One key to conducting monetary policy effectively is an efficient transmission mechanism through which monetary policy actions affect aggregate demand in an economy and ultimately inflation (see Figure A1.1). The nature, speed, and intensity of the transmission from the variables directly under the control of the central bank—for example, short-term interest rates or base money—to those variables that most directly affect conditions in the nonfinancial sector—loan rates, deposit rates, asset prices—determine not only the extent of the overall effectiveness of monetary policy, but also the type of instruments that can be used effectively.

The functioning of the transmission mechanism, and hence the effectiveness of monetary policy, in a given economy depends on the structure of the economy and its financial system. In particular, a number of factors are at play here: (1) the degree of competition in the banking sector, (2) the extent of access to alternative domestic funding sources, (3) the depth of money and capital markets, (4) the extent of government involvement in financial markets, (5) the liquidity of the financial system, (6) the degree of financial intermediation, (7) the prevailing exchange rate system, (8) the extent of liberalization of current and capital accounts, and (9) the degree of development of the foreign exchange market. These all influence the speed and intensity of the transmission mechanism and therefore the extent to which monetary instruments can be relied upon to transmit monetary policy signals through the normal channels.

Interest Rate Channel

Monetary transmission through the interest rate channel, regarded by many as the main channel of monetary policy transmission, occurs when changes in the monetary policy stance induce changes in the overall level of interest rates in the economy, and those in turn affect the overall level of absorption, through their effects on the demand for credit and the available income of borrowers and lenders. Changes in interest rates alter the marginal cost of borrowing, leading to changes in investment and savings and thus to variations in aggregate demand; they have also a cash flow effect on borrowers and savers.

Predictability of the response of lending and deposit rates to changes in money market rates will depend on the degree of competition in the banking sector, the extent of access to alternative domestic funding sources, and the depths of money and capital markets. In competitive markets for credit, changes in the overall level of interest rates are likely to affect lending and deposit rates rapidly. Conversely, in a highly concentrated banking sector with a small number of banking institutions, oligopolistic pricing will likely make the response of lending and deposit rates to changes of money market rates sluggish and asymmetrical. In addition, the presence of state-owned or state-subsidized banks that are under little pressure to maximize profits and are under pressure to achieve political goals can diminish the responsiveness of lending and deposit rates to monetary policy.

The behavior of lending and deposit rates may also depend on the extent to which households and firms have access to alternative domestic funding or investment sources, most notably through security markets. Alternative sources of financing or investment for households and firms tend to limit the monopolistic power of banks. Moreover, if the banking sector and the securities markets are well integrated and if bank loans, bonds, and stocks are close substitutes, then banks may be forced to enhance the responsiveness of the interest rates under their control.

The depth of money and capital markets can also have an important bearing on how policy controlled rates affect lending and deposit rates, and on the ultimate objective(s) of the central bank. A shallow or noncompetitive financial market can amplify volatility of money market interest rates. If money market rates are highly volatile, banks may not adjust lending...
and deposit rates quickly to those rates, for administrative or customer-relations reasons.

**Asset Price Channel**

Monetary transmission through the *asset price channel* occurs when changes in the monetary policy stance affect asset prices in the economy (in particular, equity or the value of collateral), which in turn induces changes in consumption and investment through the wealth effect and the implications on the financing cost of investments.

The main factor influencing the effectiveness of the asset price channel is the level of development and importance of bond, equity, and real estate markets in the economy. Where long-term bond markets are important, for example, an increase in short-term interest rates normally leads to a decline in bond prices, and, consequently, a decline in aggregate demand due to reduced wealth. The more developed such markets are, the stronger will be the effectiveness of this channel in transmitting monetary policy signals.³

The composition of financial portfolios also affects the effectiveness of the asset price channel. When most savings are intermediated through the domestic banking system, and relatively small portions of households or corporate portfolios are invested in securities whose value varies with market conditions, the more restricted will be the impact and intensity of the asset channel. On the other hand, the more diversified household and corporate portfolios are, the more sensitive such portfolios will be to monetary policy actions affecting asset values.

