaining term of the predecessor. This stands in contrast with the procedure for the ECB, where all members of the Governing Council enjoy a longer fixed term of office. It lasts at least five years for NCB governors (who are reappointable) and there is a non-renewable term of eight years for members of the Executive Board. Since a central banker's personal independence from the government increases with the length of his term of office, and is higher if he cannot be reappointed (because he needs not be concerned about re-election), the members of the ECB's Governing Council are ostensibly more personally independent than the members of the BoJ's Policy Board.

Members of the ECB's and BoJ's decision making body can only be dismissed if they are found guilty of serious misconduct or if they are unable to fulfil the requirements for the performance of their duties. They can not be dismissed, however, on grounds of past policy performance. In Japan, the Cabinet or the Minister of Finance can dismiss a member of the Policy Board in cases of misconduct or if he or she is deemed incapable of carrying out their duties. This contrasts with the European case where the Governing Council or the Executive Board has to apply to the European Court of Justice to have a member of the Executive Board compulsorily retired. In cases of misconduct or inability to fulfil their duties, an NCB Governor may be relieved from office by the competent national authority in line with regulations in the statute of the respective NCB. The Governors concerned may also refer thereafter to the Court, which has jurisdiction in such cases. Other members of the NCB`s decision-making bodies are also protected against discretionary dismissals but do not enjoy the right to refer the matter to the European Court of Justice.[12]

The Bank of Japan and the Eurosystem also differ with respect to functional and operational independence. Of course, both the BoJ and the Eurosystem possess the monopoly of bank note issuing and have the necessary competences and power to achieve their primary objective of price stability. However, Article 19 of BoJ-Law stipulates that the Minister of Finance and the minister who is in charge of economic and fiscal policy may attend and express views at the Policy Board meeting concerning monetary control matters (the Policy Board decides whether or not to accommodate this request). No such provisions are made in the ESCB Statute. According to Article 4 of BoJ-Law, the Bank of Japan shall always maintain close contact with the government and exchange views efficiently so that monetary policy and the government's economic policy are mutually harmonious. On the other hand, Article 101 of the EC Treaty prohibits the Eurosystem from lending to the public sector. This shields the Eurosystem against pressures to finance public deficits or to purchase public debt on primary markets. No such safeguards are written into the BoJ-Law. On the contrary, Article 34 stipulates that the BoJ may give loans, without collateral, to the government (subject to a limit imposed by a Diet resolution), finance the government's temporary borrowing and subscribe or underwrite government bonds (also subject to a limit imposed by a Diet resolution).

Finally, the BoJ and Eurosystem show significant differences with respect to financial and organisational independence. The Bank of Japan's budget must be authorised by the Minister of Finance before each business year. If authorisation is regarded as inappropriate, the Minister must announce the reasons publicly; the BoJ may only express its views to the Minister of Finance or, if necessary, announce them publicly (Article 51 of BoJ-Law). The Bank of Japan transfers the surplus from its operations (after deducing 10% as inflow to the reserve fund and a dividend paid to its shareholders) to the Treasury.[13] In the Euro area, both the ECB's and NCB's have their own financial resources and enjoy organizational independence. As regards to the NCBs financial autonomy, Member States have an influence on the NCBs budgets, distribution of profits and staffing, due to their role as shareholders or national legislators. However, Member States are not allowed to impede on the NCBs capacity to perform their Eurosystem-related functions.[14] In addition, as a supranational organisation, the ECB enjoys those privileges and immunities in the territories of the Member States which are necessary for the performance of its tasks.

3.2. Accountability and transparency of monetary policies

The differences in independence between the BoJ and Eurosystem are not reflected with respect to accountability and transparency of monetary policy decisions. To begin with, within the Eurosystem, the ECB defines accountability as "being held responsible for one's decision and being required to justify and explain them."[15] Therefore, it defines "accountability" as an ex post concept, i.e. it provides an ex post explanation and justification of self defined goals, since if any other political body was able to directly influence the monetary policymaking of the ECB, this would actually mean taking part in the decision making process itself and sharing responsibility. The ECB regards this as contradicting its independence.

Since the ECBs main decision-making bodies are collegial bodies, all members share collective responsibility for properly fulfilling the tasks and functions of the ECB. This collective accountability corresponds to the institutional set-up of the Governing Council, where the members of the Executive Board and the NCB Governors are of equal status ("one member – one vote" principle with the President as a "primus inter pares") but subject to different appointment procedures. The ECB regards this collective accountability as being more consistent with the institutional design of the EU than a system of individual responsibility, where any individual member would be allowed to signal his disagreement with policy decisions taken by the majority and where political principals could be allowed to assess the performance of any individual member.

The ECB defines transparency as "an environment in which the central bank provides an open, clear and timely matter all relevant information on its mandate, strategy, assessment and policy decisions as well as its procedures to the general public and the markets."[16] In line with the principle of collective responsibility, however, the ECB neither publishes the minutes of the meetings of the Governing Council nor the individual voting behaviour of its members.

The ECB defends this by claiming that its Governing Council takes decisions for a multi-country economy. Publication of detailed proceedings – including any dissenting views of single members – could lead to undue pressure on NCB Governors to deviate from a Euro area perspective or to speculations about the motives behind their votes. Instead, the President of the ECB presents the ECBs Annual Report to the European Parliament at its plenary session. In addition, he appears four times a year, as well as other members of the Executive Board, before the Committee on Economic and Monetary Affairs of the European Parliament.[17]

Table 1: Monetary Policy Institutions: Japan versus Euro Area

Country	Japan	Euro Area
Central bank	Bank of Japan (BoJ)	Eurosystem (ECB+NCBs)
Supreme decision making body	Policy Board	Governing Council
Size of the supreme decision making body	9 members	18 members
Authority of appointment	Cabinet	6 ECB members on supranational level, 12 NBC members on national level
Members' terms of office	5 years (Governor, Deputy Governor, and six Other Members)	8 years ECB Governor (non-renewable) >5 years NCB Governor (renewable)
Rhythm of decision making board meetings	Once a week; MPMs in principle twice a month	Twice a month; MPMs once a month
Authority for dismissal	Minister of Finance	European Court of Justice
Decision process	Simple majority voting	Consensus
Publication of minutes	Yes	No
Publication of transcripts	Yes	No
Accountability	Individual	Collective

Sources: BANK OF JAPAN, op. cit., 2004, EUROPEAN CENTRAL BANK, op. cit. 2004, websites of central banks.

In contrast to the Eurosystem, the Bank of Japan also understands transparency as an ex post concept but applies the concept of individual accountability. According to Article 25 of the BoJ-Law, the Minister of Finance may dismiss Executive Directors, who administer the business of the Bank, on request of the Policy Board. Like the U.S. Federal Reserve System or the Bank of England, the BoJ publishes the minutes of the Policy Board's monetary policy meetings and the votes of the individual members of the Policy Board. The minutes also contain a summary of the discussions made during each Monetary Policy Meeting. They are approved by the members of the Policy Board and released afterwards on the BoJ's website. Transcripts of discussions are only released after a period of 10 years; hence no transcript has been published yet.[18] Therefore, any disagreement of an individual member with the majority decision is known to the public. Members may be requested to appear before Parliament to explain their personal position about monetary policy decisions (Article 54 of BoJ-Law). According to the same Article, the BoJ shall submit a report to the Diet about the monetary policy decisions approximately every six months through the Minister of Finance.

Table 1 summarizes the main institutional differences between the BoJ and Eurosystem: The decision making body of the BoJ is much smaller than that of the Eurosystem. Although both central banks enjoy a high degree of independence from their respective governments, the personal and functional independence of the Eurosystem seems to be higher. On the other hand, members of the ECB Government Council are subject only to collective accountability while members of BoJ Policy Board can be made accountable individually.

4. Monetary Policy Strategies of BoJ and Eurosystem

A monetary policy strategy encompasses the long-term procedure of how a central bank sets its main policy variables. In principle, these variables could be (the growth rate of) base money, (the growth rate of) non-borrowed reserves of financial institutions (defined as reserve holdings in excess of reserve requirements) or the interest rates for money market operations of the central bank with its counterparties. Neither the BoJ nor Eurosystem have chosen (the growth rate of) base money supply as their main policy variable; instead, they try to control financial institutions non-borrowed reserves or short-term interest rates in order to maintain a monetary growth rate which is compatible with macroeconomic stability. The monetary policy strategy determines in which manner these policy variables are changed in the light of new information available to the central bank's decision making bodies.