**Exchange Rate Channel**

Monetary transmission through the *exchange rate channel* occurs when changes in the monetary policy stance lead to changes in the exchange rate. This affects the competitiveness of domestically produced goods and services vis-à-vis goods and services produced abroad and hence affects the relative demand for both domestic and foreign goods and services.

The exchange rate channel of monetary policy does not exist under a fixed exchange rate regime; among exchange rate regimes that allow flexibility, the exchange rate channel will work more strongly with higher degrees of exchange rate variability allowed within the regime. In addition, the role of the exchange rate channel will increase with an absence of capital controls and in a foreign exchange market characterized by substitutability between domestic and foreign assets. For economies with underdeveloped financial systems, the exchange rate channel becomes irrelevant, usually because of controls on foreign exchange operations. The greater the substitutability between domestic and foreign assets, the greater the response of the exchange rate will be to policy-induced changes in interest rates, and hence the larger the impact of monetary policy will be through that channel.

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³Key traits of developed markets are the existence of active secondary markets that are responsive to alternative asset prices and the ability to borrow against such assets through swaps or collateral arrangements.
Availability of Credit Channel

Monetary transmission through the availability of credit channel occurs when changes in the monetary policy stance affect the quantity of credit that is available, regardless of (or in addition to) what happens to interest rates. The credit channel emphasizes how asymmetric information and the cost of enforcing contracts may create agency problems in markets. Two channels of monetary transmission arise: (1) the bank lending channel, which looks at the impact of monetary policy on the capacity of banks to lend to firms, and (2) the balance sheet channel, which looks at the impact of monetary policy on the capacity of firms to borrow from markets in response to changes in their net worth arising from monetary policy decisions.

The financial condition of a country’s banking system is one of the most important factors influencing the transmission of monetary policy signals through the credit channel. The financial condition of the banking system is an important determinant not only of the cost but also of the availability of bank loans. If the financial position of the banking system is weak, reflected by low capital/asset ratios and/or high non-performing loans, banks will tend not to respond to monetary policy impulses. The weaker the financial system, the more likely the asset price channel is to be irrelevant. Weaknesses in the banking system can also be reflected in terms of asymmetries of information and limited enforceability of contracts. Where such asymmetries exist or when there is weak governance and judicial structures limiting the enforcement of contracts, banks may also not respond to monetary policy impulses.

Structural Factors

In addition to the foregoing channel-specific factors, there are a number of other factors of a macro-economic nature that have a significant influence on the efficiency of the channels of transmission. The extent of government intervention in financial markets may influence the monetary transmission channel in three ways: (1) through explicit or implicit interest rate controls or other limits on financial market prices, (2) through explicit or implicit limits on bank lending, and (3) through selective credit policies. Any of these situations is likely to impede the smooth functioning of markets and the transmission of monetary policy signals through them, and hence the conduct of monetary policy with market-based instruments.

Structural excess liquidity in the financial system also impairs the effectiveness of the transmission channel of monetary policy. Although they do not do so directly, the policy measures taken by central banks to sterilize excess liquidity may weaken the transmission channel. The high cost of mopping up excess liquidity has at times prevented central banks from raising their policy interest rates. This is especially the case when the financial position of the central bank is weak such that high sterilization costs may result in large losses for the central bank which are not reflected directly and in a timely way in the government’s budget—a situation which in itself would result in an injection of liquidity into the system. In this context, the constraint imposed on interest rates may distort the optimal interest rate policy and hence limit the effectiveness of monetary policy through the normal channels. The use of liquid asset ratios (LARs) to sterilize excess liquidity may also lead to distortions in interest rates by creating a captive market for the assets that are eligible to fulfill the requirement. High and nonremunerated reserve requirements to sterilize excess liquidity may also lead to distortions as the implied tax affects only the deposit-taking financial institutions and their customers, and not other parts of the financial system.
Appendix II  Eligible Assets: European Central Bank and Banque de France

The European Central Bank’s System of Eligible Assets

The Statute of the European System of Central Banks requires that all Eurosystem credit operations be based on adequate collateral. The list of eligible assets includes all assets that can be used as underlying collateral and that fulfill the eligibility criteria. Two categories of assets are eligible for Eurosystem monetary policy operations and intra-day credit: (1) tier-one assets, which are marketable debt instruments fulfilling the uniform euro-area-wide eligibility criteria specified by the European Central Bank (ECB), and (2) tier-two assets, which are additional marketable and nonmarketable assets that are of particular importance for national financial markets and banking systems.

Debt certificates issued by the ECB qualify as tier-one assets. For other debt instruments, the eligibility criteria aim at ensuring that they meet high credit standards, are transferable in book-entry form, and are listed or quoted on a regulated market. Tier-one assets are eligible for all monetary operations that are based on underlying assets.

National central banks may consider as eligible other assets, known as tier-two assets, which are of particular importance to the national financial systems. The eligibility criteria for tier-two assets are established by the national central banks, subject to the minimum eligibility criteria established by the ECB. They include either debt instruments or equities of entities that are deemed to be financially sound and are easily accessible to the national central bank. Tier-two assets are not normally used in Eurosystem outright transactions. In addition, four national central banks have included nonmarketable instruments in their national lists of tier-two assets (Table A.2.1).

The Banque de France has carried out credit risk assessment since it was set up some 200 years ago. These assessments are currently expressed by way of ratings, which indicate companies’ ability to meet their financial commitments.

Ratings were originally intended to facilitate the implementation of monetary policy: by awarding ratings to companies, the Banque de France was able to make a selection from among the collateral for bank refinancing presented by commercial banks and only retain the claims on companies with the highest ratings.

The Banque de France Rating System

Ratings remain useful from this perspective, notwithstanding the Banque de France’s participation in the Eurosystem since 1999. Central bank refinancing based on bank loans still represents 40 percent of the total volume of collateral used by French banks (including for monetary policy operations and the allocation of intraday loans in the large-value payment system). The remaining 60 percent consists of negotiable securities issued by French and foreign public and private issuers.

Designed to meet the requirements of monetary policy, the Banque de France’s information system has been progressively opened up to the banking industry at its request and now acts as a banking information service: ratings are thus used by commercial banks for business development purposes and for monitoring client risk.

The General Secretariat of the Commission Bancaire also uses company ratings when conducting off-site controls and on-site investigations of credit institutions, because ratings constitute reliable indicators of bank portfolio quality.

The Banque de France rating is a concise expression of all the economic and financial information gathered on nonfinancial companies; it reflects the Banque de France’s overall assessment of the company to meet its financial commitments at a horizon of two years.

The rating is given by the Banque de France on the basis of the analysis of data, including accounting and financial data from the company’s accounting documents, data relating to bill payment incidents and bank liabilities reported by credit institutions, legal information (i.e., judgments handed down by commercial or civil courts ruling on commercial cases), and

1Prepared by Bernard Laurens.
2See Banque de France (2003).
information relating to companies’ economic and financial environment, in particular their managers, stakeholders, and affiliated companies. This information is communicated to the company and to credit institutions governed by the French Banking Act for their own use only; these institutions may neither publish it, nor pass it on to third parties, especially to information agencies.

The Banque de France rating has three elements: (1) a rating indicating the level of turnover, (2) a credit rating expressing the assessment made of the company, and (3) a payment rating indicating the company’s ability to make payments on time.

The credit rating given to affiliated companies takes account of the financial position of the economic group to which they belong when the Banque de France has access to consolidated accounting documents or is able to carry out a reliable financial survey of the group. Holding companies are therefore given a credit rating known as a group rating, after the Bank has analyzed both the financial position of the group as a whole and other available information on the holding company. Subsidiary companies are given one of the following three credit ratings depending on their position within the group: a “group” rating (based mainly on the analysis of consolidated accounts); an “influenced” rating (based on the comparison of company accounts and consolidated accounts); and an “autonomous” rating (based on the analysis of company accounts).