From March 2001 until March 2006 the BoJ committed a "quantitative easing policy (QEP)" whereby BoJs counterparties where induced to hold a targeted level of non-borrowed reserves, i.e. current account balances (CABs) at BoJ in excess of required reserves.[19] At the start of the QEP, target excess reserves were about 1 trillion Yen and increased to 24 to 29 trillion Yen in 2005.[20] Because money market rates dropped to a level of zero percent shortly after the start of QEP, the BoJ`s strategy in fact was a policy of zero (short-term) interest rate targeting using non-borrowed reserves as an operating variable.[21] The background behind this decision was the fact that Japanese banks were burdened by massive non-performing loans and suffered from liquidity shortages, and that the public was highly anxious about the stability of the financial sector. Japan's quantitative easing policy rests on two pillars: first the BoJ provided ample liquidity to financial institutions in order to raise their outstanding balances of current accounts at the Bank of Japan above required reserves. Second, the BoJ remained committed to continue this provision of ample liquidity as long as the year-on-year rate of change in the consumer price index “registered zero percent or higher on a sustainable basis”, thereby influencing market participants expectations about future interest rates.[22] As the result, very short-term interest rates indeed declined to effectively zero percent and financial institutions’ liquidity concerns were dispelled. Bank lending rates also declined to historically low levels.

Because the year-on-year change in the CPI was reached or surpassed zero percent for the four consecutive months since October 2005, the BoJ decided at the MPM held on March 8th and 9th, 2006, to change its monetary policy strategy and to terminate the quantitative easing policy.[23] In future, it will follow flexible inflation rate targeting, thus aiming to keep the year-on-year CPI growth rate between zero and two percent in the medium- to long-term. To reach this target, the BoJ will in future use the uncollateralized overnight call rate as the operative variable, however, the Bank of Japan expects that even under this new guideline for the conduct of monetary policy the call rate will in fact remain for a while effectively zero percent. Since the BoJ can only use its call rate as its operating variable if Japan’s financial institutions’ non-borrowed reserves are reduced towards a level in line with required reserves, bank liquidity will be gradually reduced in 2006 (mainly through short-term money market operations).[24]

Under its new monetary policy strategy, the BoJ will examine developments in economic activity and in prices in Japan from two perspectives in determining how to conduct monetary policy. Chiefly it will view developments from a short to a medium-term perspective and also from a medium to a long-term perspective. The Bank of Japan will conduct a monetary policy which is compatible with a rate of CPI inflation between zero and two percent in the medium to long-term, but it will also be ready to allow higher (or lower) inflation rates in the short to medium-term. This is because it shares with other central banks the “opinion that to conduct monetary policy putting too much emphasis on achieving price stability in the short-term results in large swings in economic activity, and this in turn impedes long-term price stability and the sound development of the economy.”[25] The BoJ, hence, does not plan to pursue strict inflation targeting, where a numerical target for price stability has to be achieved within a certain period of time.

This new guideline for monetary policy closely resembles the strategy applied by the Eurosystem since 1999, which is called the “two-pillar strategy.” The ECB, too, defines price stability as a year-on-year increase in consumer prices (measured by the “Harmonized Index of Consumer Prices HICP”) for the Euro area between zero and (under) two percent. This has to be maintained in the medium term. It differentiates between a short to medium-term perspective and a medium- to long-term perspective, and analyses the risks to price stability. The first perspective focuses on real activity and on financial conditions in the economy while the second focuses solely on the monetary growth rate, based on the hypothesis that inflation is ultimately a monetary phenomenon. Like the BoJ since March 2006, therefore, the ECB does not pursue direct inflation targeting, because it allows for deviations in CPI inflation (respectively CPI inflation forecasts) from the target rate of "under" two percent in the short-term, although it aims to achieve price stability over the medium- to long-term.

Because monetary growth rate and the inflation rate are closely related in the medium to long-term, the ECB assigns money growth a special role within its strategy. Due to this prominent role, the ECB announces a reference value for the growth rate of the broad monetary aggregate M3 and it refers to the percentage growth rate of M3 which is regarded to be compatible with price stability over the medium-term. The BoJ has not announced such a reference value for monetary growth yet.

4.1. Monetary policy instruments and patterns of policy rate changes

While the monetary policy strategy determines which money market interest rate level is required to maintain price stability, monetary policy instruments determine how to achieve this target interest rate level. As the monopoly supplier of base money and therefore as the sole supplier of bank reserves, the BoJ and Eurosystem are both able to manage the liquidity situation in their money markets and to influence interest rates there. Short-term interest rates in turn influence longer-term interest rates on other financial markets and lending rates that financial institutions charge to firms and households when granting loans. The target short-term interest rates are the "overnight interest rate for collateralized call money" in the case of the Bank of Japan and the EONIA ("Euro overnight index average") in the case of the Eurosystem. The call money market is the most important segment of the Japanese interbank market with a maturity of one day; transactions are mainly handled by money market brokers (*tanshi companies*) or by direct dealing between financial firms. EONIA is a measure of effective interest rates prevailing in the Euro interbank overnight market.[26]

Monetary policy instruments of the Bank of Japan and the Eurosystem cover a minimum reserve requirement, "money market operations" or "open market operations" and standing facilities. Reserve requirements force financial institutions to maintain a certain fraction of deposits received from their customers in accounts with the central bank. Money market operations or open market operations are usually carried out on the initiative of the central bank and mainly encompass outright transaction, i.e. buying or selling assets outright on the market, or repurchase agreements, i.e. a combination of buying and selling at specified prices on a predetermined future date or on demand. They form the most important monetary policy instruments of both the BoJ and Eurosystem. Standing facilities are usually carried out on the initiative of the central bank's counterparty and mainly encompass a lending facility and a deposit facility. They play a minor role quantitatively for both central banks considered in this paper.

4.2. Reserve requirement systems in Japan and in the Euro Area

Financial institutions (including branches of foreign banks) in Japan and in the Euro area are subject to a minimum reserve requirement. Included in the reserve base are different types of institution's liabilities, i.e. deposits (including residents' foreign currency deposits), bank debentures and the principal value of money trust (no limits with respect to maturity) in the case of the BoJ, and deposits and debt securities (with a maturity of up to two years) in the case of the Eurosystem. While the BoJ differentiates reserve ratios by type of instrument and type of financial institution, a uniform reserve ratio of two percent is applied in the Euro area to most items included into the reserve base; moreover, the BoJ uses progressive reserve ratios with higher reserve ratios applied to higher value brackets of deposits.

The BoJ and Eurosystem have not changed reserve ratios since 1991 and 1999, respectively. Reserve ratios in Japan are much lower than in the Euro area. Japanese banks' holdings are not re-numerated while required reserves in the Euro area are re-numerated at an interest rate which is very close to the short-term interbank rate.[27] European institutions can deduct a uniform lump-sum allowance from the reserve requirements. To fulfil reserve requirements, both central banks allow their counter parties to make use of averaging provisions, i.e. compliance with reserve requirements is determined on the basis of average daily balances on reserve accounts over the reserve maintenance period. A fine is charged if a financial institution fails to fulfil reserve requirements.[28]

4.3. The BoJ's money market operations versus Eurosystem's open market operations

Until the beginning of the 1990s, the Bank of Japan channelled base money into the financial system by direct lending and in turn tried to control the overall money stock through window guidance under which it asked financial institutions to keep their lending to firms and households within an appropriate level.[29] This was because interest rates were kept very low through regulations and security markets were underdeveloped. Later, as the pattern in the flow of funds changed, various financial markets such as government bonds markets grew and interest rates were deregulated.[30] This let to the abolishment of window guidance and a reduction of direct lending to financial institutions. The Bank of Japan instead made more use of competitive yield auctions and of the market mechanism to channel base money into the financial sector. These competitive auctions are called the BoJ's "money market operations." They are comparable – but not identical – with the tender procedures used by the Eurosystem in its "open market operations."[31]

Both central banks use standard tender procedures in the form of variable rate tenders.[32] They require 24 hours from the announcement of the tender to the communication of the result. During the auction, the central bank's counterparties bid both the amount of base money they wish to transact and the interest rate they are ready to pay for this amount. Central banks fully accept bids starting with the highest yield bid and continuing until the total of accepted bids reaches the intended allotment of base money. Each individual allotment is executed at the interest rate submitted by the bidders ("multiple rate procedure"). At the lowest accepted rate, the "cut-off yield" or "marginal rate of allotment", amounts of bids are not fully accepted. If several bidders are bidding, bids are allotted according to the amounts of bidding at the cut-off yield.