Five credit ratings are available:

- A credit rating 0 is awarded to companies for which the Banque de France possesses no recent accounting documents and about which it has received no unfavorable information.
- A credit rating 3 is an excellent rating reserved for companies enjoying the best Banque de France assessment of their creditworthiness and whose ability to meet their financial commitments is guaranteed beyond any possible doubt.
- A credit rating 4 is given to companies that are able to satisfactorily meet their financial commitments, notwithstanding certain factors of fragility or uncertainty.
- A credit rating 5 is given to companies whose ability to meet their financial commitments gives cause for concern for any of the following reasons: an imbalance in the financial structure, low earnings, a significant amount of payment incidents, legal representatives or financial links with other companies that give cause for concern.
- A credit rating 6 is attributed to companies whose ability to meet their financial commitments gives cause for serious concern due to any of the following reasons: extreme imbalances in the financial structure, persistently poor results for three straight years, occurrences such as the loss of half of the equity capital, legal proceedings, legal representatives prompting particularly serious concern, the company’s inability to meet its commitments, and similar factors.

There are three payment ratings:

- payment rating 7 indicates that, in the last six months, payments have been made on time, or that incidents reported during that period are of little importance and do not reflect real cash flow difficulties.
- payment rating 8 indicates that the company’s cash flow difficulties do not appear to cast serious doubts on its creditworthiness.

<table>
<thead>
<tr>
<th>Table A.2.1. Eligible Assets in Germany, France, Austria, and Ireland</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type of assets</strong></td>
</tr>
<tr>
<td>-------------------</td>
</tr>
<tr>
<td>Trade bills, bank loans to corporations</td>
</tr>
<tr>
<td>Minimum residual maturity</td>
</tr>
<tr>
<td>Maximum residual maturity</td>
</tr>
<tr>
<td>Credit assessment of enterprise by the central bank</td>
</tr>
</tbody>
</table>

Source: European Central Bank website: www.ecb.int

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payment rating 9 is given when reported payment incidents denote serious cash flow difficulties and seriously jeopardize the company’s solvency.

Payment ratings 8 and 9 are attributed primarily on the basis of the bill payment incidents reported to the Banque de France.

In order to make a comprehensive assessment of a company, the Banque de France rating also takes into account the information available on its management, as long as this information is in the public domain. In the specific case of sole proprietorships, the Banque de France awards a legal entity rating to the sole proprietorship and a natural person rating to the sole proprietor, while complying with the general principle of repercussions and transparency between the two ratings. The Banque de France rating given to natural persons exercising a management function or to sole proprietors, is expressed by the figures 000, 040, 050, or 060. Sole proprietors are informed of any ratings other than 000: (1) 000 rating: the information collected by the Banque de France on the manager or the sole proprietor gives no cause for concern; (2) 040 rating: the information calls for vigilance; (3) 050 rating: the information gives cause for concern; and (5) 060 rating: the information gives grave cause for concern.

An important difference between the Banque de France rating and ratings provided by ratings agencies is that rating agencies generally assess the risk on issues rated on markets and take into account the guarantees received, while the Banque de France analyzes the intrinsic situation of companies or groups of companies without taking guarantees into account. In addition, there are few companies excluding banks and insurance companies that are awarded a rating by a major international agencies (in 1999, 4,781 companies world-wide, of which around 60 were located in France); many more firms receive a Banque de France rating (180,000 per year in France).

This rating is given notably to the following individuals: a manager who holds office as a legal representative in two companies that have been put into judicial liquidation within the previous five years, or to a manager required to pay the debts of the legal entity, whatever the amount of the pecuniary liability; a sole proprietor whose company has been given a credit rating 5, or a payment rating of 9 accompanied by a credit rating of 0.

This rating is given to a manager who holds office as a legal representative in a company that has been put into judicial liquidation within the previous five years, or in at least two companies that have payment ratings of 9; a sole proprietor whose company has been given either a credit rating of 4, or a payment rating of 8 accompanied by a credit rating of 0.