The BoJ's money market operations and Eurosystem`s open market operations differ with respect to rhythm and maturities. For instance, the BoJ undertakes money market operations more frequently but uses longer maturities than the ECB; in 2003, the BoJ conducted money market operations 470 times and the Eurosystem only 68 times, clearly demonstrates this difference.[33] Currently, the following types of funds-supplying operations are used (funds-absorbing operations are in parentheses):[34]

- Purchases (or sales) of treasury bills (TBs) or financial bills (FBs) under repurchase agreements; purchases (no sales) of commercial papers (CPs) under repurchase agreements.
- Outright purchases (or sales) of TBs or FBs and of bills.
- Borrowing of Japanese Government Bonds (JGBs) against cash collateral ("JGB repos").
- Outright purchases of bills collateralized by corporate debt obligations and of JGBs.

Usually, purchases of JGBs, TBs and FBs are the most important funds supplying money market operations in Japan.[35] The Eurosystem instead usually undertakes open market operations in at least a weekly rhythm but uses much shorter maturities than the BoJ. Open market operations can be subdivided into the following four categories:[36]

- Main financing operations provide the bulk of liquidity to the banking system and signal the stance of the ECB`s monetary policy. They are liquidity-providing operations that are conducted weekly with a maturity also of one week (two weeks until February 2004).
- Longer-term refinancing operations aim to provide longer-term liquidity to the banking system and are conducted monthly with a three-month maturity.
- Fine-tuning operations aim to smooth the effects on interest rates of unexpected liquidity fluctuations in the money market; since they are carried out on an ad hoc basis, their frequency and maturity is not standardized. Because of the need for rapid action, fine-tuning operations are normally executed through "quick tenders" (which need only one hour) or through bilateral procedures.
- Structural operations seek to adjust the structural liquidity position of the Eurosystem vis-à-vis the banking system, i.e. the amount of liquidity in the long run (by the end of June 2003 the Eurosystem had not executed such operations). In principle, the maturity of structural operations would not be standardized.

All four categories involve one of the following four transactions: outright buying (or selling) operations; buying (or selling) under repurchase agreements; lending (or borrowing) against collateral; issuing bank debt certificates; acceptance of fixed-term deposits; and foreign exchange rate swaps.

While the BoJ decides at MPMs which types of financial institutions are eligible as money market operation counterparties, the ECB accepts all financial institutions fulfilling the general eligibility criteria as counterparties. The ECB follows the principles laid down in Article 105 of the Treaty on the European Union which states that the Eurosystem "shall act in accordance with the principles of an open market economy with free competition …" Moreover, the ECB's operational framework has to be efficient and has to insure equal treatment of all financial institutions; monetary policy operations are normally decentralized, i.e. implemented through the NCB`s, and thus have to be simple, transparent, continuous, safe, and cost efficient.[37]

Besides its money market operations, the Bank of Japan still grants loans to financial institutions which hold BoJ accounts. The interest rate paid is called the official discount rate. As mentioned above, BoJ loans were once the most important tool of base money supply in Japan, but have since lost their importance during the last decade.

4.4. Standing facilities

In addition to its open market operations, the Eurosystem supplies standing facilities which are available to counterparties on their own initiative. They aim to control short-term interest rates in the money market and to restrict their volatility. The ECB offers two standing facilities, the marginal lending facility and the deposit facility, both having overnight maturity ith no limits in the access to both facilities. Interest rates paid by counterparties on the marginal lending facility and interest rates paid by the Eurosystem on the deposit facility form the ceiling and the floor for money market interest rates.

The Bank of Japan only offers an overnight standby lending facility ("complementary lending facility"), which was introduced in 2001, but no deposit facility. Therefore, there is only an upper but no lower limit for the overnight call rate in Japan.[38] The interest rate on the complementary lending facility is thus identical with the official discount rate. While the ECB's marginal lending facility can be used without limits by eligible counterparties, the BoJ decides on the amount of loans in accordance with the requests of counterparties.[39]

Table 2 compares the monetary policy strategies and policy instruments used by the BoJ and Eurosystem. While both central banks now apply similar strategies, the Eurosystem seems to pay more attention to the growth rate of overall money supply than the BoJ. Both central banks use a minimum reserve system with higher reserve ratios found in the case of the Eurosystem, which, however, pays interest on reserve holdings. Both central banks perform open market operations as variable rate tender procedures. However, the BoJ is more active in the money market than the Eurosystem, although it uses longer maturities.