This rating is given notably as follows: a manager who holds office as a legal representative in three companies that have been put into judicial liquidation within the last five years, or who is personally the subject of a decision of the courts; a sole proprietor whose company has been given a credit rating 6.
The central bank needs to develop a framework to monitor and forecast short-term liquidity developments in the system on a continuous basis, so that its discretionary operations are consistent with its ultimate and intermediate objectives. The main purpose of establishing a framework to monitor and forecast short-term liquidity developments is to create an information set which puts the central bank into a position to smooth changes in liquidity conditions (with a view toward creating stable liquidity conditions and limit market volatility) and to ensure that its monetary operations are consistent with the monetary program (Table A.3.1). By allowing the central bank to take well-informed monetary decisions, such a framework allows the central bank to communicate with the market in an effective manner and, through an appropriate communication policy, helps market participants to clearly distinguish between changes in the monetary policy stance and temporary “noises.”

Table A.3.1. Standardized Central Bank Balance Sheet

<table>
<thead>
<tr>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquidity providing OMO and/or OMO–type operations</td>
<td>Bank’s holdings on current accounts (Required reserves and excess reserves)</td>
</tr>
<tr>
<td>Refinance standing facility</td>
<td>Liquidity-absorbing money market operations</td>
</tr>
<tr>
<td>Credit to the government</td>
<td>Deposit standing facility</td>
</tr>
<tr>
<td>Net foreign assets</td>
<td>Banknotes in circulation</td>
</tr>
<tr>
<td></td>
<td>Net government deposits</td>
</tr>
<tr>
<td></td>
<td>Other factors (net)</td>
</tr>
</tbody>
</table>

Can be rearranged as follows

LIQUIDITY SUPPLY/ABSORPTION THROUGH MONETARY POLICY OPERATIONS

\[
\text{“Liquidity-providing money market operations”} - \text{“Liquidity-absorbing money market operations”} + \text{“refinance standing facility”} - \text{“deposit standing facility”}
\]

Equals

AUTONOMOUS FACTORS

\[
\text{“banknotes in circulation”} + \text{“government deposits”} - \text{“credit to the government”} - \text{“net foreign assets”} + \text{“other factors (net)”}
\]

Plus

RESERVES

“banks’ holdings on current accounts”

Source: IMF’s Monetary and Exchange Affairs Department, or MAE (2000) (as of 2003 the Monetary and Financial Systems Department, or MFD), and European Central Bank (2001).
The country experiences show that forecasting the effects of the government’s operations on liquidity poses the greatest difficulties. A lack of cooperation between the treasury department and the central bank and the specific organization of the spending procedures are often the main impediments to accurate projections of government cash flows. In addition, in countries with exchange rate pegs and large foreign exchange interventions, net foreign assets may be volatile and difficult to predict. However, since foreign exchange operations are typically settled with a lag of two days, there is some room for the central bank to adjust unwanted liquidity fluctuations. Similar challenges can be posed for currency projections, particularly when a country is on the path of remonetization after a period of high inflation. Overall, experience indicates that establishing a strong liquidity forecasting framework may be a lengthy process, in particular because this requires concomitant progress in establishing frameworks for forecasting government cash flows (a task which typically is carried out by the treasury), and for forecasting foreign assets and currency in circulation.

Appropriate arrangements are also needed to absorb unexpected liquidity shocks in the system. It is in this context that the buffer function of reserve requirements and standing facilities plays a critical role. In particular, averaging provisions for reserve requirements allow banks to smooth out daily liquidity fluctuations because transitory reserve imbalances can be offset by opposite reserve imbalances within the same maintenance period. This mechanism also works to the benefit of the central bank because it reduces the need for frequent intervention in the market which may otherwise be warranted due to deviations from liquidity forecasts. Similarly, standing facilities, by allowing banks at their own discretion (subject to a penalty in terms of cost/yield) to make deposits at the central bank, or to receive short-term liquidity from the central bank, play a stabilizing role and reduce the need for frequent central bank discretionary monetary operations.