Table 2: Monetary Policy Conduct: Japan versus Euro Area

Country		Japan	Euro Area
Central bank		Bank of Japan (BoJ)	Eurosystem (ECB+NCBs)
Strategy		Zero interest rate targeting; flexible inflation rate targeting (since March 2006)	Flexible inflation targeting
Reference value for monetary growth		No	Yes (M3)
Reserve requirement ratio		Differ according to type of instrument and type of financial institution	Uniform (2%)
Interest paid on reserve holdings		No	Yes
Open market operations	Procedure	Variable rate tenders with multiple rate procedure	Variable rate tenders with multiple rate procedure
	Frequency	Almost every day	Weekly or monthly, plus irregularly
	Maturity	≥ 2 weeks and longer	1 week, 1 month
Standby lending facility		Yes	Yes
Deposit facility		No	Yes

Sources: BANK OF JAPAN, op. cit., 2004, EUROPEAN CENTRAL BANK, op. cit. 2004, websites of central banks.

5. Exchange rate policies in the Euro Area and Japan

Neither the BoJ nor the Eurosystem are autonomous with respect to their foreign exchange operations. In Japan, official foreign exchange reserves are partly held in the Government's Foreign Exchange Fund Special Account (FEFSA), together with other foreign-currency assets held by the BoJ. Whenever he deems it necessary, the Minister of Finance may instruct the BoJ, as his agent, to intervene in the foreign exchange market (since the introduction of floating exchange rates, these interventions have primarily taken the form of Yen sales because the Yen has often been under appreciation pressure).[40]

In the Euro area, foreign exchange operations may occur in the framework of the intra-Community exchange rate mechanism II (ERM II) as well as in currencies outside the European Union, e.g. Japanese Yen or US Dollars. They are implemented solely through the ECB, but have to be conducted in accordance with Article 111 of the EC Treaty which states that they must respect the primacy objective of maintaining price stability. According to Article 111, the EU Council, acting unanimously, may conclude formal exchange rate agreements or, in the absence of such an exchange rate system, may, acting by qualified majority, formulate general orientations for exchange rate policies. In these cases, the ECB has to be consulted and in the case of a formal exchange rate system, the EC Council must take note of the ECB's opinion.[41]

Up to now, neither of the above procedures has been initiated. The EU Council has decided that the exchange rate should be regarded as the outcome of economic developments and economic policies rather than an independent objective. Hence, exchange rate interventions of the Eurosystem in non-EU currencies occurred only voluntarily and only twice during the period 1999-2004. On September 22, 2000, the ECB and the central banks of the US, Japan, the UK and Canada initiated concerted interventions in the foreign exchange markets. In November 2000, the ECB intervened again.

Things are different with respect to interventions in the Exchange Rate Mechanism II which replaced the European Monetary System. The purpose of ERM II is to link currencies of the Member States outside the Euro area to the Euro. The ERM II consists of mutually agreed, fixed but adjustable, central rates vis-à-vis the Euro with a standard fluctuation band of ± 15%. Narrower fluctuation margins are possible. In principle, central bank interventions are automatic and unlimited if a currency approaches the margins of the fluctuation band; however, the ECB and participating non-Euro area NCB`s could suspend automatic interventions and their financing if this were to conflict with the primary goal of price stability. Until now, no interventions have been necessary to preserve stability in the system.[42]

6. Monetary Policy performances

In comparison to Eurosystem, the Bank of Japan has a smaller decision making body, takes decisions by a simple majority rule (rather than by consensus) and publishes individual votes. Economic theory predicts that the quality of decision making is better in larger monetary policy committees, because the policy error is smaller.[43] Moreover, voting is attractive, because uncertainty about the optimal level of interest rates implies that policy steps are taken "too little, too late", this problem, however, is exacerbated if decisions are made by consensus.[44] Finally, the voting record of monetary policy committees may help market participants to predict future policy changes.[45]

Some of these predictions can be verified if one compares the monetary policy records of both central banks: While there is no evidence available about the quality of policy decisions of both central banks, ECB`s policy actions are often regarded as too sluggish, [46] and the reason for this could be that decisions are made by consensus; in contrast to this, the BoJ reacts much faster to exogenous events. Empirical evidence suggests, however, that the information value of individual voting behaviour does not seem to be very large in the case of Japan.[47] Moreover, the overall transparency of Bank of Japan seems to be small compared to Eurosystem, especially since 2001, when the BoJ used current account balances (CABs) as its main operating target because the target was quite loose and there were wide fluctuation which were not explained.[48]

The BoJ is sometimes criticised for its zero interest rate targeting because nominal interest rates will be low if expected inflation rates are low or when monetary policy is expansionary. Low interest rates are therefore an indicator that monetary policy has been tight in the past, not that it is loose at the present. Because of this indicator problem, critics argue that monetary policy in Japan has been too tight in the past and that the growth rate of base money was only half as high as needed to prevent deflation in Japan.[49]

Endnotes:

1 BANK OF JAPAN: Our Policy and Operations, Annual Review, Tokyo 2005, p. 112-115. Interestingly, 7 out of 9 members graduated from Tokyo University.

2 The Cabinet formalizes the appointment of new BoJ Policy Board members after approvement by the national Diet (*kokkai*). The national Diet is composed of the House of Representatives (*shugi-in*, lower house) and the House of Councillors (*sangi-in*, upper house). A recent example is the appointment of Mr. *Nishimura* on April 2005.

3 See BANK OF JAPAN: Functions and Operations of the Bank of Japan, Institute for Monetary and Economic Studies (IMES), Tokyo 2004, p. 21.

4 See BANK OF JAPAN, 2004, op. cit.

5 See K. ROGOFF: The Optimal Degree of Commitment to an Intermediate Monetary Target, in: Quarterly Journal of Economics, Vol. 100, 1985, pp. 1169-1189; S. LOHMANN: Optimal Commitment in Monetary Policy: Credibility versus Flexibility, in: American Economic Review, Vol. 82, 1992, pp. 273-286. For an overview see U. VOLLMER: Geld- und Währungspolitik, München 2005, pp. 68-87.

6 See e.g. H. K. SCHELLER: The European Central Bank. History, Role, and Functions, Frankfurt/Main, pp. 122-123.
7 See C. FAVERO, X. FREIXAS, T. PERSSON, C. WYPLOSZ: One Money, Many Countries, Monitoring the Central Bank 2, London. p. XII.
8 See IBID.
9 See e.g. EUROPEAN CENTRAL BANK: The stability-oriented Monetary Strategy of the Eurosystem, in: Monthly Report, Vol. 1. January 1999, pp. 9-50.
10 See H. K. SCHELLER, op. cit., p. 45.
11 See IBID. p. 121.
12 See IBID. p. 123.
13 BoJ has paid-in capital of 100 million Yen; 55 percent coming from the government and 45 percent from the private sector. Subscription certificates are traded in the over-the-counter market, but private shareholders may not intervene in to the management of the bank. See BANK OF JAPAN, op. cit., 2004, p. 3, footnote.
14 See H. K. SCHELLER, op. cit., pp. 123-124..
15 See EUROPEAN CENTRAL BANK: The Accountability of the ECB, in: European Central Bank, Monthly Bulletin, November 2002: pp. 45-57, 48.
16 See EUROPEAN CENTRAL BANK: Transparency in the Monetary Policy of the ECB, Bank, Monthly Bulletin, November 2002: pp. 59-66, 59.
17 See H. K. SCHELLER, op. cit. p. 131.
18 See BANK OF JAPAN, op. cit., 2004, p. 19-20.
19 See H. YAMAGUCHI (2004): Japans' Economy and Monetary Policy: A Pragmatic Evaluation, in: Japan and the World Economy, Vol. 16, 2004, pp. 113-119.
20 See E. MAEDA, B. FUJIWARA, A. MINESHIMA, K. TANIGUCHI, K: Japans Open Market Operation under the Quantitative Easing Policy, Bank of Japan Working Paper Series, No. 05-E-3, Tokyo April, p. 2.
21 See T. FUKUI: New Framework for the Conduct of Monetary Policy: Toward Achieving Sustainable Economic Growth. Summary of a Speech Given by Toshihiko Fukui, Governor of the Bank of Japan, to the Japan Chamber of Commerce and Industry in Tokyo on March 16, 2006. http://www.boj.or.jp/en/type/ press/koen/ko0603a.htm.
22 See NIHON KEIZAI SHINBUN: Zero kinri zoki Kaijo kansoku (Expectation of zero interest rate through (new policy) release. March 16th, 2006, p. 3.
23 BANK OF JAPAN: The Introduction of a New Framework for the Conduct of Monetary Policy. http://www.boj.or.jp/en/seisaku/05/seisak_f.htm, from March 14th, 2006.
24 See T. FUKUI, op. cit,, 2006; Shikin kyokyu manbennaku (Money supply all over). Nikkei Keizai Shinbun. March 13th, 2006, p. 3.
25 See T. FUKUI, op. cit.
26 See BANK OF JAPAN: op. cit., 2004, p. 126; EUROPEAN CENTRAL BANK: The Monetary Policy of the ECB, Frankfurt/Main 2004, p. 108.
27 See E. MAEDA, B. FUJIWARA, A. MINESHIMA, K. TANIGUCHI, K, op. cit., p. 4.
28 See BANK OF JAPAN: op. cit., 2004, pp. 51-53; EUROPEAN CENTRAL BANK: op. cit., 2004, pp. 77-79.
29 For the "old" Japanese style of monetary policy see Y. SUZUKI: Money and Banking in Contemporary Japan, New Haven and London 1980
30 See D. WATANABE: Tsugi ha zaisei shinkaizen mokuhyo wo (Next there is an aim of new financial reform): Keizai Nikkei Shinbun, March 21st, 2006, p. 29.
31 Besides competitive auctions, ECB also sometimes uses "bilateral procedures" to conduct open market operations.
32 See BANK OF JAPAN: op. cit., 2004, p. 109, EUROPEAN CENTRAL BANK: op. cit., 2004, p. 80. Until June 2000, however, the Eurosystem used fixed rate tenders, but due to overbidding main financing operations have been conducted as variable rate tenders with a minimum bid rate using a multiple rate procedure since then.
33 See E. MAEDA ET AL., op cit., p. 5.
34 See also BANK OF JAPAN: op. cit., 2004, pp. 107-108.
35 See E. MAEDA, B. FUJIWARA, A. MINESHIMA, K. TANIGUCHI, K, op. cit., p. 4.; SHIRAKAWA, One Year Under `Quantitative Easing´, Bank of Japan, Institute for Monetary and Economic Studies, Discussion Paper No. 2002-E-3, p. 8; D. BLENCK, H. HASKO, S. HILTON, K. MAZAKI: The Main Features of the Monetary Policy Frameworks of the Bank of Japan, the Federal Reserve and the Eurosystem, BIS Papers, No. 9, 2001, pp. 23-56.
36 EUROPEAN CENTRAL BANK: op. cit., 2004, pp. 79-84.
37 IBID, pp. 71-72.
38 See E. MAEDA, B. FUJIWARA, A. MINESHIMA, K. TANIGUCHI, K, op. cit., p. 4.; of course, nominal interest rates cannot fall below zero.
39 See BANK OF JAPAN: Establishment of "Principal Terms and Conditions for Complementary Lending Facility", http://www.boj.or.jp/en/type/release /zuiji/kako02/k010228b. htm# Att1
40 See BANK OF JAPAN: op. cit., 2004, pp. 152-153.