1 The buffer function is important in the early stages of the implementation of a liquidity forecasting framework as the quality of the forecasts might be low at the beginning.
Appendix IV  Cross-Country Experiences with a Liquidity Surplus

In Mexico, the central bank has been using mandatory remunerated deposits to attain a creditor position in the money market. In 1997, Banco de México’s stance in the money market went from creditor to debtor, essentially due to the considerable amount of foreign assets accumulated in the course of the year. In order to strengthen monetary policy tools, Banco de México’s Board of Directors decided that, as of September 1998, credit institutions would be under obligation to establish deposits at the central bank, with an indefinite maturity. The distribution of such deposits among credit institutions would be conducted according to their total liabilities, and the institutions would be remunerated at the 28-day interbank loan rate. Afterwards, Banco de México would replace any liquidity withdrawn on the grounds of the establishment of said deposits, by means of very short-term open market operations. Using these combined measures, Banco de México moved toward attaining a creditor stance in the money market, allowing for increased control over short-term interest rates.

Spain experienced excess liquidity during 1973-92 due to the Bank of Spain’s (BOS’s) net lending to the government and to capital inflows. Excess liquidity was sterilized to control inflationary tensions, and after Spain joined the EU in 1986, to prevent excessive appreciation of the peseta. The BOS used several nonmarket instruments to generate an operational deficit. Changes in nonremunerated reserve requirements were frequent from 1973 to 1981. By 1978, the authorities had settled on a 5.75 percent ratio and adopted as a principle that the ratios would not be changed for short-run control purposes. However, in 1979, banks were required to place special deposits with the BOS which were remunerated at below-market rates and were replaced later with much higher special remunerated required reserves. After 1990, nonremunerated required reserves were gradually brought down to the current 2 percent level. Remunerated reserve requirements were substituted with mandatory holdings of BOS bonds (at below-market rates). However, there was also room for the use of market instruments.

Systemic liquidity increased in the Netherlands after 1987 due to foreign exchange operations by the De Nederlandsche Bank N.V. (DNB) and decreases in treasury balances. These developments threatened to cause considerable and prolonged money market surpluses, which would have complicated the DNB’s ability to target short-term interest rates and to defend the guilder. To create an operational deficit that facilitated defense of the guilder, the DNB used two instruments: a mandatory market-rate-remunerated deposit facility and the issuance of DNB bills. The deposit facility was introduced in 1988. The amount to be deposited at the facility (money market cash reserve) was fixed at the start of every cash reserve period, based on short-term liabilities. The short period of the facility, one to two weeks, facilitated adjustments to ensure operational shortages. Banks could use the amounts of their individual cash reserve accounts as collateral at the central bank. In 1994, the DNB also started issuing six-month certificates of deposit at market rates to mop up liquidity on a monthly basis.

During the late 1980s and mid-1990s, East Asian countries experienced large capital inflows that were absorbed by a range of sterilization and administrative measures. In 1993, one-third of the net capital inflows into the Asia Pacific Economic Cooperation (APEC) developing countries were absorbed by the central bank in foreign currency reserves. Many APEC countries reduced liquidity in the system by switching government deposits from the commercial banks to the central bank. In Malaysia, the authorities transferred government and public pension fund deposits from the banking system to special accounts in the central bank. In Indonesia, public firms were obliged to convert their commercial bank deposits into Bank of Indonesia certificates. In Thailand, government deposits at the central bank increased from 25 percent of total deposits in 1987 to 82 percent in 1992. Increases in statutory reserves were used in the Philippines, Malaysia, and Korea. Both the Korean and Malaysian authorities also conducted open market operations to sterilize liquidity.
Appendix V  Selected Country Experiences with Interbank Market Development

The experiences of India, Italy, Korea, Thailand, and Turkey are analyzed regarding the involvement of the central bank in the process, participants in the interbank market, and the degree of centralization of the interbank market.1

Involvement of the Central Bank

The development of the interbank market is a stage-by-stage process and the experience of Italy, Korea, Thailand, and Turkey show that the central bank can play an active role in using the interbank market as a “playground” where monetary policy operations can be conducted and in which it could become an important player.