41 See H. K. SCHELLER, op. cit. p. 91.
42 IBID.
43 P. GERLACH-KRISTEN: Monetary Policy Committees and Interest-rate Setting, in: European Economic Review, Vol. 50, 2006, pp. 487-507, p. 497.
44 P. GERLACH-KRISTEN: Too little, too late: Interest rate Setting and Costs of Consensus, in: Economic Letters, Vol. 88, 2003, pp. 376-381;
45 P. GERLACH-KRISTEN: Is the MPC`s Voting Record Informative about Future UK Monetary Policy?, in: Scandinavian Journal of Economics, Vol. 106(2), 2004, pp. 299-313.
46 P. ARTUS: The ECB: A Slow-to-react institution?, mimeo, Emu Monitor Meeting, November, 27-28 2001.
47 H. FUJIKI: The Monetary Policy Committee and the Incentive Problem: A Selected Survey, Bank of Japan, Institute for Monetary and Economic Studies, Discussion Paper No. 2005-E-4, p. 53.
48 P.M. GERAATS, S. EIJFFINGER, C A.B. VAN DER CRUIJSEN: Does Central Bank Transparency reduce Interest Rates?, mimeo, University of Cambridge; S. EIJFFINGER, P. M. GERAATS: How Transparent are Central Banks?, in: European Journal of Political Economy, Vol. 22, 2006, pp. 1-21.
49 See B.T MCCALLUM: Japanese Monetary Policy, Shadow Open Market Committee, mimeo, April 30, 2001; B.T. MCCALLUM, Japanese Monetary Policy Again, Shadow Open Market Committee, mimeo, October 15, 2001.