In Turkey, in the 1980s the banking system was highly segmented, with public banks reluctant to lend to private banks, in part because of political considerations. Similarly, private banks tended to minimize their transactions with other commercial banks for competitive reasons, in a context where many of them belonged to different industrial groups. Competition and rivalry among industrial groups often made their banks reluctant to deal with each other directly. As a result, activity in the interbank market was very limited. However, banks were willing to participate if the central bank was the counterpart. This situation prompted the central bank to develop a framework for an interbank market in which it acted as a blind broker, that is, as the counterpart of all transactions; it operated as a broker in that it borrowed only when it could on lend the proceeds at the same interest rate. In order to cover the credit risk, all transactions intermediated by the central bank had to be backed by acceptable collateral, such as government securities.

In Thailand, a repurchase market with the central bank was created in 1979, with a view to further developing the fledging money market and provide the central bank with a mechanism to monitor and, if necessary, to intervene in the market. Participants were allowed to place buy and sell orders with the central bank, indicating the amount, interest rate, and maturity of the desired transactions. Then, the central bank tried to match the orders and determine a single “market” repurchase rate (that is, a fixing). If needed, the central bank intervened to absorb or inject liquidity.

In Italy, although an over-the-counter interbank market was operating for a long time, the central bank was prompted to take action because oligopolistic behavior led to segmentation of the market. Also, the subsequent excessive volatility of the market was an impediment to using interest rates as a channel of transmission for monetary policy. In 1990, the central bank promoted the establishment of a screen-based interbank market, participation in which was on a voluntary basis. This was accompanied by a modernization of the payment system, enabling real-time and direct movement of funds on banks’ centralized accounts with the central bank.

In Korea, in the late 1980s, the central bank promoted the establishment of brokers and dealers for call transactions in order to enhance the adjustment function of the interbank market and break the segmentation of the existing call market between bank and nonbank financial institutions (NBFIs).

Participants in the Interbank Market

The interbank market is the segment of the money market where financial institutions can trade their deposits held at the central bank. Consequently, participation in the interbank market is generally confined to financial institutions with a current account at the central bank, and it may or may not include NBFIs, depending on whether or not they are authorized to maintain current accounts with the central bank. In Korea, however, although NBFIs did not maintain a settlement account with the central bank, they were allowed to participate in the interbank market. While participation of NBFIs could have contributed to enhancing market liquidity, eventually it resulted in

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1Prepared by Bernard Laurens, based on Mehran, Laurens, and Quintyn (1995) for Italy, Korea, Thailand, and Turkey; and Reddy (1999) for India.
market segmentation because of differences in the pattern of transaction behavior. The integration of the interbank market with the over-the-counter market among NBFIs was eventually achieved at the end of the 1980s, with the nomination of brokers and dealers for call transactions as mentioned above.

In India, the call money market was predominantly an interbank market until 1990. The Reserve Bank’s policy relating to entry into the call money market was gradually liberalized to widen participation and provide more liquidity. In particular, entities that could provide evidence of surplus funds were permitted to route their lending through Primary Dealers (PDs). The minimum size of operations for routing transactions was also gradually reduced in order to increase the number of participants. In this context, banks and PDs are operating as both lenders and borrowers, while a large number of financial institutions and mutual funds are operating only as lenders. In May 2001, the central bank started phasing out his participation in the call market. The move has been made to develop a pure interbank call money market and to facilitate a further deepening of the term money market.

**Degree of Centralization of the Interbank Market**

Although central banks play a catalytic role in interbank market development, typically they do not intend to centralize transactions on their books. When that occurs, as in the case of Turkey with the establishment of the “official” interbank market intermediated by the central bank, direct transactions among banks should be permitted. Moreover, the establishment of a centralized interbank market in Turkey was seen only as a temporary arrangement to “educate” participants and thus facilitate direct transactions. In the case of Italy, participation in the centralized market was on a voluntary basis, and the market operated outside the central bank, which only provided settlement arrangements in support of market transactions.
References


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